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A Crossdisciplinary Exploration of Essentialism about Kinds:
Philosophical Perspectives in Feminism and the Philosophy of Biology

by

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# Abstract

"Essentialism about kinds" is the belief that there are necessary and sufficient conditions for membership in a kind. This thesis addresses the parallels in the discussions of essentialism across feminism and the philosophy of biology. Specifically, I address the similarities and differences between how feminists and philosophers of biology have thought about the errors of essentialism and why it should be rejected. As well, I discuss the alternative "solutions" that each discipline has proposed in its place. By way of conclusion, I side with the "epistemological approach" as the most successful solution to the essentialism of kinds in the context of feminism and philosophy of biology. I provide reasons for the superiority of this solution, and in particular, its wide applicability across disciplines. I also demonstrate how the crossdisciplinary dialogue in this thesis is a case in point of the interdisciplinary strength of the epistemological approach.

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# Introduction

Feminism and philosophy of biology are two disciplines that, separately, have discussed and criticized essentialism about kinds in serious depth. However, despite parallel objections to essentialism, to a large extent the scholarship in these two areas has developed independently and without much mutual influence. This thesis attempts to change this trend and to put these two traditions into conversation with one another.

In its most generic sense, "essentialism about kinds" is the belief that there are necessary and sufficient conditions for membership in a kind. For example, the atomic number 79 is both necessary and sufficient for an atom to be considered a gold atom. Hence, the atomic number 79 is the "essence" of gold. The most well-known areas in the philosophy of biology to have addressed essentialism about kinds have been biological systematics and evolutionary theory. The main concern here is focused on the metaphysical delineation of species (i.e., what are the criteria for a collection of organisms to count as a *species*?). Essentialism about species then is the view that species have essences, that there are necessary and sufficient conditions (that exist beyond human convention) which determine the membership of an organism to a species. This view, however, has been rejected by philosophers of biology since (most notably) the 1980s since the metaphysical construal of species with essences is at odds with within-species variation, which is the basis of evolutionary change. Within feminism, essentialism of kinds becomes the view that there are necessary or sufficient conditions for the delineation of human kinds such as

gender (but also other categories such as race). Since the 1950s and 1960s feminists have problematized both patriarchal forms of essentialism (e.g. claims that women are naturally unethical and irrational, or naturally domestic and maternal) as well as essentialism within feminism itself (e.g. tacit beliefs as well as explicit claims that the experience of white middle-class Western women is representative of women's experience in general).

In this thesis, I will be addressing the parallels, and some divergences, between how feminists and philosophers of biology have thought about (a) what is wrong with essentialism and why it should be rejected, and (b) the alternative "solutions" that should be used in its stead to describe the kinds in question. This thesis is divided into three chapters: Chapter 1 will address (a) and Chapters 2 and 3 with discuss (b). A brief chapter overview is provided below.

In Chapter 1, I will address the literature on the rejection of the essentialism of species in the philosophy of biology, followed by an account of the literature on the rejection of essentialism of women/gender in feminism. In my discussion of the literature in the philosophy of biology, I will present two critiques of the essentialism of species. For the first critique, I will lay out the history of the philosophy of biology, according to the biological theorist Ernst Mayr, and explain how he perceived essentialism to have predominated pre-Darwinian systematics. Mayr understands essentialism of species to be a part of a longstanding belief that most kinds, including species, possess Platonic essences, or *eide*. This view states that the nature of species accords with there being necessary and sufficient sets of properties that determine an organism's membership. These sets of

properties are fixed, rendering the conditions of the species immutable and ahistorical. For the second critique, I will address Eliott Sober's account. Sober will disagree with Mayr that the essentialism of the pre-Darwinians exhibits a belief in the Platonic *eidos*, rather he understands pre-Darwinian essentialism to be exemplary of Aristotle's "natural state model." These two perspectives will be compared and the strengths of Sober's account over Mayr's will be discussed.

In the second section of Chapter 1 (starting at 1.2.1), I will present the feminist literature critiquing gender essentialism of women/gender beginning in the late 1940s and 1960s. This section will highlight two predominant forms of essentialism that were critiqued throughout this feminist history. In early second-wave feminism (beginning in the 1950s/1960s), the main concerns with essentialism focused on the harmful hierarchies that were created by the scientific studies of men and women's "natures." Feminists critiqued essentialist scientific traditions initiated by Darwin and Freud which encouraged a view that women's nature was reducible to her biology, and in particular her child bearing capacities. This form of essentialism has come to be known as "biological essentialism" or biologism (Grosz, 1994; Heyes, 2000). Feminists attacked this tradition because it obscures variation between women and sets up artificial boundaries between gender categories, but also because it encouraged the subordination of women to men because it misrepresents the results of women's oppression as a justification for the continuation of their oppression. During the second-wave of feminism, a common counterattack was to encourage the view

that gender is socially constructed (i.e., men and women are different for social rather than biological reasons).

A second form of essentialism was identified by feminists in the 1980s, which could be described as an essentialism internal to feminism. This internal form of essentialism entailed feminist writers taking their own first world, white bourgeois heterosexual experience as representative of the experiences of women per se. This was essentialist, according to feminists in the 1980s as well as later third-wave feminists, because it suggested a rigid form of femininity, i.e., that only those white women in upper class categories were recognizable as women. It was harmful because it limited the scope of a feminist politics. By voicing the concerns and oppressions of only white, upper class women, feminists ignored the voices of lower class and minority racial categories. I will close Chapter 1 with a few brief comparisons between the feminist and philosophy of biology treatments of essentialism.

Chapter 2 outlines four well-known solutions and alternatives to the problems of essentialism as they were laid out by feminist theory following the 1980s. Here I address (1) strategic essentialism, (2) women as a series, (3) women as a genealogy, and (4) women as family resemblances. I discuss how each of these solutions responds to the problems of essentialism as they have been set up in Chapter 1 by presenting how these theories provide their version of a "correct" construal of women and how this construal does not commit the social and political errors of essentialism. Chapter 2 will also analyze

how each of these solutions are related to one another, and the ways in which the various feminists who employ them have responded to each other.

Chapter 3 also outlines four solutions to essentialism but as they have been laid out in the philosophy of biology since the 1980s. Here I present (1) species as populations, (2) species as individuals, (3) Homeostatic Property Clusters theory, and (4) what I will call the "epistemological approach" in the philosophy of biology. In this chapter, in addition to presenting these solutions in the philosophy of biology and discussing the relations between them, I also provide an integrated discussion of how I believe these varying solutions parallel the feminist solutions I presented in Chapter 2. Here it will be discussed how women and species have similarly been presented as (1) relational concepts, (2) as genealogies, (3) and how features of traditional essentialism have been revived (in a way that renders them non-essentialist) in both feminist and philosophy of biology perspectives. Finally, in this chapter I will discuss how the epistemological approaches within the philosophy of biology parallel the family resemblances approach found in feminist philosophy (as will be outlined in Chapter 2). The "epistemological approach," as I will call the perspective that these three philosophers take, stresses that the epistemic context should play a crucial role in our decisions about the appropriate ways to categorize kinds. The questions we ask should not focus solely on the metaphysical issues surrounding what the kind *is*, or whether it exists independently of human conventional naming, but we should also be concerned with questions such as, what are our purposes for the naming of any particular kind? How might choosing to define a kind according to some criterion over

another help us better achieve our disciplinary aims? Or conversely, how are some categorizations/representations not conducive to some intellectual aims? What are the epistemic limitations to our representations (e.g., does the delineation of species in an evolutionary context extend to a taxonomic one)? What kinds of factors influence how we think about kinds? Importantly, Cressida Heyes, Ingo Brigandt, and Alan Love suggest that bringing these questions to the forefront of our concerns is to accept openly that classifications of kinds within any discipline are inseparable from the disciplinary aims and paradigmatic constructions of the world. By way of conclusion, I argue that the epistemological approach may be expanded beyond the disciplines in which it was originally formulated and can also be seen a bridge for creating dialogues between disciplines, as has been seen in this thesis

# Chapter 1

# Objections to Essentialism in Philosophy of Biology and Feminism

## 1.1 Objections to Essentialism: Perspectives in Philosophy of Biology

In this chapter I will first discuss essentialism of species in the context of the philosophy of biology by first presenting a historical account of the primary theories in biological systematics (which are pre-Darwinian) that have been charged with essentialism. Here I will outline two of the most widely cited accounts of the objections to pre-Darwinian essentialism, those given by Ernst Mayr and Elliott Sober. Following these accounts I will present the objections to essentialism in the context of feminism, with a brief discussion indicating the parallels that I believe exist between these two bodies of literature.

Before I begin, however, it is important that I clarify that the history which I provide by Ernst Mayr is presented only for the purposes of setting up the essentialism/anti-essentialism debate about species as it was articulated by him. Although Mayr's historical account was widely accepted for a time (notable scholars who supported his account were Theodosius Dobzhansky and David Hull; I will also be citing these theorists), the accuracy of Mayr's historical account has recently been called into question (e.g., Windsor, 2006; Müller-Wille, 2007), so it is important that I distance myself from presenting it as a *true* history. It is not the concern of my thesis whether any of the

accounts mentioned are true or false; my main interest is in how philosophers have thought about, and dealt with, the essentialism of kinds.

### 1.1.1 Essentialism as the Platonic "Eidos": Ernst Mayr and Supporters

The pre-Darwinian systematics held that species are natural kinds. 'Natural kind' is a 20th century term which refers to a real kind which exists prior to human naming. The traditional account of the term was used by metaphysicians to depict classes of things in which:

> (1) All members...have the same characteristic properties, permitting universal generalizations, such as laws of nature (e.g., all oxygen atoms share physical properties and can undergo the same chemical reactions). (2) The identity and boundary of [the kind] is metaphysically determined by an essence; an object belongs to the kind in virtue of having this essential property. (Brigandt, 2009, p. 79)

The term 'essence' is argued to have its roots in Aristotelian and Platonic versions of "essences" or *eide*. Aristotelian essences are the formal causes of things, the "characters that make it what it is" (Hull, 2008, p. 13). For Aristotle essences of things are eternal and immutable. They are eternal because they produce a continuous series of organisms, and are immutable since it is impossible for things to change from one kind into another; this would be like triangularity turning into circularity. The Platonic *eidos* is the "eternal and unchanging idea of a thing" (Dobzhansky, 1955, p. 134). For instance 'Man,' 'Deer,' or

'Dog' are the immutable forms of which Socrates, Bambi, and Spot are the "temporary expressions" (p. 134). This idea underlies common expressions like the "typical Frenchman" or the "real American," where one is supposedly referring to some real transcendent prototype.

This ancient view of essentialism was notably revived in the early classifications of species of the 18th and 19th centuries (Hull, 2008; Mayr, 1982). Referred to as "typology" (or "typological thinking")[1] by the biologist Ernst Mayr, essentialism about species assumes that species have the same sorts of essences as triangles and squares.[2] Mayr (1982) outlines 4 tenets of the essentialist concept of species that he believed pre-Darwinian taxonomists express: (1) each species is separated from all others by a sharp discontinuity (2); each species is constant through time; (3) there are severe limitations to the possible variation of any one species (because variation is the result of imperfect manifestations of the "idea" implicit in each species); (4) species consist of similar individuals sharing the same essence or "nature." Noted proponents of this view among the 18th-century systematists were John Ray, Georges Louis Buffon, Carl Linnaeus, Michel Adanson. Among 19th-century proponents we may include John Herschel, William Whewell, Charles Lyell, and John Stuart Mill (Hull, 2008, p. 15).

Linnaeus, known as the "father of systematic biology," was the first to develop a classification system for "kinds" of living creatures (Dobzhansky, 1955, p. 166). Linnaeus'

[1] "Typology," since a "type" according to these systematists is the representation of a species' essential properties (Mayr, 1982, p. 256).

[2] Because typology was synonymous to essentialism for Mayr, he uses the two terms interchangeably. I will also do this when presenting his account.

conception of species changed throughout his lifetime, but nevertheless always remained arguably essentialist. One of his early conceptions, and one that was also held by biologists before him, was the "morphological species concept." This concept, in conjunction with species fixity, holds that "a species is recognizable by an intrinsic difference reflected in its morphology, which makes this species clearly different from any and all other species" (Linnaeus, 1751, as cited in Mayr, 1982, p. 222). Thus, 'species' under this concept is a class that is recognizable only by its defining characters. Problems with this form of essentialism were however raised during the 18th century (and were raised even by Linnaeus himself). For example, it was questioned how one could appeal to the morphological essence of a species if the presumed members of the species vary drastically in phenotype from one another. For instance, consider the morphological discrepancies in males and females or in the metamorphic stages of some organisms like caterpillars/butterflies. On the other hand, how can morphology be the essence in examples like sibling species, in which case their morphologies can be identical, but they cannot reproduce together? Linnaeus ran into one of these issues when he was classifying the mallard duck. He classified the male and female mallards as two distinct species. Obviously this classification was short-lived (Mayr, 1969). Although Linnaeus later (mostly) abandoned the morphological species concept, and it was critiqued by others as well, versions of it persisted until the 20th century.

One other legacy Linnaeus has been attributed with is his notion of species fixity. For him, because species had essences, they were "well-defined and completely constant"

(Mayr, 1982, p. 259). As such, any given species could in fact be traced all the way back to its creation (referring to Christian creationism). Hence his famous catch phrase: "*Species tot sunt, quot diversas formas ab initio produxit Infinitum Ens*" (Species are as many as were produced at the beginning by The Infinite Being) (Dobzhansky, 1955, p. 166). He allowed that there might be variations within species (e.g., "breeds" or "races") but species themselves are "absolute and unbridgeable" (Dobzhansky, 1955, p. 167). This conceptualization continued to influence taxonomy for the next hundred years.

The influence of his species fixity concept is unfortunate since Linnaeus changed his mind about species fixity when he observed a curious mutation in the plant *Linaria*, which led him to believe that a new species and genus had arisen. He was so taken by this observation that he proposed, counter to all of his earlier beliefs, that maybe it was genera (rather than species) that were created at the beginning and species could be created through hybridization within each genus (Mayr, 1982, p. 258). However, these changes were rejected by most of his contemporaries. The idea that new essences could be produced by hybridization was difficult for anyone to concede at this time. Subsequently, this proposal of Linnaeus' was eventually forgotten.

One scientist who blatantly rejected the morphological species concept was George Louis Buffon. He rejected an emphasis on morphological similarity between individuals in a species and proposed instead that a group of organisms should count as a species only if they were able to successfully reproduce. A species, he said, is "a constant succession of

similar individuals that can reproduce together" (Mayr, 1982, p. 262).[3] Moreover, Buffon asserted that "if one wants to know an animal, one must know *all* of its characteristics," so he also emphasized the importance of habits, temperament, and instinct in species' identification (emphasis added, p. 262). According to Mayr, the metaphysical merit that this kind of characterization of species carries over Linnaeus' was that it portrays a species as real. Buffon thought that construing species based on their morphology makes them "isolated and detached" because they are not joined to their species by anything but (arbitrary) similarities. However, by taking into account reproductive succession, Buffon's species can be conceptualized as more of a unit, existing autonomously and self-sustaining.

Yet, according to Mayr, Buffon's construal of species does not escape being essentialist since he still insists on the constancy and invariability of a species. Buffon notes that although a species could change in different ways as a result of environmental factors, there in fact remains a significant constancy to the species as a whole, which he refers to as the "general prototype." Specifically, he thought that the nature of this prototype was determined by the instantiation of the species' first member (referring to creationism), which acts as "an internal mould from which all past, present, and future" organisms of that species are formed (p. 261). According to Buffon, this "power of producing its likeness, this chain of successive existences of individuals...constitutes the real existence of the species" (Buffon 1954, pp. 233, 238, as cited in Mayr, 1982, p. 261). So although Buffon breaks free from a fixation on morphology associated with theorists

[3] He also thought features like instinct, habits, and temperament should be given strong consideration in classifying species.

like Linneaus, his theory is still essentialist in its insistence on the fixity and constancy of a species. Later Michel Adanson (1769) also advocated the importance of a species' genealogy for its essence, but he also stated that "constancy is essential in the determination of a species" (as cited in Mayr, 1982, p. 259).

One of the early schools of thought to question the supremacy of essentialism was "nominalism" proposed by philosophers such as Gottfried Leibniz and John Locke and by some botanists, most famously, Matthias Jakob Schleiden and Karl Wilhelm von Nägeli. Nominalism holds that classes or types are human-made constructs and that only individuals exist (Mayr, 1982). Accordingly, then, any species named by scientists is just that—a name. This contrasts with the typological understanding of natural kinds, which is purely a realist conception (i.e., natural kinds are groups that exist independent of our naming them). These thinkers were mostly aggravated by the idea of sharply defined species, taking seriously the messy or vague boundaries of some species. They often mention the genus *Rubus* (e.g., blackberries and dewberries) which is a genus in the rose family that contains over a thousand different species. Yet, the sheer number of species in this genus is only the beginning of its classificatory nightmare; trying to decide which are to count as a "species" versus which might just be variations of some already-named species is a great challenge to botanist systematists. For instance, it has been noted that morphologically, two kinds may appear to be unrelated, but may be very similar chromosomally (i.e., "conspicuous polymorphism"). Conversely, two species might suit a separate classification because they differ chromosomally or geographically, but their

morphology is indistinguishable (these are called "sibling species") (Mayr, 1982, p. 271). Subsequently, the breakdown of this genus into its different "species" becomes arbitrary. So with instances like the taxon *Rubus*, nominalism is an attractive alternative when the only other option is essentialism. However, this is precisely the point that Mayr raises. He mentions that:

> The reason why eighteenth- and nineteenth-century authors who were dissatisfied with the essentialist species concept adopted the nominalist concept was not necessarily because they were impressed by its superiority but simply because they could not think of another alternative (1982, p. 265).

Consequently, nominalism was short-lived. With the coming of Darwin and even superior alternative viewpoints than essentialism, nominalism quickly lost its lustre (Mayr, 1982).

Nonetheless, the morphological species concept remained the reigning criterion for species definition until well after the publication of Darwin's *Origin of the Species*.[4] Most of the philosophers of biology during Darwin's time in the late 1900s (e.g., John Herschel, William Whewell, and John Stuart Mill) rejected his theory of natural selection and its associated "biological species concept" (I will define this shortly). Hull (2008) states that this was mostly because "all of the philosophies of science of the day required natural

[4] An example of a morphological species definition during the 1900s was given by A.R. Wallace. He stated that: "A species is a group of individuals which reproduce their like within definite limits of variation, and which are not connected with their nearest allied species by insensible variations" (Mayr, 1982, p.270). This definition clearly indicates a strict adherence to the importance of structural similarity between organisms and an insistence on a sharp boundary between species.

kinds—static, sharply defined natural kinds—and Darwin insisted that species are temporary, one evolving into another" (p. 18). Moreover, Hull mentions that even the philosophers and biologists who accepted his theory (e.g., Chauncy Wright, William Stanley Jevons, Charles Sanders Peirce, William James, and John Dewey), struggled to grasp the full rupture with traditional theory that Darwin's work really entailed. For instance, Darwin's idea of "chance" variation in particular was hard to accept by many of his contemporaries. With firmly held beliefs in divine will and eternal universal laws, it was hard for many to conceive of the idea that variation could happen gradually and by chance—this would mean that the laws of nature themselves could change.[5] Darwin's proponents also struggled with his emphasis on genealogical classifications of species—i.e., that organisms which descended from the same "stock" are to be classified as species whether or not their character distributions perfectly align. This was still "illogical" to most (Hull, 2008, p. 20).

Mayr (1982) has suggested that there were at least three dogmas about biological species during Darwin's time that were inhibiting a breaking away from essentialism of species. These were: (1) viewing species as types rather than as populations; (2) focusing on "degrees of [morphological] difference" rather than on the "reproductive gap" between

[5] Note however that Darwin's idea of "chance" was much more sophisticated than many of his critics gave him credit for. By "chance" his critics envisioned haphazard events "accidentally" producing variation, whereas Darwin intended the term to just refer to "our inability to handle all of the factors that enter into natural selection" (Hull, 2008, 19).

species (p. 272);[6] (3) trying to define species by their intrinsic properties rather than their relation to other co-existing species (which is to focus both on their non-inter-breeding relations as well as their non-competitive relations, i.e., they are not competing for exactly the same niches or resources). These three dogmas continued to be influential, according to Mayr, until long after the publication of Darwin's *Origin of the Species*.

However, despite the slow acceptance and appreciation of Darwinism, some of the central metaphysical issues with essentialism finally began to be articulated during Darwin's time. For instance, there was no evidence that an essence or "form" of a species could ever be found that provided reason to believe in the proposed stark discontinuities between species. As well, the issue of polymorphism and its converse was raised. Polymorphism is the existence of very differently structured individuals in nature that nonetheless share a common reproductive community, whether this is "through their breeding habits or their life histories" (Mayr, 1982, p. 271). The issue of the converse of polymorphism is just as it sounds: there also exist in nature individuals that share strikingly similar structures, but do not share a common reproductive community.

In 1910, however, a half century after the publication of *The Origin*, philosopher John Dewey wrote that Darwinism conflicted with science itself (and not a conflict between science and religion)—a conflict between traditional views of species as fixed and static, and an "alternative view" (Ariew, 2008, p. 21). This was anticipatory on Dewey's part, for this "alternative view" was articulated sometime later by Ernst Mayr (1959) who

[6] The reproductive gap refers to the mating boundary between species and the prevention of the exchange of genetic information between one species and its sister species (Meier & Willmann, 2000).

theorized that Darwin's theory of natural selection represents "a metaphysical theory that opposes the Platonic doctrine of typology" (as cited in Ariew, 2008, p. 64). Mayr named this opposing view "population thinking." The fundamental difference, according to Mayr, between typological and population thinking is that for the typologist the *eidos* is real and the variation is an illusion, while for the Darwinian populationist, the type (average) is an abstraction and only the variation is real. The typologist's insistence on "types" of species results in their view that within species variation is error, or deviation from the prototype (the problematic "fluff" that the biologist needs to sift through in order to arrive at the true condition of the species; Mayr, 1982, p. 47). Variation then is abstract, and that which approaches the norm is real. Mayr, however, points out that population/Darwinian thinking stresses just the opposite about nature and posits instead that variation is the "norm" and uniformity within species, as expressed through statistical means, are "manmade inferences" (Mayr, 1982, p. 47). For Darwin, "no two individuals are exactly alike" (Campbell, Reece, & Mitchell, 1999, p. 420).

For Mayr (1982), the most significant drawback to the typologist's focus on prototypes and ignorance of variation is that it obscures the fundamentals of Darwinian evolutionary theory. Mayr explains that in order to conceive of gradual descent with modification (which *is* evolution) one must first understand the structure of variation within a population since variation is the physical materiality on which the mechanisms of evolutionary change act (Reece, Campbell, & Mitchell, 1999). Differences between individuals occur at different frequencies throughout a population, and these frequencies

can increase or decrease depending on how they are selected for (i.e., by way of natural selection, favourable traits are selected for over time, thereby increasing their frequencies within the population, while less favourable traits are selected against and this decreases their frequencies over time). Therefore, the typologists' concentration on prototypes and similarities between individuals sweeps variation under the rug, and blinds them to the very factors that shape and produce the species we see (and study) in nature.[7]

### 1.1.2 Essentialism as Aristotle's "Natural State Model": Elliott Sober

Elliott Sober (1980) conceptualizes the failures of essentialism in a way that is largely consistent with his contemporaries (e.g., Dobzansky, Hull, Mayr), though he offers a deeper account for why it is such a disadvantageous way to think about species. As well, rather than associating typology with Plato's essentialist template and the *eidos* (as Mayr does), he equates it with Aristotle's Natural State Model. This model states that there are natural and unnatural states for objects, the latter being the result of "interfering forces." In the sublunar sphere, objects undergoing natural motion move toward the center of the Earth as their natural resting place. However, this natural tendency will be frustrated for many of the objects because of the interfering forces and they will not reach the center. Accordingly, all variation in nature can be "accounted for as a deviation from what is natural; were there no interfering forces, all heavy objects would be located in the same

[7] This distinction between typology and population thinking by Mayr has fallen under extensive criticism, but is beyond the scope of this thesis.

place" (Sober, 1980, p. 360). In the realm of living organisms, Aristotle explains that in the absence of interfering forces, "the most natural act is the production of another like itself" (*de Anima* 415a26, as cited in Sober, 1980, p. 361). However, if there is interference, whether these are mild or extreme, reproduction of offspring will be disrupted and a *terata* will form (i.e., monsters) (Sober, 1980, p. 361).

This concept of "interfering forces" then is Aristotle's explanation of variation within kinds of living things. Variation happens in organisms when less-than-optimal conditions cause a deviation in the natural progression of their reproduction. Sober (1980) believes that this idea of interference in the natural states of things is the most prominent essentialist conception in pre-Darwinian theory (i.e., the "natural state" is a thing's essence). He demonstrates how, leading up to Darwin, the dominant biological schools adopted this way of thinking in their construal of biological kinds. Eighteenth century teratology (i.e., study of monsters) is probably the most obvious and blatant example, he says. Embryologists also proposed that there are real differences between natural states and states caused by interfering forces. For instance, the varying theories on polydactyly (i.e., having more than five fingers or toes) proposed interfering forces to be its cause: one suggestion was that "defective hereditary material" had been passed on as the result of "an error in nature," while another proposed that a disruption in environmental factors like interuterine conditions was the cause (p. 364).

Moving into the 19$^{th}$ century, Sober describes how it was statistics that came to ultimately contribute to the death of essentialism. First, however, he addresses some of the

early uses of statistics and how these embodied precisely the Natural State Model. In particular, Adolphe Quetelet was one influential figure whose application of statistics represented a natural state view of *social* phenomena. His "law of errors" asserted that by calculating the "average man" one can "abstract away from the vagaries of individual differences" and find the central facts about the population. The tails on the bell curve according to Quetelet are errors made by interfering forces in nature, "confounding the expression of the prototype" (Sober, 1980, p. 367). For Quetelet, attending to variation required that it be sifted through. "Averages were the very antitheses of artefacts; they alone were the true objects of inquiry" (p. 367).

Quetelet's way of thinking is essentialist according to Sober because the explanatory aim is to find an underlying order that unites the variation one sees in the population, which is to insist on a constituent definition—an essence. The prototype is going to contain all of the definitional components that all of the members of the population need in order to count *as members* of the population. Recall how chemicals on the periodic table demonstrate this perfectly: the definition of nitrogen is the atomic number 14 because it is necessary that an atom have the atomic number 14 in order for it to count as nitrogen. Additionally, the other properties associated with nitrogen are explained by its having the atomic number 14. Conceptualized in this way, a constituent definition is precisely the same thing as an essence (Sober, 1980).

This conceptualization of typology as an embodiment of the Natural State Model can respond to Mayr's complaint that essentialism ignores diversity in at least two ways.

The first is a route that Aristotle took which is simply to accept the possibility of variation. For Aristotle, not only were "imperfect" children *terata*, but also certain whole species (e.g., seals because they lacked ears) were as well (Sober, 1980). The second response is to rely on "underlying" natures. This way, species could even seem to meld into each other, but still remain sharply defined as a result of their underlying natures:

> Even when two species seem to blend into each other continuously, it may still be the case that all the members of one species have one natural tendency while the members of the other species have a quite different natural tendency. .... Instead of insisting that species be defined in terms of some surface morphological feature, and thereby having each species shrink to a point, the essentialist can countenance unlimited variety in, and continuity between, species, as long as underlying this plenum one can expect to find discrete natural tendencies... This essentialist response to the fact of diversity has the virtue that it avoids the *ad hoc* maneuver of contracting the boundaries of species so as to preserve their internal homogeneity. (Sober, 1980, p. 363)

Taking this second response into account, it seems then that typology is even more problematic than Mayr and his contemporaries thought. Mayr's main issue with typology was that its focus on the *eidos* of a species ignores the role that variation plays in natural selection. So for him, it was more a matter of demonstrating how Darwinian population thinking refutes typology because it reveals that species change is impossible to conceive

of unless the structure of individual differences is brought to attention (and typology cannot do this). However, when conceived as the Natural State Model, Sober points out that acknowledging or not acknowledging variation is not fatal to typology; one could still be an essentialist while taking individual differences fully into account. This is because, when interfering forces cause an individual to deviate from the prototype, the essence can still exist *underneath* the deviant individual in a mysterious form. One example of this might be a kind of genotype that does not necessarily cause identical observable properties among the members of the species, but nonetheless is possessed by each member. This would allow that phenotypes throughout the species could vary drastically, but a hidden genetic "essence" could still remain. This is an erroneous understanding of biological species, according to Sober, because it still assumes that "somewhere within the possible variations that a species is capable of, there is a privileged state—a state which has a special causal and explanatory role" (p. 64).

Where Sober explains that the essentialist explanation of variation breaks down, however, is with regards to heredity. Conceptualizing variations as deviations from a type that are brought on by errors or "accidental causes" cannot account for the constancy in variations that we see across generations. Variation must abide by its own laws since it appears to be causally efficacious in heredity—as in variations that are inherited and thus affect subsequent generations. Therefore deviations are "real" constructs in the make-up of a population, not the interfering clutter that the statistician tries to "see through" (Sober, 1980 p. 367). Sober mentions that this realization first came to Francis Galton who

eventually came up with the first mathematical machinery (e.g., the standard deviation and the correlation coefficient) to conceptualize variation in populations this way. His discoveries later influenced modern population thinking and the statistical methods that contemporary biological systematists apply today.

In this section I have outlined the history of typology as it has been presented by Mayr, as well as summarized the objections to essentialism as they have been explained by Mayr and Sober. Between Mayr and Sober, essentialism of species errs in that it illegitimately ignores variation between members of a species. Variation according to typology is error, or deviation from a prototype and this overlooks the role that variation plays in the evolution of a species.[8] However where Sober seems to go beyond Mayr and his contemporaries is where he offers a more in-depth analysis of how essentialist thinking works, which helps show how problematic it is. Sober makes plain that essentialists may very well acknowledge within-species variation without doing away with the idea of an essence. The Natural State Model is therefore a deeply flawed way of thinking about variation because, rather than overlooking it, which is what Mayr's discussion of the Platonic *eidos* assumes, it construes variation as the result of external forces acting on the species, which denies variation as an internal feature.

[8] That is, individual differences between organisms take on certain frequencies at the population level, which are acted on by natural selection. As certain frequencies increase as the result of selection, the species can be seen to be gradually evolving. The typologist's focusing on prototypes ignores how variation is structured according to frequencies

## 1.2 Objections to Essentialism: Feminist Perspectives

"Recontextualised within feminism, essentialism becomes the view that there are properties essential to women, in that any woman must necessarily have those properties to be a woman at all" (Stone, 2004 p. 138). Despite the near universal consensus among feminists that traditional essentialist views are moot in the context of gender and other human kinds, feminist approaches throughout history have disagreed with one another over essentialism's various metaphysical, political, and methodological implications. This section will outline two different forms of essentialism about women that feminists have widely contested since the late 1940s.[9] The first form that I will discuss was a major concern during second-wave feminism and has been referred to as "biological essentialism." Here feminists rejected claims about women's biological "nature" that characterized women as homogeneous, determined by their reproductive capacities, and inferior to men. I will outline the varying feminist reasons for rejecting this form of essentialism and why they thought it was harmful. The second form of essentialism that I will address was the concern of second and third-wave feminists who worried that certain portrayals of women within feminist theory privileged select forms of female experience—namely those of first world, heterosexual, middle and upper class white women. This was essentializing because it assumed that all women suffered from the same forms of oppression and shared the same qualities which were, in fact, only common to certain

[9] While feminists such as Harriet Taylor Mill and John Stuart Mill in the nineteenth century, and Simone de Beauvoir writing on biology in *The Second Sex* in the 1940s, already articulated something like a critique of gender essentialism as well as a clear sense of femininity as a product of socialization, it was in the 1960s that we see a flurry of feminist contestations of gender essentialism

white, upper middle class women. At the same time, these forms of feminism tended to ignore the situation of non-heterosexual, non-white, working class, and third world women altogether. In particular, I will focus on Elizabeth Spelman's reaction to this form of essentialism and why she saw it to be detrimental to feminist politics.

### 1.2.1 Biological Essentialism

Marie Louis Pratt (2008) discusses another species that received special attention in Linnaeus' later inquiries: *Homo sapiens*. Although controversial at the time—for reasons pertaining to the religious concern that one might be "supplanting God" if Man were to classify himself—Linnaeus took upon himself the task of also classifying the human species and its various races. Like many of the other species that he classified, Linnaeus assigned the human to the order Primate and organized its *varietate* ("varieties") based on their essential differences (Hudson, 1996; Moore et al., 2003).[10] His classifications were informed by both cultural and phenotypic differences and were hierarchically organized. For instance, he mentions how *Homo africanus*' "inferior nature" of "being ruled by authority" is given away by its "apelike" nose (Moore et al., 2003, p. 12). Linnaeus named 6 categories in all (i.e., "Wild Man," "American," "European," "Asiatic," "African," and "monster"—referring specifically to giants and dwarfs) and each was given a set of rigid descriptives that unabashedly indicated its value in the "Natural Order" of things. The

[10] Linnaeus allegedly justified his inquiry by stating that "God had suffered him to peep into His secret cabinet" (Pratt, 2008, p. 32).

"European's" set of descriptives, unsurprisingly, assumed the highest rank. To demonstrate, compare the description between the "European" and the "Asiatic":

> Asiatic. Sooty, melancholy, rigid. Hair black; eyes dark, severe, haughty, covetous. Covered with loose garments. Governed by opinions.
>
> European. Fair, sanguine, brawny; hair yellow, brown, flowing; eyes blue; gentle, acute, inventive. Covered by close vestments. Governed by laws (Pratt, 2008, p. 32).

The loaded language speaks for itself, and coming from the "father of taxonomy" the categories carried with them an unfortunate legitimacy.

The impact of Linnaeus' beliefs about kinds' fixity did not necessarily dissolve with the coming of Darwinism, according to many feminists. What anthropocentric and androcentric antics the Victorian era initiated only solidified themselves when Darwin made them "*a part of* biology" (my emphasis, Hubbard, 2003, p. 54). Hubbard (2003) quotes some of Darwin's contemporaries (e.g., Karl Marx, William Irvine, Friedrich Engels, Bertrand Russell) who could not help but notice that Darwin's "matter was as English as his method" (as stated by William Irvine in his *Apes, Angels, and Victorians*, as cited by Hubbard, 2003, p. 50). William Irvine points out that looking at Darwin's theory, terrestrial history appears mysteriously similar to Victorian history—"merely an extension to the animal and vegetable world of *laissez faire* economics" (as cited in Hubbard, 2003, p. 50). Irvine points out how the

> economic conceptions of utility, pressure of population, marginal fertility, barriers in restraint of trade, the division of labour, progress and adjustment by competition, and the spread of technological improvements can all be paralleled in *The Origin of the Species* (as cited in Hubbard, 2003, p. 54).

*The Origin of the Species* thus naturalizes imperial Victorian society by pointing to its ordained existence in nature. Apparently even Darwin's perceptions of conventional mores about marriage are obvious in his theory of sexual selection. When pondering the sexual habits of humans in past times, he reasons that because of "the strength of the feeling of jealousy all through the animal kingdom, as well as from analogy of lower animals... I cannot believe that absolute promiscuous intercourse prevailed in past times" (p. 56).

Darwin's work was also embedded in the forms of sexism that were prevalent during the Victorian era. In particular, his application of sexual selection to humans demonstrates this well.[11] Darwin suggested that in humans, men are ultimately superior to women as the result of selective processes over time. For instance, his characterization of the evolutionary processes that led to the intellectual differences between men and women states that:

> The chief distinction in the intellectual powers of the two sexes is shown by man's attaining to a higher eminence, in whatever he takes up, than can woman—whether requiring deep thought, reason, or imagination, or merely the use of the senses and the hands. ...[Men have had] to defend their

[11] "Selection based on variation in secondary sex characteristics, leading to the enhancement of sexual dimorphism" (Campbell, Reece & Mitchell, 1999, Glossary – 21).

> females, as well as their young, from enemies of all kinds, and to hunt for their joint subsistence. But to avoid enemies or attack them with success, to capture wild animals, and to fashion weapons, requires the aid of the higher mental faculties, namely, observation, reason, invention, or imagination (from Darwin's *Origin of the Species*, as cited in Hubbard, 2003, p. 56).

Here Darwin discusses male superiority by explaining the cold hard facts about the natures of men and women, thereby articulating gender differences in a language palatable to a world that had just undergone a scientific revolution. So, despite the distance from essentialism about species for which his theory has been given credit, it appears that essentialism about human kinds still has room to persist. It still seems as though by their natures it is necessary that males are superior to females.[12] And even though these natures might not be fixed, as in man is not *intrinsically* superior to woman, he has however over evolutionary time *become* superior. Therefore the fixed, transmutable essences of pre-Darwinian theory have now become the hard-won and well-deserved (albeit non-static) essences of the Darwinians.

Fighting against scientific conceptions and prescriptions of woman such as those cited above, Simone de Beauvoir ([1949] 1989) addresses at length the ways in which women's inferiority, on account of her nature, was conceptualized in psychoanalysis

[12] Regarding my use of "necessary," Hubbard discusses how many of the theories in sociobiology assume that universally, the male in any species is the more aggressive, active, and promiscuous of the two genders, and that the males in nature that do not demonstrate these traits—or the females that do—are perplexing and in need of explanation (see her discussions of the research done by Wolfgang Wickler). Thus sexual selection maintains this idea of deviation from type that is characteristic of essentialism.

(which had gained serious prominence during the time of her writing), as well as in mainstream scientific studies of gender. In the very first chapter of *The Second Sex* de Beauvoir gives an impressive overview of what was then the latest biological literature on gender in an attempt to straighten out the biological record of the female sex. De Beauvoir's refutation of this literature does the job of dispelling a few of the widely-accepted myths about female anatomy that were contributing to patriarchal justifications for female subordination. More than raising the bar on the status of female biology, however, her main point in this chapter was to deny the significance of biology as a way to interpret the body all together. Through examples she demonstrates that no matter how carefully the biological body is scrutinized, the significance gained from its analysis is wholly dependent on the historical context in which it is set: "there is no true living reality," she says, "except as manifested by the conscious individual through activities and in the bosom of a society" (p. 37); and the society of which she speaks is one set against a patriarchal milieu, whose instruments of analysis are still calibrated to measure woman as second to man.

Fourteen years later, Betty Friedan ([1963] 2001) also addressed the issues surrounding the reification of women's inferiority to men as perpetuated by social and scientific institutions. She discussed how despite the new social and economic opportunities for women that were established by the feminist movements of the 1930s and 1940s, not only were women still seriously underrepresented in the workforce and choosing to spend their lives in the home, but it seemed that women were marrying and

having children *earlier*. She noted that "girls went to university to get a husband" and were only interested in "making careers out of making babies" (pp. 58-59). While their husbands "talked shop or politics" women sat on the other side of the room and talked about "problems with their children, or how to keep their husbands happy, or improve their children's school... or make slipcovers" (p. 61). Friedan asked why, after all the efforts of first wave feminists, were women so eager to return to the role of the housewife?

In answer to this, Friedan highlights what she saw to be an increase in social efforts during the 1950s to reify what she refers to as the "feminine mystique." She discusses how from popular culture media, to theories of human evolution, to Sigmund Freud's revolutionary psychoanalytic theory, American culture was fixing and glorifying femininity as fundamental to women—i.e., femininity in the form of domesticity, "sexual passivity, male domination, and nurturing maternal love" (2001, p. 92). The feminine mystique is the cluster of socially accepted truths about the fundamentality and immutability of femininity that Friedan insists were a part of a reactionary social effort to re-establish the supremacy of patriarchy following the feminist work of the 1930s and 40s. As a writer during the 1950s for a number of magazines, Friedan is able to share her insight into the popular culture portrayal of femininity by discussing the contents and the attitudes of the magazines regarding women's roles. Some of the attitudes expressed by women's magazine writers and editors she gave were: women "are not interested in national or international affairs. They are only interested in the home," "They are not interested in politics, unless it's related to an immediate need in the home, like the price of

coffee," "Women can't take an idea, an issue pure... It has to be translated in terms they can understand as women" (pp. 84, 101). Articles in the magazines often reflected these same attitudes, talking only about the kinds of things that a "fluffy" housewife could comprehend or care about: "Have Babies While You're Young," "How to Snare a Male," Should I Stop Work When I Marry?" "Cooking to me is Poetry," "Are You Training Your Daughter to be a Wife?" "The Business of Running a Home" (pp. 92-93). What added, however, to the popular culture efforts to instil traditional values of femininity were the "hardened facts" about woman's nature that the scientific and educational thinkers propounded. Friedan explains that "The new mystique is much more difficult for the modern woman to question than the old prejudices, partly because the mystique is broadcast by the very agents of education and social science that are supposed to be the chief enemies of prejudice..." (p. 167).

Friedan addresses the impact of Freud in particular (and even more specifically his concept of "penis envy") at length and how his claims about the nature of woman was merely a reflection of his own cultural beliefs about middle class, Victorian women. According to Freud, it was the nature of women to be governed by man, and "the motive force of a woman's personality... was her envy of the penis" (p. 181). Her wish for a penis leads her to devalue herself and other women and may result in a "masculinity complex" if she cannot give up "phallic" activity (i.e., activities associated with males). However, if she can repress her desires for phallic activity, she will develop "normal femininity" and turn to her father in her wish for a penis. Her development of femininity will be complete

when she is able to fulfill her wish for a penis by giving birth to a son. Wishing to be equal to man, to be able to pursue the goals and interests that he does is neurotic for Freud. In lacking a penis, a woman is inherently deficient and inferior to man, thus wishing for the impossible is to be deluded. Hence, a woman's acceptance of her inferiority and repression of her desire for phallic activity is imperative for a woman's sexual development.

Freudian thought was applied literally to conceptions of femininity well into the 20th century. Feminist aspirations were often equated with penis envy and thought to be dangerous for the healthy development of female sexuality. For example in 1947, psychoanalyst Marynia Farnham and sociologist Ferdinand Lundberg explain that

> Feminism, despite the external validity of its political program and most (not all) of its social program, was at its core a deep illness... The dominant direction of feminine training and development today... discourages just those traits necessary to the attainment of sexual pleasure: receptivity and passiveness, a willingness to accept dependence without fear or resentment, with a deep inwardness and readiness for the final goal of sexual life—impregnation (as cited in Friedan, 2001, p. 187).

Such Freudian followers in the 20th century, according to Friedan, not only carried forth and instilled Freud's prejudices against women through their pseudoscientific analyses, but they even "closed questions that [Freud] himself had left open" (p. 188). The "masculinity complex" was becoming an answer for most of women's troubles, and powerful messages

of female passivity, maternal necessity, and submission to male domination, all in the name of psychotherapy, were infused into American culture.

Friedan and de Beauvoir are attributed with rejecting what has come to be known as "biological essentialism." This form of essentialism was the most predominant form of essentialism that was critiqued during second-wave feminism. Elizabeth Grosz and others articulate the structure and context of this critique. "[B]iological essentialism" sometimes referred to as "biologism" (Grosz, 1994) is the belief that "all women are constituted as women by their possession of wombs, breasts, and child-bearing capacity" and that the functions of these biological features determined the functions and roles of women more generally" (Stone, 2004 p. 139). It has been suggested that the feminists who advocated this form of critique during the 1970s and 1980s had their hands full since, as a result of the efforts put forth by de Beauvoir and Friedan, scientific research into sex differences actually *mounted* (Birk, 1999). It is reasoned that a strategic way to undo feminist claims to equality between the genders was to use the authority of science as "secured truth" and to point out that the genders are in fact different by nature (Grosz & de Lepervanche, 1988, p. 5). The appeal to the naturalness of gender differences would often lead to the conclusion that if the genders are different as a result of the design of nature, then it is legitimate to maintain a distinction between them—since denying this is to go against biology.

Moreover, most of the messages coming out of the scientific research during that time specifically asserted biological divergence between the sexes that maintained the status quo of male dominance. For instance, studies about the left and right sides of men

and women's brains made claims to differences in organization that were thought to explain superior math abilities and visio-spatial skills in men and emotionality in women (e.g., Lambert, 1978). Studies about the effects of testosterone on the brain were used to explain aggression in men and passivity in women (as cited in Grosz & de Lepervanche, 1988). Darwin's theory of the "survival of the fittest" was used to explain promiscuity in men. Sperm, it was said, are small and relatively cheap in terms of investment (as opposed to what was thought about the female ovum, which was said to be both costly (high investment) and few in number), so a good way to maximize fitness among competing males is for males to mate with as many females as possible so as to ensure that their genes are being passed on (Wilson, 1975 as cited in Hubbard, 1988 p. 10).

To counter the biological essentialism of these studies, feminists and feminist scientists would often call into question the scientific claims themselves. By either conducting new research or pointing to the holes and biases in previously-conducted research, feminists were able to offer alternative accounts of the biology of gender and call into question the reified gender roles that traditional science so ardently supported. A case in point of this might be feminist scientists Evelyn Reed and Sarah Blaffer Hrdy who conducted research on the mating and parental behaviours of female primates. Their studies both yielded results that seriously conflicted with pre-existing research on the same subject matter. Reed, for example, found interesting evidence that opposed the prevailing understanding that female primates "are dependent and helpless because of their smaller size and childbearing role" (Tuana, 1986, p. 74). Her studies showed that females, despite

their smaller size, were often able to take on dominant and leadership roles in the group because they would band together. She also found that the females were often the instigators of sexual activity and were far from being monogamous. Hrdy's research also reflected findings similar to these in her studies on sexual competition. Recall that during this time, social evolutionary theories were arguing that male aggression, promiscuity, and sexual competition were the result of adaptive evolutionary strategies to increase fitness among males. In contrast, Hrdy's studies showed that sexual competition is certainly not limited to only males in primates: female primates are just as competitive as males for mates. As well, studies revealed that, counter to popular evolutionary belief, females are also just as committed to questing for resources and protecting their families—behaviours usually thought to be typical of only male roles. Hrdy stresses, however, that the role of females in primate groups are complex (as is also seen in Reed's studies when she notes that females can play dominant roles, but only if they cooperate with one another) so their full expressions are not immediately evident. She says that this complexity in behaviour, coupled with androcentric biases among researchers is one explanation for why the roles of females have been so misconstrued. So by pointing out the patriarchal biases in the scientific theories and methodologies and offering alternative, but legitimate interpretations of scientific findings, feminists like Hrdy and Reed contributed to an undermining of the essentialist "secured truth" of traditional science (i.e., the "scientific" assumptions about women's roles that were thought to be static and ordained by nature).

In addition to disagreements regarding the claims and methodologies of scientific research on sex, one of the most notable theoretical movements that came out of second-wave feminism in response to biological essentialism was that of social construction theory and the sex/gender distinction. Social construction theory about gender holds that gendered behaviours and differences between men and women were the result of socialization and the adherence to norms surrounding prescribed gender behaviours. Thus social constructionist theorists founded the sex/gender distinction. In this view, "sexed biology is both different from, and causally inert with respect to, gender – an individual's socially acquired role and sense of identity" (Stone, 2004, p. 140). So, one's sex could be female or male depending on one's anatomy, but whether one was a "man" or a "woman" depended on one's identification with and performance of certain social roles and activities and the exhibiting of certain gendered traits. By distinguishing these two levels of analysis, biological essentialism could be rejected since it was a view that conflated the two levels to both represent "sex."

### 1.2.2 Essentialism and Femininity: The White Upper Class Woman

By the late 1980s and early 1990s, an agitation about an essentialism that was internal to feminism began to appear in the literature. Feminist writers during this time pointed out elements in some feminist theory (including social constructivism) that exhibited "a way of conceiving of political identities that rendered them 'static,' 'absolutist,' 'overdetermined,' and 'universalist'" (Heyes, 2000, p. 18). This would include

talking about certain forms of femininity as universal and inherent to all women and would ignore other forms—particularly those forms attributable to lower class or non-white women. For example, feminist writers (such as Friedan) who advocated that keeping women in the home was a form of oppression (where 'women' implies *women in general*), were critiqued because not all women were even so privileged to stay home. Plenty of women, particularly lower class and non-white women, worked low class labour positions for a living (*and* raised children and ran their own households) because they did not have the means to be a "housewife." Accounts such as Friedan's have been charged with essentialism (e.g., bell hooks, 1984) because they reify the kinds of feminine experiences (e.g., staying at home) that feminism should be concerned with, but also *which women* (i.e., the white, heterosexual, first world woman) should be paid attention to by women politics. This ignores the variation of forms of femininity (e.g., those forms associated with lower class and racial minority women) and exaggerates the boundaries of "women" in relation to other categories (e.g., "lesbians," the "help").

One theorist who particularly pressed this kind of critique was Elizabeth Spelman. Targeting very influential feminist texts such as de Beauvoir's *The Second Sex* and Nancy Chodorow's *The Reproduction of Mothering*, Spelman (1988) suggested that these feminists contributed to a construction of an essential "womanness" that all women share despite their different ethnic, religious, racial, or class backgrounds. This is erroneous to Spelman because it portrays gender identity as something that is independent of and separable from other social identities. Rather, she insists that where and how one is situated

in society should be seen to intimately affect the character and experience of one's femininity. For instance, depicting the feminine condition that is only characteristic of western, white, middle or upper class women does not encompass the forms of femininity of the women who are not also subjected to other forms of low class labour (e.g., slavery, prostitution, low-wage labour), or who are not discriminated against because of their race or ethnicity. To describe the conditions of the white, upper class women as *the* condition of women is to say that "their lives and works, their griefs and joys constitute the norm in relation to which other women's lives—if they are mentioned at all—are described as 'different'" (p. ix). Subsequently, this mentality has the potential to prevent feminist politics from paying attention to the concerns of non-white, working-class women, as well as the interests of third world and non-heterosexual women. If the condition of white middle class western heterosexual women is accepted as the universal condition of all women, then their needs will be thought universal as well.

As a case in point of this form of essentialism, Spelman demonstrates how de Beauvoir "almost always describes relations between men and women as if the class or race or ethnic identity of the men and women made no difference to the truth of statements about 'men and women'" (Spelman, 1988, p. 63). Women live "in a world that belongs to men," according to de Beauvoir, even though she admits simultaneously that a white girl in the United States (back during when de Beauvoir was writing) would hardly consider a Black man superior to herself. Subsequently, de Beauvoir makes the generalized claim that a woman's world "belongs to men" even though during her time this was more specific to

the case of white women, since for black men, their world could also belong to white women.

Following Spelman, feminism in the late 1980s and 1990s continued to produce literature that exhibited a very radical anti-essentialist mentality. According to one commentator, essentialism had become "the prime idiom of intellectual terrorism," where any theory suspected of advocating any hint of universal or inherent properties to women was dismissed by anti-essentialists (as cited in Stone, 2004, p. 141). Spelman's criticisms of the essentialism associated with early social constructionist theories of femininity were only a few among many attacks directed at hidden essentialisms in feminist theory; Carol Gilligan, Catharine MacKinnon, Mary Belenky, Blythe Clinchy, Nancy Goldberger, and Nancy Chodorow, to name a few others, were also targets of anti-essentialist attack. However, it was not long before this extreme anti-essentialist feminism began to receive its own negative reactions. I turn to these reactions in Chapter 2.

In summary, the feminist literature on the rejection of the essentialism of women/gender beginning in the 1950s and 1960s that I have presented here, reflects contentions with two forms of essentialism. In second-wave feminism (1950s – 1960s), the predominant concerns with essentialism were focused on biological essentialism which was the belief that the nature of women is bound up in their biology (particularly their reproductive capacities). Women's biology was described by institutional authorities, such as the sciences, as naturally inferior to men's. For feminists, this added to the entrenchment of the already existing hierarchy between men and women. During second-wave feminism,

a common counterattack was to encourage the view that gender is socially constructed (i.e., men and women are different for social rather than biological reasons). Second wave feminists attacked biological essentialism on the basis that it obscures variation between women and sets up artificial boundaries between the gender categories—which encouraged the subordination of women to men. However, these second-wave feminists were also later criticized by later second-wave and third-wave feminists for being essentialist with respect to the oppression or gendering of women, failing to realize that different women experience oppression and gendering differently, depending, for instance, on their socio-economic class, race, and culture. This was harmful because it limited the scope of a feminist politics to the concerns of heterosexual, first world, middle- and upper-class white women. By voicing the concerns and oppressions of only these women, feminists ignored the voices or situations of the majority of women.

Taken together, philosophy of biology and feminist presentations of essentialism leading up to the 1980s can both be seen to reject essentialism because it obscures variation and sets up artificial boundaries between categories. For philosophers of biology, essentialism obscures statistical variation within populations which hinders how one can conceptualize a species as changing over time (i.e., based on selection acting on individual differences). Artificial boundaries between species cannot accommodate how a species can evolve from one species into another. For feminists, artificial boundaries between genders and within genders set up oppressive hierarchies. Artificial boundaries between men and women encourage the subordination of women to men if their "nature" is understood to be

inferior. Artificial boundaries between women privilege certain forms of femininity as more representative of women. This can bias a feminist politics in favour of these privileged forms of femininity, ignoring the voices and needs of, for instance, working class and non-white women. In Chapters 2 and 3, I will be addressing the various solutions in feminism and the philosophy of biology that suggest alternative approaches to the characterization of women and species that compensate for these deficiencies and harmful effects of essentialism.

# Chapter 2

# Feminist Solutions to Essentialism

For the present chapter, I will return to where I left off in the feminist discussion in Chapter 1 regarding the worries which arose in the 1990s in response to the extreme anti-essentialist reactions of the 1980s. This section will outline four major "solutions" that have been offered over the last ten years to this latest stage in the essentialism debates. In (more or less) chronological order, I will be introducing: (1) "strategic essentialism," a position attributed to a number of scholars including Gayatri Spivak, Luce Irigaray, and Denise Riley, (2) Iris Young's "women as a series" theory (3) Alison Stone's theory of "women as a genealogy," and (3) Cressida Heyes' theory of women as "family resemblances." The feminists whose work I will address in this chapter have been chosen based on their relevance to my thesis (for instance, not all feminists who discuss essentialism offer a solution), their influence in anti-essentialist discussions, and the insightful and valuable dialogue that is present in how the accounts address and respond to one another. The objective of this chapter is to set up the integrated discussion that I will provide in Chapter 3 where a number of the feminist accounts that I address in this chapter will be compared with the solutions to essentialism that have been offered by philosophers of biology. The aim of these two chapters is to compare how each of these disciplines has attempted to solve the problems with essentialism that were raised in Chapter 1.

## 2.1 Strategic Essentialism

Perhaps the primary worry which ties these next four positions in the essentialism debate is the worry about the solidarity of women as a political group. If the falsity of essentialism empties 'women' as a category of its members, *who* then falls under the umbrella of feminist politics? If there are no tangible (biological *or* social) properties that all women share, then it seems there is nothing in the world to point to when we refer to these so-called "women." This is a problem for feminism since its very aims are to address the oppression of *women*. To deny the reality of woman as a category is to obscure the platform on which a feminist politics can take shape. Thus third-wave feminist realization of the problematic political implications of anti-essentialism introduces a complexity to the debate. Without erasing the existence of women, how can feminists form an organized politics that does not, at the same time, perpetuate false generalizations about them?

One of the first attempts to revive the political salience of women's oppression took the shape of an approach now referred to as "strategic essentialism." Coined by Gayatri Spivak, strategic essentialism recognizes that while acute differences may exist between members of certain social groups, it is sometimes advantageous for the groups to provisionally simplify their group identity (thus essentializing themselves) in order to allow for effective means to achieve certain political goals. In the context of gender, this is to realize that rejecting the idea of a woman's nature undermines the possibility of feminist politics. If women share no stable, common characteristics, then it is unreasonable to expect "women" to mobilize around shared concerns or their common political identity and

sense of solidarity (Stone, 2004). Strategic essentialism thus proposes that essentialism should be acknowledged as a false doctrine, in that it is not true that women "share the same social location or unitary biology" (p. 10), however, for political purposes, women should still carry on as though essentialism were true "so as to encourage a shared identification among women that enables them to engage in collective action" (Spivak, 1985, as cited in Stone, 2004b, p. 88).

Luce Irigaray has been thought by some (e.g., Stone, 2004b) to propound a strategic essentialist feminist position. Much of her work suggests that women could tactically develop common beliefs about themselves, even if these beliefs do not necessarily capture how women really are, in order to enable them to rise above their oppression. For example, she suggests a way to "transform subordination into affirmation" by what she refers to as "mimeticism":

> To play at mimesis is, then, for a woman, to try to rediscover the locus of her exploitation by discourse, without being simply reduced to it. It is to resubmit herself...to "ideas" about her, elaborated in/by a masculine logic, but in order to "manifest" by ludic repetition was to remain hidden: the recovery of a possible operation of the feminine in language. It is also to "unveil" the fact that if women mime so well it is because they cannot simply be reabsorbed in that function. (as cited in Stanton, 1986, p. 172)

Denise Riley also puts forward a strategic essentialist position suggesting that it is coherent to maintain that women do not share social experiences, while supporting a politics "as if"

they do. She says this is necessary "since the world behaves as if they unambiguously did" (as cited in Stone, 2004, p. 143). Riley insists that in order for women to free themselves from their oppressed location in society, it is necessary that they temporarily go along with their alleged identity since this is at least a recognizable platform to their adversaries.

Although actual supporters of strategic essentialism have been few,[13] for many, strategic essentialism highlighted an important issue for feminists as political activists. Sympathetic to the movement, Heyes (2000) draws attention to the messiness of the political sphere and how "strategies" are sometimes the most successful manoeuvre. She mentions that ensuring one always advocates the wholesome truth is easier theorized than done. It is easy to get caught up in the ontological and epistemological webs about "who women are" when comfortably seated in the armchair (p. 75). The effects of something like strategic essentialism are much more real, she says, when you are getting your hands dirty on the political front. Inquiring into which generalizations are combated against women and which generalizations women can in turn use to mobilize as a counterforce is an advantage that the strategic essentialist has.

Yet despite this appreciation, the predominant reaction to strategic essentialism was that of rejection. For instance, Alison Stone (2004b) explains that "strategy" can only go so far. She says that any political strategy will be effective in proportion as it allows agents to grasp an understanding of the real events and forces that make up the social field, and to intervene materially into this field (p. 89). So only when a strategy "embodies an accurate

[13] Mainly the only noted scholars considered to have endorsed the approach were Gayatri Spivak, Denise Riley (as previously mentioned), and Luce Irigaray.

understanding of the character" of its social division can it, as a political tool, be effective. Yet, a strategy that exudes false or unrepresentative claims about its social field will ultimately be unsuccessful. A strategy cannot vie for the actual needs of its social group if the needs it promotes are fictitious or only apply to a small portion of the group. Thus, in that essentialist claims about women are false—and this is admitted by even the proponents of strategic essentialism—any political strategy based on its doctrine commits this same error.

Subsequently, the failure of the strategic essentialist's efforts leaves a stalemate between the essentialists and anti-essentialists unsettled. The question still remains, how do we reconcile the theoretical purity demanded by feminist philosophy with the needed political mobilization demanded by feminist activism? How can, or how should, we conceptualize women in the political sphere without committing them to simplified and reified categories?

### 2.2 Woman as a Series

Iris Young (1994) responds to this dilemma by proposing that feminists drop the "theoretical stance" to their conceptualizations of women (p. 717). Young discusses how much of feminism was reactionary to Marxism in that feminists wanted to develop a counterdiscourse that would "conceive sex or gender as a category with as much theoretical weight as class" (p. 717). However this move inevitably demanded answers to questions like: what *is* a woman, and what is her social position such that it is not reducible

to class? Moreover, to answer such questions, it becomes clear that one needs to give a comprehensive and systematic account of 'woman' and her social relations as a whole. In other words, one needs a *theory* of woman. According to Young, a "theory's" main purpose is to understand and uncover "the way things are" about a particular phenomenon. Thus its first goal is to be able to talk about its phenomenon from a universal standpoint, so that from there, "one can apply... propositions to particular facts that the theory's generalities are supposed to cover" (p. 717). Young thinks this kind of theoretical approach is inappropriate to the feminist arena. She calls this kind of theorizing "totalizing," and proposes rather that feminism should be engaging in *pragmatic* theory; 'pragmatic' because it is the particular practical and political situations surrounding women that should be of concern to feminists—not the development of a discursive social theory. Feminist motivation for theory should be the social problems women face, thus its aims should be of practical importance, that of solving particular women-related dilemmas.

Importantly though, Young does not mean for her pragmatic perspective of the conceptualization of women to end up at the individual herself; this would be to go too far (in fact, this would be to jump right back into the deadlock of the essentialist/anti-essentialist stalemate). Allowing talk of only individuals is to be radically sceptical of taxonomies of human groups in any shape or form and maintains an approach which can only "think of and treat people as individuals, variable and unique" (p. 718). This is unacceptable to Young, since this approach reduces all social goings on to the individual, *including* social disadvantages. To deny a conceivable structure to any number of people

greater than one, is to deny oppression as a systematic, structured, institutional process. Consequently, only the individual is left to blame for social disadvantages: either her social position is the result of her own choices, or she is simply *disliked* (i.e., connoting individual taste) by those whose social positions are more fortunate. Either way, accounting for social disadvantages is thrown into the entropedic world of the autonomous individual.

To find a middle ground then between gender essentialism and radical anti-essentialist individualism, Young first addresses a few possibilities as presented by previous feminists, but ultimately insists that they fail. I will outline one of these possibilities since it is a view proposed by an individual already familiar to this thesis, Elizabeth Spelman. As was outlined in chapter one, Spelman's critique of essentialism centred on the exclusionary consequences of some feminist literature which privileged gender oppression over other forms of oppression, such as race, sexuality, or class. Spelman rejects this tendency because she thinks that it treats gender as though it were an independent or separable property of one's identity. She says that to presume one can talk about the effects of gender as unimpeded by one's other positions in society like race, religion, class, or sexuality is to presume that all persons of a particular gender experience their lived gender similarly. But to Spelman this is clearly not the case. It would be naive to think that a white, upper class Christian woman will experience her gender in precisely the same manner that a Persian working class Muslim woman might. Because of the different social attributes in each of these women's lives, their lived gendered experiences might

have different constraints, norms, or oppressions. As well, each will be treated differently by the dominant society. The white woman's gendered experience might be less oppressive than the Persian woman's because she does not have the extra social obstacles that the Persian woman might have. To directly compare gender across social divisions then is to erase the other social realities that non-white, heterosexual, upper-class women experience *in relation* to their gender. Thus, for Spelman, there must be multiple conceptualizations for gender. Cross-comparisons of gender experiences must (at least) be discussed between persons of the same social class, ethnicity, religion etc. Hence rather than talking about "women" one must talk about "Indian women" or "Muslim women" or "Jewish women" or "Jewish, lesbian women" etc.

Young however sees no need for this kind of classification. Although the approach takes a less individualistic position than individualism, she thinks that it is to assume too much about the structure of these various categories. To posit "American Indian woman" as a single identity different from "American white woman" is to assume that each are stable categories. But what is the difference between assuming the stability of these categories over gender categories? Young believes that this will only lead to an infinite regress. Why stop at "black" American, when there are "Jamaican," "Haitian," "Northern," "Southern," and "African" black Americans? Any social category can be seen as arbitrary, so if it is arbitrariness that one is out to eradicate in favour of pure social specificity, then one will only end up right back at the individual—which is back to dogmatic anti-essentialism.

According to Young, the multiple genders position thus fails to escape the essentialist/anti-essentialist stalemate. She believes that the position is right to draw attention to social specificities and step away from a universal social theory, but its positing of endless social categories will only lead back to radical anti-essentialism. What we need then, according to Young, is a way to conceptualize women as "a social collective without requiring that all women have common attributes or a common situation" (p. 723), and she finds this in Jean-Paul Sartre's distinction between a social *group* and a *series*. To view women as a group is to see them as a collection of people who recognize each other to be in unified relation with one another (p. 723). Particularly, members of a group are active in their membership; there is some common goal that has been explicitly expressed and members are obligated to its achievement, whether this is through verbal or written contract or a kind of law enforcement. With that said, it is clear that not all structured social engagements are facilitated through groups. Many are not so organized and less self-conscious; Sartre calls these collective interactions *series*. A series is a social collective that is unified passively "by the objects around which their actions are oriented or by the objectified results of the material effects of the actions of the others" (p. 724). Particularly, the word 'passively' is supposed to connote how the social interactions, constraints, and locations which shape one's participation in a series are merely the *background* to one's identity. For example, a collection of people waiting for a bus might passively identify with one another as a series. Together, the lot of them are constrained by the bus schedule and fares; they are located in a similar geography and abide by the norms of standard bus

procedures. If the bus is late, they might be unified in their tension and if it is raining, perhaps they share a common incentive to huddle beneath the bus stop's cover. However, their membership in this collection is not necessarily meaningful to each of their own personal (active) identities. Young says that this kind of passive identity is "in flight," meaning that

> While serial membership delimits and constrains an individual's possible actions, it does not define the person's identity in the sense of forming his or her individual purposes, projects, and sense of self in relation to others...[Serialities] are material structures arising from people's historically congealed institutionalized actions and expectations that position and limit individuals in determinate ways that they must deal with. (pp. 727, 732).

Based on this conception of seriality, Young proposes that women be conceptualized as such. This way "women" can be posited as a real social category which maintains a certain level of social unity, but also avoids the universalistic conditions of accounting for common properties or attributes. Gendered existence can be viewed as a layered, rule-bound "complex, and overlapping set of structures and objects...[where] *Women* are the individuals who are positioned as feminine by the activities surrounding those structures and objects" (p. 728). Importantly, this, according to Young, is a working middle ground between essentialism and anti-essentialist individualism. Seriality avoids essentialism because it does not lay claim to any certain attributes which all women share. The unity

between women in a series is passive and does not arise from the women themselves, but is positioned in the "material organization of social relations as enabled and constrained by the structural relations of enforced heterosexuality and the sexual division of labor" (p. 733). Seriality avoids individual liberalism (i.e., radical anti-essentialism) because it avoids positing gender as an identity and thus having to reduce the category of women to the individual: "Identity designates something about who persons are in a deep psychological sense" (p. 734). So things like values, practices, goals, and meanings are parts of one's identity; they are things that are unique to that person because of the person's specific histories and ways of interpreting, internalizing, and relating to the world. Therefore something like membership in a group might count as an attribute of one's identity since their membership is active, internalized, they *identify* with the other members of the group and they strive to attain the group's common goals. Seeing gender as a part of one's identity then would be to construe gender categories as groups, but this, as Young has pointed out, is not how gender should be conceptualized. One relates to their gender passively; their gender is contingent on the constraints and social structures that make up their world and condition their actions and meanings. Thus one cannot reduce gender to the individual because it does not constitute the individual in the first place.[14]

[14] Importantly however, gender *can* constitute one's identity if gender is something that the individual does in fact incorporate into his/her identity. For instance, Young discusses how serialities can turn into groups when individuals within series self-consciously bond together and reconstitute the serial structures that once only passively unified them. They might set up common goals and develop sets of values and mutually recognize each other as sharing an identity. Women who form groups around their gender issues would be doing just this. But simply in that this can happen, Young does not maintain that this is the usual case for individuals' gender relations.

## 2.3 Woman as a Genealogy

Alison Stone (2004) praises Young for her contribution to the essentialism debate and acclaims the value of her being able to conceptualize women as a non-unified collective. However, the caveat that Stone attributes to Young's approach is that she does not think it elides essentialism in the way Young hopes. Stone points out that although Young's conception of seriality holds that women do not share essential attributes like a common identity or experiences, her position allows that "all women's activities and lives are 'oriented around the same or similarly structured objects [and] … realities'" (as cited in Stone, 2004, p.145). And this, Stone thinks, is to posit a universalistic position regarding women's social lives and therefore commits Young to a certain descriptive stance about the social reality of women (and in effect, an essentialist one). Subsequently, Stone insists that Young "retains a coherent feminine gender only by invoking a form of essentialism with respect to the constraining structures of the social milieu" (Stone, 2004b, p. 90).

Stone proposes an alternative way to conceptualize women as a non-unified social collective without falling back into the essentialism that she suggests Young's concept of series ultimately does. Stone believes that this can be accomplished by elaborating on Judith Butler's discussions of woman as a genealogy. In *Gender Trouble* Butler implies that "ideas of femininity should be understood as historically constructed in multiple, shifting, ways, their fluctuations in meaning registering changes in social relations of power" (Stone, 2004, p. 146). However, Stone does not think that Butler completes this

analysis. Specifically, she believes that Butler does not elucidate "precisely what a genealogical rethinking of femininity consists in" (2005, 91). Subsequently, Stone proposes that Butler needs to go back to the work done by Friedrich Nietzsche on the genealogy of morality (from which Butler's work is indirectly taken).[15]

According to Nietzsche, the genealogy of a practice is to trace "how some contemporary practice has arisen from an indefinitely extended process whereby earlier forms of the practice have become reinterpreted by later ones" (Stone, 2005, p. 91). This might be seen as a kind of layering effect to a practice, where past "versions" of the practice are consistently reinterpreted and assigned new functions and directions over time. The elements of the practice from distant historical times are slowly erased and replaced as new layers pile on. This kind of analysis suggests that there are no essential elements to practices which persist through time. Allocating a practice under a common rubric like 'morality' is merely to signal an "overlapping chain" of interpretations of the practice connected via a historical relation to one another.

Stone proposes we understand women in this genealogical manner. It is a way that we can conceptualize women as a collective in the non-unified sense as suggested by Young, but without the essentialist pitfall that her seriality encounters. Women do not share common characteristics, nor are they bound together by the same social practices and constraints, but rather they are "entangled" together in history (2005, p. 92). According to Stone/Butler a woman's gender identity is "a personal/cultural history of received

[15] 'Indirectly' because she mostly addresses Michel Foucault—who derives much of his theory from the works of Nietzsche.

meanings subject to a set of imitative practices' (Butler, 1990, p. 138, as cited in Stone, 2005, p. 92). This is to say that one's femininity need not be moulded passively by social, material objects, as is proposed by Young, but can rather be acquired over time as one "actively takes up and internalises available cultural standards" (2005, p. 92).

> on a genealogical approach, all women remain identifiable *as* women. Although they do not share any characteristics simply *qua* women, in each case their femininity reworks pre-existing patterns of cultural interpretation. Through this reworking, each woman becomes located within a historical chain comprised of all those (women) who have successively reinterpreted the meaning of femininity. ...Thus, instead of forming a unitary group, women are connected together in complex and variable ways, through historical chains of partially and multiply overlapping interpretations of femininity. (Stone, 2005, p. 93)

Stone suggests that positing women as a genealogy does not revert back to essentialism in the same way that strategic essentialism and Young's concept of women as a series do. This is because although a genealogy implies a sense of coherency among those individuals who identify within the evolving rubric 'woman,' it nevertheless reveals that the different associations with 'woman' are constantly undergoing transformation making the category markedly fragmented. And even if all women were to identify with the same associations of 'woman,' Stone insists that each would nevertheless understand, experience, and live these associations differently.

Stone however, has one major concern regarding the ontological *applicability* of Butler's account. Delving into the motivations behind Butler's genealogy, we see that these are mostly normative, which is of course understandable, given that it is an *ethics* of gender. However, Stone believes that does not provide a link between the nature of genealogy and precisely *how* it provides the means to dissolve gender oppression, and *why* women as genealogical subjects would desire this dissolution.

According to Stone, in her discussions of "coalitional politics," Butler explains well how women within a genealogy *could* fight gender oppression. She explains that for Butler, although women are "variously positioned" in the feminine genealogy in that women interpret norms differently, their interpretations always partially overlap. They overlap

> in content both historically, since reinterpretations always build upon and rework pre-existing meanings, and intragenerationally, since different reinterpretations of femininity share a relationship to those pre-existing meanings. (Stone, 2005, p. 13)

This then opens up the possibility for a *coalitional* politics, since women with similar (or more closely overlapping) reinterpretations might be motivated to act together on certain social matters such as the subversion of gender norms. It is important that I explain Butler's version of gender subversion before I describe Stone's criticism of Butler's coalitional politics. So, for Butler, gender norms are constantly undergoing "resignification" and this may be in the form of subversion. 'Resignification' is when a

term (particularly one that articulates a norm) is given a new meaning because it has been reinterpreted by a subject, and performed by the subject based on this reinterpretation (which happens incessantly because with each reinterpretation, there are subsequent reinterpretations). Sometimes terms can be resignified subversively if they are performed in a way that undermines the traditional meaning of the norm *and* in a way that overtly demonstrates the *re-enactment* of the norm. This therefore reveals that the norm *requires* constant re-enactment but is unstable in its meaning since divergent performances are possible. Returning to Butler's coalitional politics, Stone believes that specifically, effective subversion of gender norms can only take place collectively. Thus a collective of women, connected in the genealogy by closely overlapping reinterpretations, must subversively re-enacted traditional norms together.

Stone believes that Butler's coalitional politics "presupposes the possibility of collectively subversive action" (2005, p. 15), which she believes is to presuppose the desirability of the subversion of gender norms.[16] Specifically, this leaves unanswered the question of *why* it would be desirable to subvert gender norms, rather than stay within the (perhaps more comfortable) bounds of conservative, traditional reinterpretation. Butler's response to this is simply that answering this is not the philosopher's duty and that her intention is merely "to explain how subversion is possible (in terms of resignification), not to provide a general account of whether, or why, it is good" (as cited in Stone, 2005, p.16).

[16] In fact, Stone attributes this critique firstly to Nancy Fraser (1995, "False antithesis: a response to Seyla Benhabib and Judith Butler," in Benhabib et al. *Feminist Contentions: A Philosophical Exchange*, London: Routledge, 59–74). However, I will not be addressing her (Fraser's) particular critique.

Stone is disappointed by this response, but believes that with a little re-working, Butler's account could respond to this criticism. In particular, Stone believes that if Butler could deepen the Nietzschean elements in her framework, then she might develop the tools for a response. Thus, Stone proposes that Butler re-adopt Nietzsche's ontology that the reinterpretation of institutions (i.e., "norms" translated in Foucauldian/Butlerian terms) is *driven* by active forces of the body ("re-adopt" because Butler actually explicitly rejects this). Stone thinks that an appeal to active forces of the body will entail a (moral) obligatory role on the part of social institutions in that they will have a duty to *not* constrict these forces.

However, Stone explains that Nietzsche's account of bodily forces needs to be re-worked before it can be incorporated into Butler's ethics. For Nietzsche bodies are driven to reinterpret institutions because they have a natural "will to power," which means that they seek to extend their own patterns of activity by harnessing the drives of other bodies to follow in their patterns. The normative implication embedded in this interpretation of bodily drives is that the obligation of social institutions is to foster these drives such that they maximize their "vitality," or their ability to strive for dominance. Consequently, not all bodily drives are morally valuable to Nietzsche, only those ones "inherently suited for mastery" (p. 18). This of course makes his ethics very aristocratic, since it defends the dominance of the "courageous" over the "weak," and it is here that Stone departs from Nietzsche. She opts instead for a "*broadly*" Nietzschean interpretation of innate bodily drives, specifically one that rejects the idea that bodily forces seek power through

domination and harnessing other drives (p. 18). Rather, she suggests that bodily forces gain power "by participating in a process of active engagement, struggle, and contention with those other drives" (p. 18). Perpetual conflict and competition in effect "sharpen" the identities of all contending drives, enhancing their vitality.[17] Importantly, however, power need not be gained by "winning" the struggle, since it is just the act of engaging in conflict that is needed for this "sharpening." Subsequently, such an ethics is obligated to the liberation of *all* bodily forces, since without the goal of mastery, the arena is opened up for the participation of even the bodily forces that are not "courageous." Recast in this light, Stone explains that the fostering of bodily forces provides a normative responsibility for social institutions regarding their involvement in gender expression. She writes,

> On this basis, Butler could explain why it is desirable to break down authoritatively entrenched norms. These norms exclude alternative possibilities of meaning, and this prevents the majority of corporeal drives from engaging in processes of contesting and struggling to redefine these norms. Authoritatively entrenched norms thus crush and stymie the potential for growth of most drives. The subversion of those norms is therefore desirable because it opens up alternative possibilities for

[17] Stone (2005) actually mentions that this "re-casting" of Nietzschean bodily forces as gaining power through competition was actually proposed by him in some of his earlier work. She says that at one point, "he explores the ancient Greeks' 'agonistic' education and culture, which fostered individuals' powers by encouraging them to strive to excel in competition. This requiredthat there always be 'several geniuses to incite each other to action [and to] keep each other within certain limits' (Nietzsche, 1994, *On the Genealogy of Morality*, p. 192). Consequently, anyone who established a position of domination had to be ostracized F the Greek ethos 'loathes a monopoly of predominance'" (title of book added, Stone, 2005, p. 18). However, later he abandons this for his aristocratic ethos.

> engagement, allowing the multiplicity of bodily forces to grow in power and vitality. (p. 19)

Coming back to feminist politics then, this recasting of Butler on a materialist basis provides a normative account for the relaxing of gender norms confining the corporeal plurality of "those who have been historically constituted as women" (p. 21). If this were to happen, Stone predicts that within the overlap where interpretations of femininity have already begun subversion of traditional meanings, coalitions could form and a more wide-spread unfurling of the plurality of women's bodily forces could engage themselves in the social arena.

Stone's anti-essentialism, however, is peculiar relative to the theories I have introduced so far. By incorporating a materialist position into her approach, she tries to harmonize poststructuralism with biological determinism. What I think Stone accomplishes with this provocative move is that she inadvertently reveals the instability of the deterministic paradigm often associated with "realist" or scientific accounts of the body, and thereby expands the feminist parameters of anti-essentialism. The realism that often worries feminism is the kind that uses scientific authority to describe how the body *should* be—whether or not all bodies *are* that way, or ever have a hope of attaining that way. As I have mentioned on a few occasions throughout this thesis, this version of realism is often critiqued alongside essentialism. However, as I think Stone demonstrates nicely, a realist notion of the body as rigidly deterministic is an inaccurate depiction not because there are no *real* pre-social elements of your body that play a causal role in gender, but because the

standard version of realism that is employed is perhaps outdated. A different form of realism might tell us that the body is malleable, inherently heterogeneous, and adaptable to an infinite range of forms that it may be born into. Stone's use of biological "determinism" suggests that there are pre-social forces within the body, but these forces can be manipulated by one's social environment (i.e., they can be repressed or "sharpened"). As well, her realism tells us that these forces do not fit the commonly imposed realist limitations of the gender binary. Her approach then adds a new element in the anti-essentialist debate, one that changes the face of the enemy.

### 2.4 Women as Family Resemblances

Like Young and Stone, Cressida Heyes also advocates the need for a "middle ground" between the false generalizations of essentialism and the individualism of radical anti-essentialism. She recognizes the impoverished political usefulness of a collective that tries to accommodate the demands of each individual, but also understands the ineffectiveness of a collective whose objectives and needs, though perhaps clearly articulated, are based on false presumptions about its members. As well Heyes addresses the "stalemate" to which this dichotomous contention inevitably leads to—that no matter which side of the dichotomy one emphasizes to be most pertinent for the conceptualization of women, there will always be legitimate objections from the other side.

However, where Heyes might be seen to depart from Young and Stone is in her disinterest in finding a "solution" to the stalemate that is describable in ontological terms.

Both Young and Stone attempt to cunningly depict the reality of women (as a collective) such that their category does not induce a set of necessary and sufficient conditions for womanhood, but nor does it disallow the talk of women generally. For Young, women are a collection of individuals who are women because they are bound together by common social materialities which constrain and shape their existences. For Stone, women are connected through historical overlapping chains of reinterpreted forms of femininity. Thus, similarly, both accounts try to describe *how women exist* such that their infinite differences can be accounted for, yet are still able to be placed within the same category. This attempt at capturing the reality of women (albeit their socially constructed reality), makes their accounts ontological. Heyes, however, believes this theory-informed ontological project is orthogonal to feminism. Feminism, she says, needs "criteria" for its categories. One cannot simply sit down and write a comprehensive list of all the differences between women and expect the parameters of the category to develop in consequence. This is because the differences will have varying significances, and the weights of these significances will be connected to the values and interests of the given culture or individuals taking up the project, or will be specific to the disciplinary aims of feminism, etc.

> We need feminist methods for implementing anti-essentialism since neither the interminable deconstruction nor the uncritical reification of the category "women" is adequate to the demands of feminist practice. Philosophical aims do not have to dictate conceptual categories any more than matters of direct observation (2000, p. 98).

Feminist interests and practices will change over time and change depending on the context. It is therefore not possible to attempt to determine ahead of time the precise nature of our categories; these should be informed by feminist practice. Heyes' main departure then from these other theorists is her emphasis on the need for a more practical approach to be taken in the essentialist debate. She emphasizes that rather than tackling essentialism from perched up on the philosopher's armchair, feminists need to first "look and see" and find the real instances in the world where the different claims about the commonalities of women carry practical and political weight.

Her use of "look and see" is a reference to Ludwig Wittgenstein's critique of the "classical view of categories" in his work in the philosophy of language (Lakoff, 1990). The classical view of categories is quite simply essentialism about kinds—"that categories are defined based on the properties that all members share" (Lakoff, 1990, p. 8). Wittgenstein's famous example that he used to challenge this model of classification was that of a game. He noted how some games are merely for amusement (like ring-around-the-rosy), while others are competitive based on skill or strategy—or are competitive but on the basis of luck. Despite their messy relations however, he insists that games are still bound together by what he refers to as a "family resemblance." He says that

> members of a family resemble one another in various ways: they may share the same build or the same facial features, the same hair color, eye color, or temperament, and the like. But there need be no single collection of properties shared by everyone in a family. (Lakoff, 1990, p. 16)

Therefore games, and many other categories of things, should be conceptualized not as *types* of thing, but as things you can describe as they are related to other, like things. However, it remains to be asked: how does one know whether things are alike? This Wittgenstein says is largely based on convention, i.e., the purposes language users have for their categorizations. For example, Monopoly, for some, might be classified as a game because there is a winner, a loser, a particular goal to attain, it is amusing, and it is self-contained (meaning that players do not need to bring in their real-life assets into the game; because it is played "for fun," it is separate from the reality that it plays on). Thus it is this cluster of features which signals a category of games that might make Monopoly "similar" (i.e., be in family relation) to other games such as Sorry, Twister, Go Fish, and Scrabble. However the cluster of features also *distances* Monopoly from other games that share only a few or none of the described cluster of features. For example, games like Ring-Around-The-Rosie, Catch, or Poker (for money) all lack one or more of the specified features and therefore might not count as part of the same family with which Monopoly is conventionally associated. But this is not to say that Catch or Poker are not games—nor is it to say that they are different types of games, it is just that because of the spotlighted convention of features, we see that some games are more similar than others.

This concept of relation via proximity, based on specified convention, refers to the aforementioned injunction "look and see." Wittgenstein compares theory and practice in his famous metaphor comparing frictionless ice with the "rough ground." The ice evidently represents the smooth, abstracted, and reduced phenomena which theories talk about, and

the rough ground represents the contentious and contingent messiness of the concrete examples one deals with in practice. Thus categories, and how we create categories, should first be *looked at*. Wittgenstein says, "don't think, but look!" Look at the objects being classified, since one might not find common properties, but overlapping relations/similarities (Wittgenstein, 2006, p. 44). He also instructs us to look at how things are described and to try to understand the language games that are played because the objects once thought to fit into a category *a priori* are there also because they have been put there for human purposes. A Wittgensteinian analysis not only instils a wariness of the contingency of our categories, but it also encourages an acceptance and an exploration of this contingency. By assessing the use and employment of terms, we can better hone how we develop and make decisions about new and existing categories.

How then does Heyes suggest we assess the boundaries of the category 'woman' through Wittgensteinian analysis? First of all, it needs to be understood that the category of sex is demarcated by a "fluid boundary." There are resemblances between women such as motherhood, sexuality, or anatomy, but not all will share these features or exhibit them in a similar way. Thus resemblances are overlapping. Two women from different regions of the globe might share a uterus, breasts, and a sexual orientation towards men, but may differ drastically in that one is a construction worker, identifies as male, and is undergoing pre-operative hormone treatment for her sex change, whereas the other is an Indian woman meeting her husband-to-be for the first time through an arranged marriage. Yet, in the face of gender's mutability, our practices often invoke some resemblances to be more or less

similar than others. Similarities and differences are given meanings for our purposes, entailing that certain clusters of resemblances will have social and political implications for their possessors. For example, the ambiguity surrounding a male-to-female transsexual might exclude her from woman's shelters. Although she may share family resemblances with some of the other women in the shelter, such as sexual abuse from men, the solicitation of her body, and feminine behaviour and dress, it still might be that her non-resemblances take precedence and prohibit her entry. For example, her muscular shape, or the fact that she lived as a male until the age of 30, might make her irreconcilably different to a group of vulnerable women, women who perhaps have experienced unspeakable horrors on account of their husbands/partners, clients, fathers, or male friends. Even a man "crossed over," might for some be a "man" capable of harm nonetheless.

Specifically, Heyes proposes an interdisciplinary approach to dealing with methodological essentialism, where philosophy and practice meet. Philosophy must, before it informs feminist activism, look for and engage with the "rough ground" on which feminist activism must toil. Rather than continuing on in the armchair tradition where feminists think, critique and argue about where the boundaries of "women" begin, end, or need to keep going, she encourages that feminists need to "look and see." Feminists can do this, she says, by paying more attention to individual examples where "feminists have to arbitrate between different claims about what women have in common" (p. 14). Addressing this meta-dialogue she suggests will help our assessment of the connections between identity in theory and in practice, and better inform our purposive line drawings.

In her book, Heyes (2000) herself examines some examples of "essentialist" accounts of women in feminism and re-assesses them in a Wittgensteinian light. In particular, the accounts she looks at are those put forward by Catherine MacKinnon and Carol Gilligan. In these chapters she critically explores the boundaries they draw around the category of "women" but not without also appreciating the rough ground on which they work. For instance, Gilligan's work in developmental psychology speaks against the very masculine paradigms often employed in the various models of "human" psychological development which depict women as less morally developed than men. Gilligan's reaction against these models is that women are not "less developed" but have an *alternative* moral paradigm, which she calls "the ethic of care." To develop the ethic of care, Gilligan offers very generalized descriptions of girls' psychological development, making what many feminists have thought to be universalizing claims. On a few points, Heyes agrees that Gilligan's research is adversely essentialist. For instance, she believes that not enough interpretive flexibility was given to the range of differences that may have been attributable to the girls' varying "social locations." Part of being sensitive to differences is being aware that power operates in ways that make differences unseen to the powerful (i.e., the interviewers, who were often older, white and a higher class relative to the interviewees). For example, Heyes mentions how the sexual experiences of the girls in Gilligan's research were addressed only under strong assumptions of heteronormalcy. Interviewers asked about the girls' sexual experiences "with boys," and were oblivious to the girls' possibly different orientations even when their responses reflected ambiguity. From an anti-essentialist

standpoint this is problematic because the the interviewers had essentialized presumptions about the girls' sexualities and these in effect constructed the sexual experiences of the girls in a way that mapped them according to a certain range of differences. These constructed understandings then went on to "inform" the world of the girls' experiences, further contributing to the same dominant discourses which shaped the interviewers' biased interpretations in the first place.

However, despite her anti-essentialist hold-ups regarding Gilligan's research, Heyes also argues that merely pinpointing and dismissing empirical research on account that it is "essentialist" is counterproductive for feminism. She encourages rather that feminist anti-essentialist discussions of the empirical studies which investigate the women category should contribute to *bettering* their methodologies, rather than burying their whole enterprise "underneath the disapprobative rubble of theoretical anti-essentialism" (p. 136). Empirical investigations can more adequately be sharpened to address how categories exist in society and relate to each other, and how the lives of those living within them are affected by power relations.

In an important way then, Heyes' "solution" to essentialism differs from Young and Stone. Although she engages with the "stalemate" between false generalizations about women and individualism as they do, she does not provide her version of a solution in the same fashion. This is because she does not present family resemblances as an anti-essentialist "solution" per se, but rather, as a *methodological* starting point for practical investigation. The concept of family resemblances is to point out that, yes, there *are*

resemblances between women, but these are clustered and so can be sorted in many different ways. The further injunction "look and see" encourages the investigation of these clusters, but also the investigation of the sorting processes. Intensions and biases of the "sorter" have the potential to creep in, but also the sorting methods can be directed from posts too far afield (e.g., the philosopher's armchair). Thus for Heyes, Wittgensteinian anti-essentialism is not a social ontology that describes rightly what women are and/or are not, but is a methodology motivated by the epistemic (which are in large part socio-political) aims of feminism (i.e., that feminist theories/practices "should be motivated by the need better to understand and change women's lives"; Heyes, 2000, p. 188) and is directed toward bridging the gap between its theory and practice.

In this chapter I have outlined four solutions to essentialism in feminist theory. The first three theorists presented in this chapter responded to the worries that were expressed by feminists in the Chapter 1 discussion regarding the falsity of essentialism and the social and political harms that essentialism risks if it is accepted as a social ontology. Particularly the first three feminist positions in this chapter (i.e., strategic essentialism, women as a series, and women as a genealogy) struggle to find a "middle ground" between essentialism of, and therefore the denial of difference between, women on the one hand, and a non-unified collective on the other where a women politics is impossible. The strategic essentialists suggested that essentialism is only harmful if it is *accepted* as true, but that if used strategically, essentialism can be used for political ends. Essentializing

women's voices allows for a (superficial) unified politics where feminists can work with adequate cohesion to pursue feminist goals. Strategic essentialism, however, was rejected by most feminists since a cohesive voice is not effective if it is not representative of the real women it supports. "Young's women as a series" responds to the problem left unsolved by strategic essentialism because her suggestion of a "series" allows that women be conceptualized as a collective, unified by oppression as a social materiality, but does not construe women as a homogeneous set of individuals, identifiable by their intrinsic properties. Yet, Stone denies that Young fully evades essentialism. By positing oppression as social materiality, Stone thinks that Young implicitly proposes that there is an essential form to women's social existence. For Stone this denies the variation of different women's lived experiences and thus would not lead to an effective feminist politics since it would assume homogeneous conditions of oppression. In place of women as a series, Stone proposes a modified version of Butler's theory of "women as genealogy." Under this thesis, women are unified historically rather than by social materialities. Thus their lived experiences do not count as necessary and sufficient conditions for womanhood. Lastly, I discussed Heyes' Wittgensteinian account of family resemblances and purposive line drawings. She differed from the first three feminists in this chapter because, rather than proposing an alternative social ontology to essentialism, she proposed a more epistemological approach to the concern about the categorization of women. She discussed how categories are created for our purposes, so these purposes should be investigated and exposed. She notes how because similarities and differences are given meanings for our

purposes, these will have social and political implications for their possessors. Therefore the boundaries of women should be assessed based on overlapping similarities or "family resemblances" where the social and political implications of the lines being drawn are put in plain sight. More of Heyes' epistemological approach will be addressed in Chapter 3.

# Chapter 3

# Solutions to Essentialism in the Philosophy of Biology: Uncovering and Analyzing Parallels to Feminism

Throughout the present chapter, I will outline what the philosophy of biology literature has presented as the most prominent "solutions" to essentialism. As well, I will align these discussions with the feminist solutions I introduced in Chapter 2 and propose how I believe the theories parallel each other. However, I will also address, where necessary, the limiting disanalogies within these parallels. The final approach to species and its parallel with the account of Cressida Heyes' approach to gender (as outlined in Chapter 2) will lead to my conclusion which addresses how this thesis might be seen as a case in point of this final approach.

### 3.1.1 Species as Populations

By the 1930s/1940s, acceptance of Darwinian evolutionary theory (e.g., natural selection, population genetics) began to gain significant ground which brought with it an imperative for a new conception of species. For instance, Darwin's idea that species evolve gradually; a parental species slowly gives rise to a daughter species, which in time gives rise to its own daughter species (Mayr, 1987). Thus the boundaries between parent and daughter species are not starkly delimitable. This complicated how the typologists

understood speciation. For the typologists, speciation was saltational; a new species essence would arise due to a single mutation, thus creating a sharp boundary between parent and daughter species. Subsequently as Darwinian evolutionary theory gained acceptance, ideas like saltation lost their legitimacy and new hypotheses were needed to accommodate his observations.

In that he was one of the first to articulate the problem of essentialism in the history of biology, Ernst Mayr was also the first to offer a more appropriate way to conceptualize species in a post-Darwinian context. Recall from Chapter 1 that for Mayr, one part of the solution to species essentialism was the shift from typological thinking to what he referred to as "population thinking." Population thinking is the belief that species are "populations consisting in thoroughly heterogeneous collections of individuals whose phenotypic properties changed over time and varied across the population at any given time" (Wilson et al., 2007, p. 191). This emphasis on individuals in the definition of species is key to the populationists' improvement in their construal of species. The typologist's insistence on "types" of species results in their view that within species variation is error, or deviation from the prototype. Variation then is abstract, and that which approaches the norm is real (Mayr, 1982). However, evolutionary biologists, according to Mayr, noted just the opposite about nature and stressed instead that variation was the "norm" and uniformities within species, as expressed through statistical means, were "manmade inferences" (Mayr, 1982, p. 47). Moreover, variation is important to the evolutionist because it is the physical materiality on which the mechanisms of evolutionary selection act on. However,

population thinking is not the whole solution to species essentialism, according to Mayr. He proposed that the biological species concept, which states that species "are groups of interbreeding natural populations that are reproductively isolated from other such groups" was ultimately what had to take shape in biological systematics (Mayr, 1969, p. 314).

However, there was another aspect of species that needed to be accepted before the biological species concept could take shape. This second aspect was that species needed to be defined by *relational distinctiveness* rather than by degree of difference. Relational distinctiveness has special reference to the reproductive gap between species which is to put an emphasis on how members of a species are related by common heritage, rather than on how members belong within a species based on, for example, how morphologically similar they are to one another. This also suggests that a species should be defined "not by their intrinsic properties, but by their relation to other co-existing species, a relation expressed both behaviourally (noninterbreeding) and ecologically (not fatally competing)" (Mayr, 1982, p. 272). Therefore, unlike essentialism, which promotes membership based on properties, the Biological Species Concept allows membership as based on *relation*:

> species corresponds very closely to other relational terms such as, for instance, the word brother. A given person is not a brother on the basis of certain intrinsic properties of his, but only in relation to someone else. A population is a species only with respect to other populations. To be a different species is not a matter of degree of difference but of relational distinctness. (1969, p. 314)

Mayr emphasizes two upshots that the biological species concept has over the essentialist concepts. The first is that it is a non-arbitrary species concept because it provides clear and distinct criteria for species differentiation: "two closely related sympatric species retain their distinction not because they are different in certain taxonomic characters, but because they are genetically programmed not to mix" (2000, p. 27).[18] One of the main problems that the biological species concept fixes for the typologist is the unexplainability that was associated with conspicuous polymorphisms and sibling species. Recall from the discussion in Chapter 1, these examples of species are problematic for the typologist because they clearly indicate that morphology has very little to do with species' boundaries (i.e., since in the case of conspicuous polymorphisms, two morphologically dissimilar species can interbreed, and in the case of sibling species, two very morphologically similar species cannot). However, the biological species concept has no trouble explaining these kinds of species. Morphological similarity or dissimilarity is no longer a necessary feature of species members if their membership is based on reproductive heritage.

Secondly, because the biological species concept applies only to *biological* species at specific points in space and time, it is inapplicable to the inanimate world. Its very definition isolates the concept to the biological world which distances it from the problems

[18] The stark boundary between species as the result of reproductive isolation is exaggerated by Mayr. Very few (if any) species can achieve distinct boundaries even given their "reproductive gap." This is because the boundaries of closely related species can be blurred. For example, hybridization is a direct counterexample of this. If the boundaries between two neighbouring species are blurred enough, hybridization may occur. Although fertile offspring might not result, the simple possibility that these two species were able to mate and reproduce undermines the power of the reproductive gap that Mayr insists on. Again, I am only stating the "facts" according to Mayr, in order to lay out a comprehensive account of his thinking.

of atemporality and issues surrounding universal properties which plagued the typologists. For example the typologist's construal of species as types problematizes within species variation since the typologist relies on species membership based on essential properties. As well, the typologist's ahistorical conceptualizations of species cannot account for their evolutionary change.[19] However, the biological species concept is relevant only to biological things. Thus, only when two natural species are placed side-by-side at a particular locale (e.g., ecological niche) and at a particular point in their evolutionary history, can it be determined what maintains each species' integrity (Mayr, 2000). Thus the biological species concept allows for a delimitation of species that can accommodate the historical situatedness of the species as well as its variability.

Mayr's idea of relational distinctiveness is to refer specifically to the delimiting factors of a species' lineage (e.g., ability to interbreed) as defining criteria for species. Importantly, relational distinctiveness requires that a species be defined in relation to other species. Organism *O* only belongs to species *S* because its parents could not breed with organisms from species *A* or *Q*. Reproductive isolating mechanisms contribute to most of the properties of a species. Even the effects of niche occupation on a species' development (which were also thought to be highly important factors in species delimitation during Mayr's time) can be shown to be just another side to the reproductive isolation coin. He

[19] However this does not suggest that a species loses its integrity if one of its members "makes a mistake" and were to hybridize (Mayr, 2000, p. 17). 'Interbreeding' with regard to biological species takes into account that the word signals merely a propensity. A spatially or chronologically isolated species is certainly not interbreeding with other species, though it has the propensity to do so if, at any point, the isolation is interrupted.

said that “reproductive isolation provides protection for a genotype adapted for the utilization of a specific niche” (1982, p. 275). Hence, the two work in unison but are not mutually exclusive. Relational distinctiveness is therefore in place of delimiting a species based on its intrinsic properties (e.g., morphology; specific genetic makeup). The constant change that groups of interbreeding organisms go through over time to adapt to their surroundings and competitors, and the high variation that occurs within them cannot be explained by intrinsic properties. All features of an organism including those which enable its adaptability are a part of the organism because its lineage has accumulated these features over time. Thus a species definition must make reference to its existence as feature of its reproductive heritage.

In response to the problem that essentialism of species obscures variation, Mayr offered the following solutions: his population thinking re-construes within species variation as a real feature of the population, rather than error; the biological species concept allows for an understanding of species as situated within the biological world, and thus evades the demand of the metaphysicians that kinds are atemporal and fixed; finally Mayr’s explanation of the delimitation of species as based on relational distinctiveness explains how within species variation and intra-species similarities are possible. Organisms are members of species because of their heritage, which dismisses morphology as a crucial delimiting feature.

### 3.1.2 Species and Women as Relational Concepts

During my readings of Mayr, I was almost immediately reminded of the feminist Elizabeth Spelman and how she dealt with the problems of essentialism. Most notably, Spelman rejects the claim that gender is an intrinsic feature of identity, one that takes the form of an isolatable property, separable from other identity properties. She suggests rather that gender is a "relational concept not the naming of an essence" (Young, 1994, p. 719). This is because it "is constructed and defined *in conjunction* with elements of identity such as race, class, ethnicity, and nationality" (emphasis added, Spelman, 1988, p. 175). To understand gender then, one must study it in concert with these other social categories. Relations to men and differences between women's races and classes are therefore important in women's gender characterizations because all of these ground how gender is formed within a sociohistorical context. Importantly though, this does not mean that gender can be talked about in degrees of difference from these other social categories. This would be to suggest that "a person's identity [i]s made up of neatly distinguishable 'parts'" wherein each part can be separated and talked about on its own or in clean comparison to another part (1988, p. 136). To determine how women of racial minorities experience gender oppression differently than white women, one cannot simply add on their experiences of race or class discrimination and conclude, for example, that Black women suffer sexism *like* white women, but *worse*. Rather, Spelman insists that identities are inseparable from "numerous and often contradictory discourses of sexuality, race and

class" which renders them definable only in specific contexts in relation to specific others (Baumeister, 2000, pp. 22-23).

Taken together Mayr and Spelman both suggest that in order to get rid of the essentialist status of "species" or "woman," each should be relationally defined. Both of these theorists stress that when species/women are conceptualized as kinds with essences, it is because each are viewed as non-contextualized groups of entities that are related to other groups based on degrees of similarity/difference between their respective properties. However, by endorsing situatedness in social, cultural, or evolutionary heritage, women/species (respectively) become contextually bound and cannot be defined or discussed as isolated groups, identifiable only by their lists of ingredients. Within-kind variation is thus accommodated similarly for Mayr and Spelman. For Mayr it is not problematic for the integrity of a species that the individual organisms within them are vastly different, since the organisms are grouped within that species only according to common heritage. For Spelman as well, it should not be troublesome for a feminist politics to talk about women "as women" despite the fact that there are many different forms of women (e.g., "Black women," "white women," etc.) (p. 174). Women are related to one another via the various social contexts which construct their category as distinct from "men." Talking about women "as women" is therefore possible and necessary for feminism—it is just that one should specify what kind of woman or man one is talking about.

However, it would be inaccurate of me to present the similarities between Mayr and Spelman's ideas of the relational characterization of species/women without also pointing out the obvious difference. The major point at which Mayr's idea of relational distinction differs from Spelman's can be laid out using ideas from Philip Kitcher. Kitcher tentatively critiques Mayr's discussion of reproductive isolation as attempting to provide a "fundamental feature on which organismic diversity rests" (1984, p. 318). For Mayr, reproductive isolation implies a rigid line of demarcation between species—and for all species. An organism that cannot breed with another is clearly and distinctly not of the same kind. Moreover, because this boundary of reproduction is seen consistently across so many different kinds of organisms, it acts as a dependable marker for species distinction. Spelman, however, does not imply in any way that the relational features of a woman's identity, such as race and class, stand as fundamental markers of diversity between women. Spelman points out that situating gender as embedded in the sociohistorical flux of race and class, is not to see differences between women in a rigidly demarcated way. For instance, one cannot assess the differences between various forms of oppression by holding one or more forms constant and expect to find quantifiable conclusions based on this. For example, one cannot compare the experiences of Woman A who suffers from sexism and classism and racism, with Woman B who suffers from sexism and classism, and cleanly conclude that any differences between the two must be a result of Woman A's racial oppression. Rather, gender, race, and class must be looked at "in concert" with one another (1988, p. 113). This would be to understand that the social conditions which shape sexism,

might be similar to, or affected by, or may contribute to, those conditions which shape racism and classism. Therefore, this recognizes that although one can point to a specific context in which gender is shaped (e.g., class), these contexts are complex and the genders they shape are not perfectly distinguishable from the next. This is not the case for Mayr. Although, like Spelman, relational distinction rejects kind membership based on intrinsic properties, his notion of relational distinction can imply a rigid boundary surrounding membership.

Interestingly, Mayr and Spelman also receive similar criticisms for each of their responses to essentialism. Specifically, they are both criticized for positing an anti-essentialism that is so radical that it risks denying the existence of the kinds in question (i.e., women for Spelman and species for Mayr) altogether—outside of conventional naming. In the case of Spelman, recall how Iris Young critiques her reliance on the stability of social categories like class and race, because she is doubtful that these categories can reveal any crucial aspects of a woman's gender experience more than the category of gender on its own. She says that if one insists that gender experience needs to be reduced further to the different aspects of individuals' identities, then why stop at any particular aspect? Identity features such as race and class are arguably no more robust than, say, ethnicity or religion. However, if one accepts this, then there is a risk of a slippery slope toward individualism, i.e., the reduction of gender experience becomes reducible to the individual herself. This denies the reality of any level above the individual. This very radically anti-essentialist result of Spelman's position is harmful to a feminist politics for

Young. Denying the reality of any group makes talk about women in general impossible, which therefore obscures talk of oppression. She says, "Without conceptualizing women as a group in some sense, it is not possible to conceptualize oppression as a systematic, structured, institutional process" (1994, p. 718).

Mayr's critics, Michael Ghiselin, David Hull, and Elliott Sober, bring forward a similar criticism. Sober (1980) points out that Mayr's way of talking about individual differences as "abstraction" versus "reality" (i.e., individual differences are "abstractions" for the typologists but are "real" for the population thinkers) is unhelpful when we realize that the properties of population averages are no more invented by us "by mere abstraction" than are the properties of individuals. "Individual and group properties are equally 'out there' to be discovered" (p. 352). Moreover, Sober suggests that even if properties of individuals could be shown to have a more robust existence, the natural step from there would be nominalism. If only individuals exist then species taxa are entirely conventional. This would render them improper subjects for scientific generalization or prediction.

So although Young critiques Spelman on account of risking radical anti-essentialist individualism and Sober critiques Mayr on account of risking "nominalism," both critiques highlight how the denial of the reality of the collective merely reduces to the reality of the individual. This is problematic for each critic because it obscures, respectively, how feminism can contend with gender oppression as a real issue for women in general, and

how the philosophy of biology can contend with the scientific generalizations and predictions made about species as collectives with real properties.

### 3.2.1 Species as Individuals

With their species as individuals (SAI) thesis, Michael Ghiselin (1974, 1987) and David Hull (1976) believe they can offer a metaphysical account of species in which to ground Mayr's biological species concept. Ghiselin and Hull emphasize that species are the most fundamental units in evolutionary biology. For them this view is imperative since a species' continuity through descent (which *is* evolution) naturally implies that a species is a unit of evolution. Hull explains this nicely: "Evolution, as it is usually characterized, results from mutation and selection. According to one-time honored formula, genes mutate, organisms compete with each other and are selected, and species evolve" (1976, p. 181). Ghiselin and Hull note how, although most philosophers of biology understand that species are the most fundamental units in biology, their metaphysical accounts of species fail to convey this. They think this is because most philosophers construe species as natural kinds or "classes."[20] Hull (1976) says that classes (or natural kinds),

> have members...These members are members of a class because they are similar to each other in one or more respects...The names of classes can be

[20] These terms are used interchangeably for Hull and Ghiselin, because for them, 'class' in the context of biology implies the same demands for membership as does natural kind. Please see p. 9 in Chapter 1 where I defined 'natural kind'.

> and usually are defined intensionally. Classes have the members which they do *in virtue* of their definitions. (178)

Therefore whether one is talking about classes of individuals or populations (i.e., referring specifically to Dobzhansky and Mayr respectively), classes are universals and their names are "general." Understanding species as classes and their names as general would be to refer to the abstraction of the defining characteristics of its members. When one refers to the class of coffee pots, one is referring to a type of thing. This thing most likely has a spout and a handle, is used to pour and hold coffee, etc. 'Coffee pot' does not refer to a particular entity in space and time. It is a word which designates a collection of similar things with similar functions. If one wanted to talk about *the* coffee pot, one would have to conjure up a prototype, but this would not be any particular coffee pot, and nor would it actually exist. Therefore, whenever one is talking about classes of things, one is really referring to the properties of the members which make up the class.

So when any given species, say species *S*, is construed as a class, it simply becomes a designator name which depicts the collection of things (organisms) that have properties x, y, and z, and one cannot talk about species *S* without implicitly referring to the organisms with x, y, and z. This makes talk about the evolution of species *S* very problematic, for one can only talk about how *the organisms* of species *S* evolved over time (Ghiselin, 1974). But this is a conceptual impossibility since organisms do not evolve. An organism can change throughout its life time, but this is not evolution. Evolution happens

to *species*. Therefore species must be conceptualized in a way such that they can be construed as evolvable units.

Ghiselin and Hull suggest that to solve this problem, each species taxon needs to be conceptualized as an individual. That is, species need to be understood as individuals in the same way that a particular person or a single organ is understood: as a spatiotemporally restricted whole that is composed of parts, rather than members (Ghiselin, 1974; Hull, 1976). The parts of an individual *form* the individual, rather than meet a certain set of criteria for membership, as do members of a class. Moreover, because parts form an individual, they need not be similar. For instance, it is not necessary that the parts which compose a body be similar in order to count as a part of the body. They are vastly diverse, and in fact, they need to be in order to carry out the numerous functions within the body. As well, unlike kinds or classes, if an individual were ever to go out of existence, it could not return. It is possible for all the samples of gold to disappear at some point and then reappear because, as a class, "gold" is merely that type of thing with the atomic number 79. Or consider Chocolate Chip cookies; they are a type of cookie with a certain set of ingredients and this list is atemporal. Every Chocolate Chip cookie in the world could be eaten, but this would not eradicate the *type* (e.g., the recipe could still persist). Individuals, on the other hand, are bound by their existence at a certain point in time and according to the particular spatial location they take up. Two identical organisms could exist, save for their spatiotemporal location and they would be considered two different individuals. Or if an organism is cloned, it is not the same organism as the one whose genetic material it

copies. Moreover, to function as a whole, an individual's parts "cannot be scattered around the universe at different times," they need to be unified (Ereshefsky, 2010, n.p.). However, members of a class do not need to be organized at all. Classes do not function as units; so long as some entity has the necessary and sufficient properties that make it a member of the class, it alone can exist with membership status at any point.

Therefore, by construing species as individuals, Ghiselin and Hull demonstrate a way that species can be understood as evolvable units: a parent species exists at a certain time and location and evolves over time. It can evolve over time because its parts are unified and can evolve as a whole. The daughter species, which arises due to this evolution becomes its own, separate individual, separated from the parent species by space and time. To show that species taxa are spatiotemporally bounded like individuals, Hull mentions how an extinct species from 4 million years ago would not be the same species if something phenotypically identical to it were to arise in current time. This is because species are bound to particular spatiotemporal locations by their genealogical continuity:

> All the organisms in a species are connected by heredity relations—they are offspring of conspecifics, or parents of conspecifics, or both. Reproductive relations require that organisms, or their parts (DNA, gametes), come into contact. Such contact requires that parent and offspring, or their appropriate parts, be connected in space and time. (Ereshefsky, 2007, 296)

These observations of species convince Ghiselin and Hull that species are indeed conceivable as individuals. As such, they believe that their view provides an appropriate

metaphysical account which can explain adequately how species are the fundamental units of biology. Species are units of evolution and change across time, unlike classes which are spatiotemporally unrestricted and therefore static, based on the necessary and sufficient conditions defining their boundaries. However, species as individuals can be seen as temporally bound since, like an individual, its parts (i.e., the organisms) change over time as a unit.

### 3.2.2 Species and Women as "Genealogies"

This next discussion will address how Ghiselin and Hull's species as individuals thesis (SAI thesis) parallels some of the work done in feminism. Particularly I will focus on how the SAI thesis' construal of species as an evolvable unit compares to Judith Butler and Alison Stone's discussions of women as a genealogy. I will discuss how Butler's and Ghiselin and Hull's "genealogies" are similar both in theoretical structure and in their weaknesses as pointed out by their critics.[21]

Returning to Butler and her contentions with essentialism, recall how she insisted that there are no common characteristics that unite the institutions, practices, or beliefs which shape femininity (Butler, 1990). Only by belonging in a historical chain, where later forms/norms of femininity reinterpret earlier ones, can any particular practice, institution, etc. be identified under the rubric 'feminine.' Any modern feminine institution then is "the

[21] To justify my referring to the SAI thesis as a *genealogical* perspective, I do this because both Ghiselin (1987) and Hull (1976) explain that construing species as individuals is the best way to capture how species taxa are "chunks of the genealogical nexus" (Ghiselin, 1987, p. 129; Hull, 1976, p. 174). Thus my use of 'genealogical' to describe their view is not something I invented.

reinterpretation of a pre-existing institution, which it has 'redirected to a new purpose'" (p. 7). This is similar to Ghiselin and Hull's "evolvable unit," since she conceives the rubric "woman," like a species taxon, to perpetually change over time. Although the earlier and later parts of "woman" might be unrecognizable from each other, they are still connected through the chains of overlap within her history, these "chains of overlap" of course being the reinterpretations of feminine norms.

I also believe that Butler's conceptualization of gender as performative signals another parallel between her argument and that of Ghiselin and Hull. By "performative" Butler means that gender (or more specifically, femininity) is real only to the extent that it (where "it" is a reinterpretation of a pre-existing norm) is enacted by a subject. Moreover, corporeal activity is various, which is to say that gender meanings are continuously altered across subjects. However, recall that this is not to reduce the "reality" of gender to the individual, even though on the face of it, gender is only materialized through the subject's (a) reinterpretation and (b) enactment of this reinterpretation. Stone explains that although Butler insists on women's multiplicity, women can be identified *as* women because through the imitative or reinterpreted activities regarding femininity,

> "each woman becomes located within a historical chain composed of all those (women) who have effected successive reinterpretations of femininity. Moreover, through this relation to a pre-existing history, each woman's corporeal reinterpretation of femininity comes to overlap in content with reinterpretations that other women are simultaneously

> effecting. ... Although there is no unity among women (either within or across generations), they are nevertheless brought into complex filiations through their location within the chain of overlapping reinterpretations of femininity" (as cited in Stone, 2005, p. 13).

A woman is a woman not because of the properties she possesses, but rather her gender *emerges* at the intersection between corporeal behaviours/rituals and the discursively articulated norms which direct and interpret those bodily activities. This is to say that one is not born with gender, nor does one possess it, but by being assimilated into the rhythms of cultural norms and practices, gender is inscribed onto one's body and practices through the reinterpretations/enactments of gender norms by oneself and others, i.e., "...an active style of living one's body in the world" (Butler, 1989, 131, as cited in Stone, 2005, p. 13).

This use of "location" that Butler employs to characterize how individual women are related to the collective of women does the same theoretical work that Ghiselin and Hull's SAI thesis does in distancing talk of species from the properties of individual organisms. Ghiselin and Hull suggest that species taxa denote particular "chunks of the genealogical nexus," meaning that any given species taxon (e.g., *Procyon lotor*) is individuated based on the spatiotemporal location that it takes up on a phylogenetic nexus. This means that, regardless of the properties of the individual organisms which comprise the species, a species' character is determined by its historical phylogenetic location. Thus, organisms within the species can be tremendously heterogeneous and this does not affect any single one's appropriation in belonging to the species. Thus in the same way that

individual women belong to the genealogy of women not based on any of their particular properties, but because they are located within the historical folds of reinterpretation, so it is with organisms in a species. A Nubian giraffe born with a peculiarly short neck does not make it any less a part of the species.

On the other hand, this point of comparison has an obvious limitation. Quite simply this is because Butler suggests women are *not* born into the rubric of women, and, for Ghiselin/Hull, organisms most definitely *are*. As previously mentioned, Butler suggests that "women" *emerge* at the intersection between corporeal behaviours/rituals and the discursively articulated norms which direct and interpret those bodily activities. However, this would be a strange suggestion on the part of Ghiselin and Hull who were working specifically in the context of the evolution of species. Evolution is the change in *inherited* traits of a species, so it would make very little sense if Ghiselin/Hull's understanding of an organism's relationship to its species did not include that they be born into it.

It seems then that in their dealings with essentialism, Butler and Ghiselin/Hull put forward similar attempts to solve two main issues: (1) how a collective can change over time while remaining conceivably the same collective, and (2) how to account for within-category variation without denying the reality of the collective as a whole.

Turning to Ghiselin and Hull's and Butler's critics, it seems that similar issues arise concerning *how* a collective of women or species can change over time as a unit while maintaining its kind integrity. According to their critics, Ghiselin/Hull and Butler firmly and successfully establish that an evolvable unit is a preferable way to conceptualize

women and species over type, but as it will be pointed out, both fail to convincingly show how such a unit can persist. Ghiselin and Hull's critics will say that when the individual analogy is interrogated it is found that the relations of historical descent and reproduction, which Ghiselin and Hull propose in their SAI thesis, are not sufficient "for the kinds of spatiotemporal continuity and causal integration that [are] definitive of paradigm individuals, such as organisms" (Wilson et al., 2007, p. 195). They will say that the kinds of mechanisms that integrate a species and maintain its continuity are more characteristic of a natural kind (recall that Ghiselin and Hull specifically reject species as natural kinds), since (a) they are governed by generalizations, and (b) behave more like "properties" rather than "parts of a whole." Butler's critic will suggest that a realist recasting of Butler is needed in order to explain the forces capable of forming a coalitional politics. So, as we will see, although both bodies of critics accept a broad version of the genealogical theses as put forward by Ghiselin/Hull and Butler, the respective critics take issue with the lack of attention given to the genealogical mechanisms. As a result, serious re-working of the theses is needed—a re-working that, ironically, seems to bring theorizing about kinds back towards the features of traditional essentialism. The following section will lay out the homeostatic property clusters (HPC) theory (whose proponents critique the SAI thesis), followed by an integrated discussion connecting how HPC theorists and Alison Stone critique Ghiselin/Hull and Butler's genealogical views respectively.

### 3.3.1 Species as Homeostatic Property Clusters

As was discussed in the previous section, Ghiselin and Hull suggest species are not natural kinds (i.e., recall that natural kinds and classes are used interchangeably for Ghiselin and Hull), but individuals. They are not natural kinds because they do not have essences which require necessary and sufficient conditions for membership, they are not restricted to particular historical periods, and they are not governed by universal, exceptionless laws. However, proponents of the homeostatic property clusters (HPC) theory suggest that Ghiselin and Hull are chasing after a phantom problem by worrying about how to resolve the problems associated with the essentialism of traditional natural kinds. Richard Boyd (1999) proposes that the traditional definition of 'natural kind' is what is at issue. He says that natural kinds in the context of biological phenomena should not be treated analogously with the Platonic/Aristotelian entities as suggested by Mayr. He thinks that this form of essentialism, as applied to kinds, is mostly the result of a lingering influence leftover from logical positivism and is outdated.[22] Thus he insists that once this is made clear, then "the debate over whether species are kinds or individuals is less momentous metaphysically and methodologically than one might first suspect" (141).

Boyd therefore proposes a new conception of "natural kind," one which endorses the view that natural kinds have identity determining features similar to essences, but not the same sort of essences which troubled Mayr and Hull. He suggests that natural kinds are

[22] Specifically, that kinds with essences: (1) are defined with necessary and sufficient conditions; (2) tare not restricted to particular historical periods; (3) are governed by universal exceptionless laws; (4) and that members of kinds are united by their shared properties.

groups of entities that share clusters of similarities (i.e., clusters of features consistently co-occur between the entities of a group) which he calls "homeostatic property clusters." Some key features of this sort of clustering have been outlined by Brigandt (2009) and Boyd (1999) as follows:

1. There are families of properties that are contingently clustered in nature in the sense that they co-occur in an important number of cases (Boyd, 1999, p. 143).
2. This correlation of properties is brought about and maintained by some causal processes *dubbed* "homeostatic mechanisms" in which the kind members figure.[23] These sets of homeostatic mechanisms determine the identity of an HPC natural kind (i.e., they specify which organisms are kind members, where vague boundaries are permitted).
3. However, none of the cluster properties has to be possessed by all kind members. Thus the HPC view permits variation in the distribution of the

[23] There is an emphasis on 'dubbed' since current views of HPC theory use 'homeostatic' only metaphorically. To suggest that the causal processes which maintain the correlated properties within the kind members are homeostatic, in the literal sense, is to suggest nothing over and above a natural state view of species. Homeostasis is a term generally used to describe how an organism monitors and maintains its internal conditions. Usually it is the case that there are optimal states that are crucial to maintain (e.g., the level of salinity in a cell's cytoplasm; the temperature in a warm blooded mammal), so the organism is equipped with compensatory mechanisms if the conditions ever deviate from these optimal states (e.g., sweating and vasoconstriction/dialation are homeostatic mechanisms in warm blooded mammals).

> properties that are characteristic of the kind (hence the use of 'vague boundaries' above).[24]

Given this description, HPC proponents believe that species are excellent candidates to stand as instances of such natural kinds. For one, there are characters within species (e.g., phenotypic, genotypic) that have a tendency to occur together and are widely shared by most members of the species. Moreover, the clustering of properties allows that *extrinsic* or relational properties can be factored into the delimiting of the kind. An extrinsic (relational) property, as opposed to an intrinsic property, depicts how features outside of the organism affect the characterization of the kind, e.g., interbreeding or niche conditions (two organisms belonging to the same ancestry and occupying the same niche will undergo similar selectional forces). Traditional kind essentialism, on the other hand, insists that only intrinsic properties (which are internal to the organism, e.g., phenotype or genotype) are imperative for the delimiting of a kind. This recognition of the importance of relational properties in the characterization of kinds, contextualizes HPC to biology. The focus of traditional essentialism on intrinsic properties is a view more appropriate for inanimate objects or chemical kinds (Brigandt, 2009). Secondly, the causal mechanisms (i.e., the "homeostatic mechanisms") underlying the characterizations of the species result in a certain degree of stasis, providing the species with a high level of kind integrity. Such mechanisms may include: "gene exchange between certain populations and reproductive

[24] The information in this description of HPC was taken from Brigandt (2009, p. 79) and Boyd (1999, p. 143), however the wording is not exact.

isolation from others, effects of common selective factors, coadapted gene complexes[25] and other limitations on other heritable variation, developmental constraints, and the effects of the organism-caused features of evolutionary niches" (Boyd, 1999, p. 165). It has been pointed out that these features have the effect of stabilizing species populations in ways that allow for (statistical) scientific generalizations and explanations, which is endemic for a thing to stand as a natural kind.

Importantly though, the vagueness of boundary delimitations which HPC allows is crucial for the recognition of a species as an HPC natural kind. HPC allows that property cluster kind members share a *complex* of properties that may include a "whole set of dynamic causal processes," rather than a single, static essence (Brigandt, 2009, p. 80). As has been established since at least the evolutionary synthesis, variation has become pertinent to understanding the underlying causal mechanisms of both biological stasis and change (Wilson et al., 2007). Static essences or even rigidly delimited sets of properties are simply explanatorily inappropriate to species kinds. HPC, however, accommodates nicely the variability species exhibit because the "homeostatic" unity of clusters may be imperfect. This is to say that no one single property in the cluster, nor any certain subset of them, is necessary for membership (Wilson et al., 2007).

[25] Coadapted gene complexes are when selection has favoured a certain supergene (which is a genotype with many loci on a chromosome that are held together and may be inherited as a unit), which often results in an increase in the fitness of the mutations that interact well with the alleles or genotypes of the supergene, and a decrease in the fitness of the mutations that do not (Hamilton, 2009, p. 357). This mechanistic favouring of the supergene's mutations is what Boyd means when he says that coadapted complexes act as a limitation on variation.

Thus, because HPC theorists reveal how traditional essentialism is an erroneous notion of natural kinds, its rejection is not necessarily a reason to disregard species as natural kinds. If "natural kinds" are not what traditional essentialism makes them out to be, then a more accurate notion of natural kind should be what species are measured against. HPC theorists think that natural kinds are better construed as historical kinds delineated by property clusters (in which no set of properties is necessary or sufficient for kind membership) whose boundaries are fuzzy. Moreover, reintegrating a notion of realism (i.e., the correlations of properties in HPC kinds which are due to features/causal processes in nature) into a conceptualization of species can better accommodate the predictive and explanatory aims of biologists.

One critique of HPC theory suggests that *homeostatic* property clusters do not allow for a historical/evolutionary conception of species, since "whatever is 'homeostatic' cannot, by definition evolve" (Kluge, 2003, p. 234, as cited in Brigandt, 2009, p. 82). This critique is influenced by the claim that the SAI thesis provides an efficient metaphysical model for the construal of species as evolutionary units. However, Brigandt disagrees with this criticism; first because "it takes 'homeostatic' too literally" (as already mentioned in the footnote on pg. 79) but also because he believes that the historicity of species can be mutually translatable under both HPC and SAI theories. Brigandt explains that when a species evolves, it does so while maintaining its intraspecific variation (i.e., individuals within the species remain similar relative to other species) and by evolving as a whole. How this can be understood in terms of SAI is relatively straightforward since its first

major premise is that species *are* "cohesive units that are able to undergo change" (2009b, p. 81). However, regarding HPC kinds, the historicity of species seems less obvious. Nevertheless, Brigandt demonstrates that historicism is fully compatible with HPC theory. He says that homeostatic mechanisms can explain why, when significant change occurs in some populations, this change is transmitted to other populations. For example, gene flow would be one such homeostatic mechanism. When alleles of genes migrate between populations (i.e., this can be through inter-population mating in the case of animals, or the travel of pollen/seeds in the case of plants), to some extent they synchronize the allele frequencies in both of the populations' gene pools. Thus, if one population is "changing," the other will as well. "Thus, some homeostatic mechanisms (e.g., gene flow) can both generate unity/similarity at any point and account for why change obtains for the entity as a whole" (Brigandt, 2009b, p. 81).

### 3.3.2 "Reviving" Essentialist Paradigms in Feminism and the Philosophy of Biology

Bringing the discussion back to the feminist philosopher Alison Stone, I would like to address how her attempt to re-work a notion of realism into Butler's genealogy is similar to the HPC theorists' attempts to re-construe species as natural kinds. To reiterate the main points outlined by HPC theorists for why a notion of natural kind property clusters is suitable for species: HPC proponents suggest that since traditional essentialism is not an accurate depiction of 'natural kind,' its rejection by SAI thesis should not entail a prohibition to view species as kinds; on closer analysis of species, there are mechanisms

underlying the clustering of properties that are present within a species such that biological generalizations are possible; this provides a palatable notion of species as natural kinds without committing the errors of traditional essentialism which, importantly, accommodates the modern advancements in biological practice, such as those in evolutionary theory, evolutionary genetics, and microbial biology, because it can make sense of the explanatory and predictive aims/achievements associated with these practices.

Returning to Stone's discussion of Butler, we see that she makes similar points when she integrates realism with her theory of women as a genealogy: she says that since not all pre-cultural notions about the body entail the authoritative and confining normalization of gender of which traditional essentialism is guilty (e.g., the ideas surrounding the gender continuum as proposed by Anne Fausto-Sterling), an ethics of gender should not entail an absolute denial of real bodily forces; Nietzschean realism (minus its claim to aristocratic drives) provides a materialist theoretical medium wherein the bodily forces of gender plurality can be accommodated without risking prescriptive essentialist gender norms. Therefore Stone's recasting of Butler's theory with Nietzschean realism provides the normative force needed to justify why "feminist politics *should* subvert, not conserve, the established meanings of gender norms" (emphasis added, Stone, 2005, p. 16). Moreover, it is not a "realism" that is essentialist.

Stone and HPC theorists then both take on a similar role in the essentialism debates within their respective disciplines. Each addresses a genealogical approach to kinds and attempts to demonstrate that the anti-essentialism embedded in the approaches

overcompensates for an outdated conception of kinds. For HPC theorists this is regarding the anti-essentialism surrounding natural kinds, and for Stone this is regarding the anti-essentialism surrounding biological realism about gender. HPC theorists proposed a biology-specific understanding of natural kinds, and Stone suggested looking at contemporary studies in the biology of gender that point toward gender plurality. Thus both Stone and the HPC theorists reveal that there can be softer versions of natural kinds and biological realism (respectively) in which the errors of traditional essentialism are no longer an issue. This allows talk of gender and species (respectively) within these previously tabooed paradigms in a way that is not essentializing. The benefit that Stone and the HPC theorists both propose can be gained by reviving these previously tabooed approaches to kinds is that they enable the explanatory and predictive (and political, in the case of feminism) aims/achievements of both feminist and biological practices.

This destabilization of the essentialist paradigms of natural kinds and biological realism about gender by HPC theorists and Stone (respectively) paves the way for one final stage in the essentialism debate that I will address. The next set of philosophers that I will discuss take very seriously the role that paradigms play in our understanding of kinds. What they will point out is that the very recognition of the paradigmatic nature of concepts like natural kinds, social construction, biological determinism, etc. suggests that there is more to worry about concerning our understanding of kinds than what might be the right ontological conception of them (e.g., are "women" a genealogy or a series?). In this final section I will be re-visiting Cressida Heyes' Wittgensteinian analysis of "women" and

introducing Ingo Brigandt and Alan Love's epistemological discussions about typology and natural kinds. Finally, I will address the implications of this reasoning on the history of essentialism, as I have laid it out, in these two disciplines.

### 3.4.1 Epistemological Considerations

Ingo Brigandt (2009, 2011) and Alan Love (2009) both propose projects intended to draw attention away from the metaphysics of essentialism to the epistemological concerns surrounding the practice of classifying natural phenomena for the purposes of empirical inquiry. This is because, for any discipline or subdiscipline, there are different explanatory interests which drive the inquiries carried out. Importantly, for Love and Brigandt, these play a part in how kind concepts are developed and appropriated within disciplines. Therefore, the narrow focus on the rightness or wrongness of a kind concept ignores a host of other issues associated with the development and deployment of the concept.

Love (2009) highlights the metaphysical concerns surrounding typology as an illicit way to construe species in an evolutionary context and proposes that these debates are too narrow in their judgment. Love insists that typology needs to be understood as a form of thinking, rather than as strictly a metaphysical account of kinds that can be either right or wrong. Specifically, typology is a form of representational reasoning, where natural phenomena are categorized via idealization and approximation. This includes "grouping and distinguishing [the natural] phenomena according to different characteristics, as well

as ignoring particular kinds of variation" (p. 53). Importantly, these typological representations are intended to facilitate explanation, investigation, and theorizing via increased abstraction and generalization. Thus, although typology *necessarily* ignores some kinds of variation (since it is a tactic which focuses on only specific features of phenomena, and thereby abstracts away from others), *the fact that* it ignores some variation should not be the primary concern.

Love (2009) provides a number of examples in the classification of kinds in biological sciences where the typological tendency to abstract away from some features/variations is not necessarily problematic. In one of these examples, Love discusses the typological model associated with the classificatory practices of "normal stages" in developmental biology:

> The process of development from a fertilized zygote to fully formed adult organism has been studied by breaking down the process into temporal periods or stages... 'Typological thinking' is manifested as a consequence of conceptualizing a continuous ontogeny in terms of discrete periods that are applicable to all members of a species, as well as to the embryos of other taxa. (p. 63)

For instance, the key developmental stages of an embryo are an excellent case in point of typological normal stages: fertilization, gastrulation, and neurulation are all abstract, points along the development of the embryo that scientists have deemed prototypical of embryological development. This is a typology because the points are considered standard

based on a wide comparison of different stages across many different embryos, and the kinds of embryos chosen to illustrate the different stages have been chosen based on their "typicality." However, developmental biologists consider this kind of periodization a "fundamental feature" to their studies, since the vast amount of variation across developmental stages and embryos is too enormous to contend with otherwise. For example, developing hypotheses regarding the "assumptions about the causal connection between different processes across sequences of stages" would be hard won if biologists were dependent on exhaustive comparative research. Consequently, the features of approximation and idealization characteristic of the normal stage model of development are helpful to these scientists. This is why for Love, it is also important to understand how typologies[26] are employed in different disciplines and subdisciplines according to those disciplines' specific explanatory aims and investigative endeavours. The success of a typology can be based on how well it provides the necessary representational tools needed to accomplish the research goals. This is quite different than the metaphysical concern with how well, or whether, a typology or any other classification schema captures the pure reality of the kind.

[26] I use the plural because, as Love points out, an analysis of scientific classificatory practices reveals that multiple kinds of "types" are employed in scientific reasoning. Hence there are multiple typologies for these respective "types." For example, protein domains are a kind of "type." These are "parts of a polypeptide chain that form a semi-autonomous substructure or fold within a larger functional protein" (Love, 2009, p. 61). However importantly, they are not the same sort of type as that which has been allotted to the different types of locomotion (e.g., speed running; jumping) that functional morphologists use to describe how (particularly) vertebrates move about in their environments. Thus there are different typologies for these different conceptions of "type."

Furthermore, Love demonstrates that, when a classification schema like typology can be understood as a method of inquiry, it becomes apparent that there is far more to the classification of kinds than the mere metaphysical account of what a kind *is*. When trying to understand *why* a scientist chooses typology for a particular purpose, or *what kind* of explanations typology has to offer, or what kind of "types" are useful for scientific inquiry, suddenly a host of epistemological issues become relevant. For example, when inquiring into why a scientist would prefer a typology for his or her method of inquiry, it becomes necessary to investigate what kinds of questions he or she asked about the object of inquiry which led to the choice method. As well it becomes important to understand the research goals and how the researcher thinks a typology will facilitate this. Thus understanding that typology as a method of "representational reasoning," within a specific domain of study elucidates how watered down typology as a metaphysics of kinds is: "Metaphysical approaches to kind individuation lead to a flattening of representational reasoning in biology; i.e., they treat it as a relatively homogeneous endeavour, ignoring the particularities of disciplinary contexts where empirical inquiry occurs" (p. 60).

Brigandt (2009) also addresses the metaphysical debates associated with the essentialism of kinds and suggests that an equally important project in the philosophy of species classification is the epistemological study of how, and for what purposes, kind concepts are employed. He later ties this in with a more overall pragmatic view of how scientists systematize natural phenomena in our world (Brigandt, 2011). He holds that the role of human interests and values is inseparable from our representations and

classification schemas. Brigandt argues that, "there are various theoretical or intellectual goals that we (not nature) have, and different classifications or groupings into kinds may be needed to meet different goals" (p. 175).[27] Therefore he suggests that rather than worry about the metaphysical parameters of kinds (e.g., what *are* natural kinds, and what features do species possess that would render them a natural kind or not?), the worry should be focused on the philosophical "fruitfulness," of how an understanding of kinds plays a part in our scientific theorizing (p. 176). For example, there might be pragmatic benefits to construing species as individuals in some contexts (e.g., evolutionary theory), but not in others. In other contexts, it actually might be more beneficial to construe species as natural kinds (e.g., taxonomy). In such cases, rather than being hung up on the seeming contradiction, Brigandt encourages an investigation of why the different kind concepts are being used in the various contexts. What are the explanatory aims of the scientists? What theoretical/epistemic purposes do their different kind concepts serve?

In different ways then, both Love and Brigandt attempt to re-configure the essentialism debate so that the metaphysical facts about a category are not the only relevant issue. They draw attention away from issues such as how close to the "truth" a representation is, or how completely a category represents reality, and bring the focus to a concern about what categories are used forand whether they are successful. Should we use a different representation if they are not? Moreover by demonstrating how the various strategies, goals and values of scientific/philosophical practices are embedded in and

[27] For instance, the goal of using a concept of natural selection is to account for evolutionary adaptation (Brigandt, 2011, p. 177)

inseparable from our classification schemas (even the ones thought to be outside of human construction), they reveal the undeniable need for a parallel, epistemological study of how we classify phenomena. Therefore, it appears that their approaches take a middle road between (a) allowing that there are a unique number of natural kinds in nature (such that the metaphysical structure of nature is all that philosophically matters) and (b) a social constructivist understanding of kinds, in which kinds in nature exist solely because we recognize them. Our recognizing a kind as "natural," is a function of both our scientific interests and the structure of nature.

Brigandt and Love both highlight HPC theory as an approach which exhibits a consciousness of the epistemic context of biological classification. More so than Love, Brigandt praises HPC for its relevance to the predominant epistemic context of the study of species within contemporary biology. For example he outlines how the HPC view takes seriously the empirical requirements of biology which expect that any satisfactory scientific account of a particular natural kind must allow for important inductive inferences and explanations (Brigandt, 2009). Brigandt discusses how Richard Boyd (in his accommodation thesis) makes explicit reference to the epistemic demands of biology (i.e., the inductive and explanatory aims of biologists) when he insists that what makes a kind 'natural' depends on whether it possesses properties such that the criteria for successful explanation (which are determined within the disciplinary matrices) can be fulfilled when the causalities of these properties are put to predictive use. This is also to reveal that HPC theory also answers to the high demands of many *different* epistemic endeavours within

biology. Because HPC is conscientious of classification as an epistemological activity, it can show how different, perhaps convoluted, aspects of phenomena can be explained by several scientific approaches. For instance, the morphological species concept may point out and explain which homeostatic mechanisms underlie the *similarities* in the physiology of one species, say beak shape, but practices in ecological selection may in turn help explain why some beaks in the neighbouring populations are *different*. So, through its accommodation thesis, HPC recognizes that explanation in scientific practice is discipline specific. Therefore it has the flexibility to make compatible varying aspects of explanation by inquiring into the different methods and strategies that are employed for explanations and the different questions that are asked.

Love (2009), however, voices one legitimate concern regarding whether HPC can stand as an exemplary epistemological approach to biological classification practices. In his (2009) article Love identifies the points where he believes his epistemological project departs from Boyd's accommodation thesis. He praisesBoyd's notion of accommodation in that it promotes an understanding that "categorization and causal structure are harmonized to produce successful inductive generalization and explanation," because this admits that the causal structures of the objects of scientific inquiry are inseparable from scientific classificatory goals/activities (as cited in Love, 2009, p. 55). However, he thinks that Boyd's accommodation thesis is limited to the specific investigation of natural kinds (albeit as various and discipline relative as they may be) and homeostatic property clusters. This, he says, is not to be concerned with "dissect[ing] the actual practices of investigators

working in systematics" or how his notion of accommodation might play out in disparate sciences. Thus Love distances his work from Boyd's project in HPC theory in that he takes more seriously the interrogation of the investigative representational practices in other disciplines/subdisciplines. For instance, Love's use of case studies of different typological practices (across different disciplines) exemplifies this. His epistemological study of typology takes him across disciplines and leads him deep into the details of how, and for what purposes, different disciplines use their respective typologies. Boyd's epistemological approach, on the other hand, does not venture beyond biological systematics.

### 3.4.2 "The Epistemological Approach" in Feminism and the Philosophy of Biology

This latest contribution to the essentialism debate about species hits very close to Cressida Heyes' emphasis on the importance of a Wittgensteinian approach to feminist anti-essentialism. She also encourages that the debate needs to be moved from an ontological arena into an epistemological one, because the "how" and "why" categories are inseparable from their contents. Brigandt and Love stress that classification in the sciences is first and foremost an activity performed to serve certain purposes within empirical inquiry. So when worrying about how certain phenomena should be categorized, focusing on the purely metaphysical concern about *what* the phenomena are is to ignore the greater context in which the categories take their shape. Heyes makes a similar point to this. She says that merely worrying about what women are is to forget about (or to cover up) the underlying motivations for why the lines are being drawn in the first place. Feminists concerned about the category of women have social and political reasons guiding their

concerns, so these should be uncovered in a way that might inform the methodologies used to determine boundaries. She explains how a Wittgensteinian feminism might allow for this, since it overtly acknowledges that

> where we draw the boundary around the category "women" constitutes a political act, and one that should be scrutinized for its particular purpose, no less when biological characteristics feature on one side or the other of the boundary. "To repeat, we can draw a boundary—for a special purpose. Does it take that to make the concept usable? Not at all! (Except for that special purpose) (*Philosophical Investigations*, PI § 689, as cited in Heyes, 2000, pp. 88-89)

A Wittgensteinian analysis reveals therefore that feminists can (and should) aspire for "semantic influence" over the category "women" and guide its demarcation with an unequivocal awareness that the activity *is* political (p. 89). Thus Brigandt, Love and Heyes all make the valuable point that the creation of categories is inextricably tied to the epistemic context and this link should be brought to consciousness when lines are being drawn. The aims and values within disciplines *will* influence where boundaries are drawn, so it is better that they are well-articulated and even harnessed to the methodologies employed in the creating process.

This "consent," if you will, that an epistemological approach to classification admits to the construction of categories (i.e., that they can/should be constructed in a way that is specific to the dynamics set within their respective disciplinary matrices), allows for

a number of advantages according to Heyes, Brigandt, and Love. First of all, an epistemological approach opens the door for interdisciplinary (or intradisciplinary) insight into the classification of kinds. Love (2009) points out that by concentrating on "the specific actions taken in the attempt to successfully accomplish ... the aims of science," we are forced to look at how different classification methods are applied in different domains. This analysis, he says, reveals how diverse the practices are surrounding any given classification method, and in turn how contingent methods are on the questions that are asked. Thus an epistemological approach is needed in order to

> aid philosophers and biologists in comprehending heterogeneous reasoning strategies in the life sciences, where they potentially conflict, and how they must be synthesized in order to adequately account for complex biological phenomena (p. 72).

Brigandt (2009) also emphasizes this same point regarding how an epistemological approach, and in turn an inter/intradisciplinary analysis, of classification reasoning strategies is helpful in addressing how to adequately account for complex phenomena. He provides an example in the study of homology, where the accommodation features of HPC (e.g., the proposition that the homeostatic property clusters which underlie different natural kinds are disciplinary relative) "bridge the gap" between the distinct epistemic tasks of developmental and phylogenetic accounts of homology. These epistemologically savvy features of HPC, he says, allow that "both approaches are seen as compatible once it is clarified how they address different aspects of one overall process" (2009, p. 89).

Heyes also explains that a Wittgensteinian analysis encourages an interdisciplinary investigation of the creation of categories pertinent to feminism. "Look and see" is not a mandate to confine feminists to their own sphere, but is one which demands an interaction with the "rough ground" in any shape this may take. As mentioned earlier, Heyes engages with a number of areas in which feminism is at work in spheres of practical application, such as developmental psychology (Carol Gilligan) and legal practice (Catharine MacKinnon), and although she addresses the essentialist limitations of these studies she also points to their usefulness in exposing the power relations that are present in both women's lives and in the construction of women's lives and experiences by the researchers. Empirical feminist studies stand as salient attempts at the investigation of the category of women: "We cannot understand the operations of particular relations of power without experiencing them, without making them visible, or without having them made visible to us" (p. 179). Thus Heyes suggests that anti-essentialist critiques of interdisciplinary work related to feminism should not end with merely a negative evaluation wherein "over-eager ... criticism can diminish the value of research and undercut attempts to investigate and change instances of gender oppression" (p. 104). Rather, the "essentialism" per se that the research is charged with should be engaged, revisions, if necessary, should be offered, and what usefulness its findings might offer should be gleaned. Thus, according to Heyes, interdisciplinary, and in particular, interdisciplinary *empirical* studies, offer not only insights from varying vantage points but they also offer an opportunity for methodological betterment.

Another benefit to the epistemological approach offered by these three theorists is the flexibility that it offers for accommodating new innovations in classification. Theoretical attempts to construe kinds metaphysically or ontologically are looking for *the* way kinds should be understood, which renders them stiff in terms of later revision. Perhaps the theory is flexible enough that it could accommodate some future discoveries (e.g., there may be some "mechanisms" presumed to underlie a particular phenomenon, but these are unknown; future inquiries will have to determine their precise nature), but not all since there may be some that could override the theory. For example, in the SAI thesis, if it ever were determinately established (and indeed some think it has been, e.g., Barker, 2007) that species do not exhibit unity like that of paradigm individuals, it would be devastating for the thesis since it would render it *wrong*. Ghiselin and Hull's thesis says precisely that species are spatiotemporally localized and possess a certain degree of unity *in the same way* as individuals (Hull, 1976). This limits the usefulness of their thesis if future discoveries so happen to contradict their rigid, metaphysical claims. Therefore in the context of right and wrong, or what is real and what is not, to a large extent, a theory can only be accepted or rejected.

If one were to take an epistemological approach, however, this black and white scenario of rejecting or accepting a theory on the basis of new evidence disappears. One reason for this is because an epistemological approach puts the aims and values of the respective discipline in the forefront. Therefore, a theory would be appreciated or depreciated by a discipline depending on how it fulfils these aims. For example consider

some of the values in scientific research: "simplicity, fecundity, accuracy, quantity of evidence, variety of evidence, explanatory scope, ability to handle 'new' phenomena, [or] support by different types of experimental tests" (Love, 2009b, p. 33). With some of these values working in the foreground, if we go back to the dilemma with the SAI thesis, we can see that an epistemological approach would entail a different treatment (i.e., not simply rejection or acceptance based on truth or falsity). For instance, upon "discovering" that species are not unified like individuals, rather than rejecting the SAI thesis outright, an evolutionary biologist taking the epistemological approach might decide to explore the various notions of "unity." What is meant by "a species is *unified* like an individual"? In what ways can units of entities or single entities be unified, and why have "individuals" been assigned the form of unity that they have? If a species is not unified like an individual organism (allowing for the time being that organisms *are* paradigm individuals), is it unified in another way? If so, can this alternative form of unity capture the character of an evolving species? Subsequently, the biologist does not reject the SAI thesis, but refines it to suit the investigations of evolutionary biology.

# Conclusion

To close this thesis, I will first summarize the sections I have presented and review the parallels I have drawn between the treatment of essentialism by feminists and the philosophers of biology. Following this I will clarify why I believe my thesis can be seen as an extended application of the epistemological approach as provided by Heyes, Brigandt, and Love. Separately, these theorists provide a contemporary perspective within their respective disciplines on the essentialism debate that reveals how an investigation of how people think about kinds, and the methods that they use to do so, is an indispensible project. They show that, regardless of the object of inquiry, the activity of human categorization is not divorceable from the disciplinary and cultural contexts which construct its reasoning. However, while these thinkers each remains close to their respective disciplines, I believe that the epistemological approaches of Heyes, Brigandt, and Love is viable even in a context of broader scope, such as the cross-comparison between the social and biological sciences.

In Chapter 1 I outlined the history of the objections in feminism and the philosophy of biology leading up to the 1980s. In the philosophy of biology we saw an influential (though controversial) history of essentialist thinking about species characterized by what Ernst Mayr referred to as "typology." Mayr's main focus was the import that Platonic essentialism had on 18$^{th}$ and 19$^{th}$ century biological classification of species. The tenets of typology err according to Mayr in that they distort the "reality" of variation: the

typologist's insistence on "types" of species results in the view that within species variation is error, or deviation from the prototype. Namely, this obscures how a species evolves. Variation is fundamental to adaptation by natural selection, but treating variation as accidental misses this.

I also outlined Elliott Sober's (1980) less controversial account concerning why essentialism is an erroneous view of species. He associates typology with Aristotle's "natural state model" which poses that there are natural and unnatural states for objects, the latter being the result of "interfering forces." This concept of "interfering forces" is Aristotle's explanation of variation. Variation in nature happens when less-than-optimal conditions cause a deviation in the natural progression of the reproduction of an organism. Sober believes this idea of interference in the natural states of things was the most prominent essentialist conception in pre-Darwinian theory. The Natural State Model failed for Sober because it does not adequately explain variation, but also explains *away* variation and focuses on misguided issues. For instance, it is unreasonable to consider *all* variations to be errors, when nature is incredibly diverse. As well, conceptualizing variations as deviations from a type that are brought on by errors or "accidental causes" cannot account for the constancy in variations that we see across generations.

As was also seen in Chapter 1, feminist writers also problematized the essentialism seen in Linnaeus' classifications of species. Beginning in the 1950s and 1960s feminist writers attributed his classification of *Homo sapiens* to later biological essentialist notions about gender—specifically those which reified categories of gender as based in biology

and created a hierarchy favouring male superiority. However, unlike the account given by philosophers of biology, feminist accounts do not suggest that the impact of Linnaeus' beliefs about kinds' fixity dissolved with the coming of Darwinism. Feminists saw the anthropocentric and androcentric features of the Victorian era to be solidified when Darwin made them "*a part of* biology."

Writing during this time (the 1950s and 1960s), Simone de Beauvoir and Betty Friedan fought hard to expose the patriarchal construction of the scientific accounts of women's inferior biological nature that were derived from influential theorists such as Darwin and Freud. This rejection of "biological essentialism" (i.e., the belief that the essence of a woman are her biological capacities—particularly those associated with reproduction and mothering) carried through until the 1970s and 1980s. To counter the biological essentialism of these studies, feminists and feminist scientists would often call into question the scientific claims themselves. Often their arguments against the *naturalism* of women's biology took the form of social constructionism.

In the 1980s (and carrying through until the present), feminists began to point out elements in feminist theory that assumed universal and invariant properties to gender, despite these properties being *social* in nature. These feminists criticized how feminism often talks about certain forms of femininity as universal and experienced by all women and ignores other forms—particularly those forms experienced by lower class and non-white women. This tendency was problematized by feminists because it ignores the experiences of most women on the globe. Moreover, it is harmful for feminist politics

because it excludes analyses of other forms if femininity from feminist politics. Here I discussed Elizabeth Spelman who targeted feminist texts such as de Beauvior's *Second Sex* and Nancy Chodorow's *The Reproduction of Mothering*. She drew attention to the various ways these feminists implicitly emphasized a "model of womanness for all others," despite their different ethnic, religious, racial, or class backgrounds (Spelman, 1988, p. 166). According to Spelman, it is erroneous to think that gender identity is something that is independent of and separable from other social identities. Where and how one is situated in society, she thinks, intimately affects the character and experience of femininity.

In Chapter 2, I outlined the various solutions to essentialism as provided by feminists since the 1980s. Strategic essentialism was one of the first theories (mentioned in the literature) during this period to take up the challenge of responding to essentialism. Advocates of this theory were responding in particular to the extreme anti-essentialist reactions of the 1980s which elicited the worry that if the falsity of essentialism empties the category of "woman" of its members, then who falls under the umbrella of feminist politics? The tactic of strategic essentialism was to posit that, while acute differences may exist between members of certain social groups, it is sometimes advantageous for the groups to "essentialize" themselves in order to achieve certain political goals. Although this position made valuable points about the importance of a collective identity for a feminist politics, the position was problematic since regardless of its good intentions, campaigning for certain benefits which are based on false stereotypes of the group is an ineffective politics.

Following strategic essentialism, I outlined Iris Young's "women as a series" and her treatment of Elizabeth Spelman's view that gender is "inseparable" from (particularly) race and class. For Young, Spelman makes a strong point when she emphasizes the contextualized nature of gender. However Young does not agree with the subsequent categories that Spelman suggests should be discussed in concert with gender. She thinks that Spelman assumes too much about the structure of these various identity categories. For instance, what is the difference between assuming the stability of these categories over gender categories? To avoid an infinite regress toward individual liberalism, and therefore radical anti-essentialism, she proposes women should be conceptualized as a series. A series is a social collective that is unified passively "by the objects around which their actions are oriented or by the objectified results of the material effects of the actions of the others" (1994, p. 724). For Young, this allows for an anti-essentialist conceptualization of women that, at the same time, does not deny their collective identity (nor does it risk reducing "women" to individual women). This is because women as a series are not identified based on their shared properties, but rather can be seen as related extrinsically to each other through the social materialities which shape and constrain their existence.

As I discussed, however, Stone (2009) rejects this attempt of Young's, claiming that it reverts to the very essentialism which she tries to evade. Because Young's seriality allows that "all women's activities and lives are 'oriented around the same or similarly structured objects [and] … realities'" (as cited in Stone, 2004, p.13), Stone insists that this invokes "a form of essentialism with respect to the constraining structures of the social

milieu" (Stone, 2004b, p. 90). Stone then proposes that a re-working of Judith Butler's women as a "genealogy" is an effective way to accomplish the middle ground that Young attempts, but avoids the essentializing assumptions of women's social existences.

Finally, I discussed Cressida Heyes' Wittgensteinian account of family resemblances and purposive line drawings. Borrowing from Wittgenstein, she discusses how the ways that we create categories is a pragmatic activity. As such, categories should first be *looked at*. By assessing the use and employment of terms, we can better hone how we develop and make decisions about new and existing categories. She notes how because similarities and differences are given meanings for our purposes, these will have social and political implications for their possessors. Therefore the boundaries of women should be assessed based on overlapping similarities or "family resemblances" where the social and political implications of the lines being drawn are put in plain sight. To aid in this endeavour, Heyes proposes an interdisciplinary approach for dealing with essentialism, "where philosophy and practice meet." Philosophy must, before it informs feminist activism, look for and engage with the "rough ground" on which feminist activism works. Feminists can do this, she says, by paying more attention to individual examples where women have been "essentialized" and how those examples have been dealt with in feminist philosophy. Addressing this meta-dialogue she suggests will help our assessment of the connections between identity in theory and in practice, and better inform our purposive line drawings.

Throughout Chapter 3 I outlined what the philosophy of biology literature has presented as the most prominent "solutions" to essentialism. As well, I aligned these discussions with the feminist theories I introduced in Chapter 2 and proposed how I thought the adjacent theories paralleled each other. In the first section I discussed Ernst Mayr's solution to the problem of typology, that being population thinking. Population thinking is the belief that species are "populations consisting in thoroughly heterogeneous collections of individuals whose phenotypic properties change over time and vary across the population at any given time" (Wilson et al., 2007, p. 191). This emphasis on individuals, according to Mayr, in the definition of species was key to the populationists' improvement in their construal of species. Evolutionary biologists, contrary to the assumptions of typological thinking, noted that variation was the "norm" and uniformity within species, as expressed through statistical means, were "manmade inferences" (Mayr, 1982, p. 47). Recall that typology was just the opposite. Variation was error and biologists had to read through it in order to get at the *real* conditions (that being the prototype) of the species. As well, rather than delimiting a species based on its intrinsic properties (e.g., morphology, specific genetic makeup), Mayr believed that a species be defined in relation to another or other species (relational distinctiveness), rather than degrees of difference. On both of these points, I showed how Mayr's reasoning mirrored that of Elizabeth Spelman's. Spelman also insisted that the "reality" of the population or collection of women should be brought down to a lower level. Although she does not suggest to go as far as the individual, some have argued that her lack of justification for the "lower" (i.e., closer to the

individual) social categories she emphasizes risks a reduction to the individual. Like Mayr she was also critiqued for not having enough reason to support why an individual, or a small group of individuals is more "real" than the greater collection. Spelman also paralleled Mayr in that she understands gender as a relational concept. Women should be relationally defined and not assessed based on degrees of difference. I pointed out, however, that Spelman and Mayr differed on at least one point: for Mayr there is only one fundamental feature that determines species diversity (reproductive heritage), whereas for Spelman, how and why women are distinct is a complicated matter and cannot be isolated to one determining factor.

Michel Ghiselin and David Hull critique Mayr's population thinking saying that whether one is talking about classes of individuals or populations, classes are universals and they are defined by general properties. To refer to a species then would be to refer to the abstraction of the defining characteristics of its members. This makes talk about the evolution of species very problematic, for when one talks about the evolution of a species, one is talking about how *the organisms* of species *S* evolved over time. But organisms do not evolve. Ghiselin and Hull pose that to solve this, species need to be conceptualized as individuals. Individuals are spatiotemporally restricted entities composed of unified *parts* (not members). Thus, a species can evolve as a unit. Ghiselin and Hull's SAI thesis parallels Judith Butler's genealogical perspective of women. According to Judith Butler's genealogy, any feminine institution is "the reinterpretation of a pre-existing institution, which it has 'redirected to a new purpose'" (p. 7). Accordingly, feminine norms are a part

of a historical chain, where later forms/norms of femininity reinterpret earlier ones. So like Ghiselin and Hull's "evolvable unit," 'woman' also must be conceived to perpetually change over time.

The critics of both the SAI thesis and Butler (i.e., HPC theorists and Alison Stone, respectively) accept a broad version of the genealogical theses (i.e., Ghiselin/Hull's evolving "unit" and Butler's genealogy), though both bodies of critics stress a re-working of the theses which revert back to paradigms originally critiqued as essentialist (i.e., those paradigms of *natural kinds* and *biological realism of gender* for philosophers of biology and feminists respectively). However, both bodies of philosophers pointed out that the paradigms originally rejected as essentialist are out-dated modes of the paradigms, and an update re-working of them reveals a non-essentialist understanding of how each can be seen to construe kinds. For the HPC theorists, species have defining features in the form of property clusters that are integrated by "homeostatic" mechanisms. These homeostatic property clusters are not the Platonic/Aristotelian immutable, spatiotemporally unrestricted essences that troubled the anti-essentialists. Rather, they are defined by "fuzzy" boundaries, and restricted to a specific time period (i.e., the species' historical lineage). Feminist Stone proposed that Butler re-adopt a Nietzschean ontology, one which asserts that the reinterpretation of institutions is *driven* by active forces of the body. Stone thought that an appeal to active forces of the body would entail a (moral) obligatory role on the part of social institutions to *not* constrict these forces.

Finally, I addressed how Brigandt, Love and Heyes draw attention away from talking about essentialism as either a metaphysical or social ontological concern, and encouraged that more attention needs to be paid to the epistemic context in which "essentialist" views are contrived. *How we think about kinds* and how this thinking can sharpen our inquiries in order to better achieve our disciplinary aims should also be a part of our concerns. As well, it needs to be brought to light that Brigandt and Love stress that classification in the sciences is first and foremost an activity performed to serve certain purposes within empirical inquiry. So when worrying about how certain phenomena should be categorized, a focus on the purely metaphysical concern with what the phenomena are ignores the greater context in which the categories take their shape. For instance, Heyes says that merely worrying about what women *are* is to forget about (or cover up) the underlying motivations for why the lines are being drawn by us in the first place. Feminists concerned about the category of women have social and political reasons guiding their concerns, so these should be uncovered in a way that might inform the methodologies used to determine their boundaries. In this chapter, I also outlined what I took to be a few of the advantages offered by this approach; most notably that epistemological approach opens the door for interdisciplinary (or intradisciplinary) insight into the classification of kinds, and offers a flexibility for accommodating new innovations in classification.

**Analysis and Outlook**

My hope is that my project can stand as a modest employment of the last approach (the epistemological approach). Brigandt, Love, and Heyes all propose that an epistemological approach opens the door for interdisciplinary (or intradisciplinary) insight into the classification of kinds, however each stays close to their respective disciplines and, particularly, do not cross the natural science/social science boundary. For instance, Brigandt and Love address the epistemology of natural kinds, but they do not extend their discussions to how their approach might apply to the talk of kinds in the social sphere. Likewise, Heyes addresses human kinds (e.g., women, classes, races), but does not venture as to whether her analysis could shed light on how purposive lines might be drawn around kinds outside of the social sciences and humanities. While such tasks may be understandably beyond the scope of their respective projects, I would like to suggest that the comparative work in my thesis stands as an opening for a potential, extrapolated use of their epistemological approach. Below I will discuss in more detail how I believe my thesis might stand as an extended case in point of the epistemological approach. First I will attempt to show how an epistemological approach, such as that put forward by Brigandt, Love, and Heyes, can be applied to the literature which I have presented in Chapter 1, and second I will use the approach to discuss what I believe the solutions to anti-essentialism in feminism and the philosophy of biology have brought to light regarding a contemporary cross-disciplinary treatment of kinds.

In my analysis of Chapter 1, I will apply two key features to the two bodies of literature that I think are characteristic of the epistemological approach, as propounded by

Love, Brigandt, and Heyes. The first is the understanding that the epistemic values of a discipline guide its research and its purposive line drawings, and the second involves the recognition of a discipline-specific pragmatism that appropriates certain theoretical approaches.

To address the first feature of the epistemological approach that I believe applies to the histories of the objections to essentialism in the philosophy of biology and feminism, I see that by putting the disciplines side-by-side the differing reasons for rejecting essentialism provide a clear view of the disciplinary aims motivating their rejections. For both the philosophers of biology and the feminists, essentialism is criticized for obscuring the existing variation within the populations of women and species. However, neither discipline stops their critique here. Pointing out that *variation exists* and that essentialism does not capture this is not enough for either body of theorists. For feminists it is important to also explain that an essentialism of gender which promotes only a restricted form of gender is *oppressive* because it instils a normative ideal of how one should live out their gender. This is oppressive in the sense that there will be those who do not conform easily to this ideal, but also because its strict, delimiting boundaries may restrict one gender in a way that subjugates it to another gender. For the philosophers of biology, obscuring variation is problematic not only because it is an impoverished view of the characteristics of a population, but also because ignoring variation is to close one's eyes to *the* key feature enabling evolutionary change. Thus it seems that addressing the *wrongness* of essentialism for both disciplines is not the end goal. There appears to be an overlying objective and

rejecting essentialism is merely a step in this process. Feminists want to end gender oppression, and essentialism is a relevant obstacle that should be removed. Philosophers of biology are advocates of Darwinian evolutionary biology, and essentialism is not equipped to carry out the activities needed to advance the theory.

This parallel comparison is helpful then; by seeing two disciplines side-by-side claiming the falsity of a similar phenomenon, but for different reasons, exposes some of the *epistemic values* that are at work. Although the particular values within the disciplines that I have "uncovered" are by no means new information to anyone, my intension with this was more to demonstrate that the application of the epistemological approach in a multidisciplinary context can be beneficial, given the unique perspective a comparative analysis might provide.

To address the second feature of the epistemological approach that I believe applies to the two histories of the objections to essentialism, Heyes, Brigandt and Love emphasize not only the inevitability but also the necessity that a discipline be guided by its epistemic values and aims. These aims/values will doubtlessly be changed or sharpened over time, but it is important that they are constantly being articulated within the discipline since it is these which organize the criteria for successful explanations. The epistemological approach therefore appropriates the pragmatism associated with a discipline's standards. How might I apply this to my literature review? I suggest that within an interdisciplinary context it is useful to compare across disciplines the awareness among the researchers of the goals and values of their respective disciplines. This is especially fruitful if one is comparing

between a discipline in the social sciences or humanities and a discipline in the sciences, because it is likely that the social science discipline will articulate more freely the values guiding their inquiries. Because the social sciences are restricted in many ways in terms of their claims to "truth," it seems plausible that perhaps their values are more prominent in their activities. This is useful if one is comparing the development of a scientific approach regarding a certain phenomenon to that of a humanities or social sciences treatment of a similar phenomenon, since the openness of the social science/humanities discipline regarding their epistemic aims, might invoke a curiosity about the motivations of the science's inquiries.

This contrast is apparent in the literature I provide where I compare the progression of feminist anti-essentialism with that of the philosophy of biology. Throughout the history of feminism, the underlying social and political aims of the discipline are constantly being voiced; although they do indeed attempt to justify, ontologically, their rejection of essentialism, they nevertheless explicitly reference their disciplinary aims throughout their investigations. For instance, both de Beauvoir and Spelman draw attention to the difficulties that anti-essentialism presents for feminism *as a politics*, and admit that extra theoretical work indeed needs to be done on the part of the feminist if he/she wishes to advocate anti-essentialism and maintain a women politics. In the philosophy of biology's history, however, there does not appear to such a free admittance to disciplinary aims. Both Ghiselin and Hull are very wrapped up in the truth project to uncover what is really wrong with essentialism in light of how species really are. At least in my experience studying this

literature, the feminist's openness made me wonder why the philosophers of biology adhered to stiffly to a quest for truth. Since it was quite clear *implicitly* that their inquiries were contrived within the evolutionary paradigm, it was concerning that this was not brought to light as consistently as were the feminists' political objectives. Thus I propose that viewing a scientific discipline on a certain matter in parallel to a social science/humanities discipline on the same or on a similar matter might generate questions which challenge the scientific discipline's advocacy for a truth. Seeing the openness of one discipline's motivations might prompt a curiosity about the motivations of the other.

The "solutions" chapter of my thesis also presents a useful context where an interdisciplinary comparison could provide an informative epistemological analysis of the disciplines' treatments of kinds. I suggest that the parallels I drew between the two disciplines' solutions elucidate more clearly the salient issues that dealing with essentialism seems to elicit in our thinking about kinds. Provided that two very disparate disciplines have grappled with and responded to essentialism in very similar manners, it seems sensible to entertain the possibility that these similarities in their dealings with essentialism correspond to there being certain subject matters which stimulate certain reasoning responses (though perhaps also depending on the context). Obviously I mean this loosely (i.e., leaps and bounds away from a direct cause-effect relationship), but it seems worthwhile for an epistemological approach to take seriously the similar reactions that disciplines share toward particular features of an issue. For myself, at least, questions regarding the relevance of the (academic) sociohistorical context arise (e.g., has a

philosophical familiarity with thinkers such as Friedrich Nietzsche inspired the genealogical solutions of Ghiselin and Hull *as well as* Judith Butler? Or are there extra-disciplinary, or even extra-academic influences at play?), as well as specific questions about the tendencies in human reasoning. For instance, maybe it is a tendency for people (and this could mean culturally specific or socially constructed in another way) that, when faced with a position we disagree with, to immediately develop an *opposite* position. For instance, Mayr and Spelman reject the essentialist assumption that it is the statistical averages of a population that are real, and propose in its stead, the complete reverse, that "reality" increases as we approach the individual. However, later, it might be decided that this counter position is also extreme (just in the opposite direction) and thus a "middle ground" should be sought out. This seemed to be the case following Mayr and Spelman. Ghiselin and Hull continued to reject the essentializing aspects of typology specifically, but also insisted that the individualism of Mayr was too extreme in the opposite direction. They proposed instead a middle ground where species were evolving individuals with organisms as their parts (which are variant). In that the change that an individual with parts can undergo is straightforwardly understandable, they had a way to conceptualize the evolution of a collection of variant things, without it being a type defined by necessary and sufficient conditions, or a collection of individuals that, on their own, are incapable of explaining evolution. Following Spelman as well, Young ardently rejected Spelman's reduction of the "reality" of the collective of women to a context closer to the individual woman (i.e., her class/race context) in favour of a "middle ground" approach. For Young,

"women as a series" represented a conceptualization that evaded essentializing generalizations of women, but did not risk reducing women to the individual.

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