On Gender, from Science to the Possibility of Gender Politics

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By

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PREFACE

This book starts with trustworthy empirical facts about gender and sex, and works toward establishing a gender politics, based on fairness and ethics, according to Immanuel Kant's categorical imperative. The original project of classical pure psychology – a theoretical-philosophical perspective to ground empirical human sciences and psychology theoretically – is applied to the human sciences of gender and personality. The specific sense of the grounding of ontological constructs and relationships within wholes of everyday sense is important. The sought-after seeing of ideal a prioris within wholes of sense is a means of identifying higher cultural sense across sensual qualitative types and wholes, evident to everyone. *A priori* means what comes first from the immediate sense-making of consciousness and its rationality. This is because the phenomenological position believes that mathematics, logic and the empirical sciences begin in the qualitative life. The focus on qualitative a prioris is not abstract but the metaphysical beginning from which to establish the empirical sciences and understand how they work. The justification for the position expressed in this work is found in *Classical Phenomenology Applied to Gender Identity: The Gendered Human* (Owen 2024). Despite the different approaches and writing styles, in the main, there is broad agreement between Husserl and the early work of Heidegger (Thurnher 1995).

However, in phenomenological studies, there is a frequent misunderstanding to correct. Phenomenological psychology as an empirical practice, created by Amedeo Giorgi and colleagues at Duquesne University, America, should not be confused with the theoretical-philosophical project of its two foremost German originators, Edmund Husserl and Martin Heidegger. This work concerns a return to the original texts to explain the classical phenomenological view, as it applies to the specific case of contemporary research in empirical gender and transgender studies, and provides examples of how ideal theory orders and co-exists with empirical scientific practices. The importance of theory for human science professionals is that it coordinates actions and enables the design of experiments to test beliefs. Philosophy ends in the postulation of general and genuine universal theory about the objects of qualitative attention and the mental processes that make them meaningful. The role of theory is to coordinate actions that will test key assumptions and

theoretical definitions, so science begins to see how well theoretical concepts represent the real phenomena of interest.

This set of essays considers a selection of contemporary research findings from the natural and human science perspectives on abilities according to gender role, identity and personality theory research. For the purposes of this work, the word 'personality' means gendered persons with their habitual style of relating with loved others, attachment figures, and those who are friends, colleagues and neighbours who are known face-to-face and held close. Personality for this work overlaps with gendered personality and gendered role where identity is the lived experience of being a unified person. The perspectives provided in this work interpret human identity against the background of mainstream developmental psychology and other relevant perspectives. The word 'identity' is taken to mean how people continually make sense of themselves in relation to others, because of shared signifiers of social type. When people identify with others they often share similar social types. The most central signifiers of identity are gender, sex, sexual orientation, age, race, socio-economic class, and those related to geographical location and historical epoch.

The view is to understand individuals as based on their relation to their cultural group. The sense of a real individual is comprised of the socially learned sense about self in relation to others, unified and made distinct from others automatically, due to the presence of the involuntary ability to self-identify and find oneself a self-made integrity across time (A, 121-2, IV, 121-2). Such senses are embodied and carried by the physical presence of the body as a biological object. What it is like to be a person of a specific type, is to become associated with what generally gets associated with that collective type of person, and their habitual manner of relating with others. Individuals are unique biologically and developmentally. Two unique gametes, one from each parent, combine to form the unique biological self. The biological self develops in family, education and the local social context, to form the unique set of learnings that people take everywhere with them to interpret the world.

The consequence is that to occupy a specific gender role and gender identity has ideal understandings of the core-necessary definitive qualities acquired, through the cumulative effect of normative enculturation – and makes a clear distinction with the fact that there can be infinite variance in the ways of manifesting and performing identifiable normed relational styles. An individual style of a person can be identified as being sufficiently similar to the commonalities and generalities of collective types (I, §34, IV, §60d, VI, §§46, 52, XI, §§26-41, XVI, §10, XVII, §§98,

100, EU, §§81-3, 88). If gendered styles of relating and being a person cannot be distinguished as belonging to a real local gender type, then the conclusion is that what is being identified is not gender, but a different type altogether. The view of the gendered person, in these pages, is gained by considering the findings from competing, yet mutually supportive, viewpoints in the human sciences. The whole of personal identity is, for the most part, experienced as a state of meaningful perceptual consciousness in the perceptual now, described as the sense of being an alive, embodied person with developmentally acquired habits, skills and beliefs and having a storehouse of retained memories, indirect retained consciousness, that automatically supplies sense to the now.

This work sketches what science and other empirical studies about human sciences find about gender, being masculine, feminine and other approved nonbinary gendered expressions – as viewed qualitatively. The brief accounts from the perspectives of science, about gender and biological sex, are explained as co-relative with meaning-oriented, intersubjective gender, socially available meanings carried by the biological sex of people's bodies, prior to considering political action. In the views of disciplines other than individual personality theory and social psychology, human identity is rightfully comprised and understood as a whole, as persons, the general public, who exist personally and socially.

This work indicates how there are variances of bodily sex and variances of gender. Gender performances of roles and identities in intersubjective social space are widely varying and related to cultural norms, ideal understanding and historical traditions. In order for empirical sciences of sex and gender to be cohesive, like has to be compared with like, otherwise there is chaos. Everyone has implicit memory, skills and habits gained from their own history and how the felt sense of identity can be understood and classed according to various categories. However, by way of regarding human life as meaningful, it is assumed that there have been social conditions in which children could grow to their full potential and have a well-spent life.

But on further inquiry, the empirical studies of human identity are beset with rightful doubts about their credibility. Such reason to be cautious and take a wider view of the field of human identity is itself a necessary prompt for qualitative phenomena to be discussed.

In some philosophical circles, Husserl's philosophy is presented as a model of what philosophy should not be. This false characterisation is one where the enemy of Psychologism is alleged to be present throughout his writings, and worse still, it is alleged he espoused the evil of Essentialism. As a result, Husserl is portrayed as an enemy of post modernism. To hold

such a view, I believe, is not to have understood classical phenomenology, and more importantly, not to have understood the coordinating role of mathematics and ideals in science and everyday qualitative life – based on the appearance of generality and qualitative type.

Phenomenology as an empirical psychological practice is well known to be focused on first-hand and second-hand qualitative experience. Scott Churchill has done well to record the history of the development of empirical phenomenological psychology (Churchill 2022). Similarly, the relationship between the empirical psychology created by Giorgi, its practice, and its relationship with qualitative empiricism has been made clear by Magnus Englander and James Morley (Englander and Morley 2021). No criticisms of Giorgi and his empirical psychology are made below, nor are they implied because of the position of this work. Instead, the mission is to apply the theoretical and philosophical position, pure psychology, which was made by Husserl and Heidegger in answer to Immanuel Kant.

Kant, Husserl and Heidegger share a faith in the fundamentality of temporality, the human lived experience of time. These thinkers sought to idealize temporality and use such understanding to ground the understanding of cognized being, as it always appears in temporal and spacial perspectives (A, 34, A, 41-2). Time is the form of all sensuality and hence the form of all possible Objective worlds (VI, §49, XXIV, 273-4, EU, §§38, 64b). The shared mission between all three thinkers is used to justify and critique empirical psychology and empirical human sciences. In that light, this work takes a focus on psycho-social gender as grounded on biological sex.

However, cognized being is the raw data to be worked on scientifically and by analyses of meaning, particularly when dealing with meaningful situations between people. What philosophers call ontology (understanding something as something), becomes the topic for formal and idealizing studies of what constitutes the meanings of beings, cultural objects, which are recognisable by audiences of people. For Husserl, this aim is achieved by qualitative part-whole analysis, intentional analysis of nonverbal sense and comparison. However, for psychology and the human sciences, the individual is forever embedded in culture, time and place. Consequently, the better way of understanding individuals in their social context is to see them as inherent parts of larger cultural, societal and historical wholes of sense. In short, individuals in their social region are only properly understood as social beings.

The view of pure psychology is a novel twentieth-century perspective that can be defined as follows. Phenomenology is a consciousness-first

perspective that re-grounds ideal and real-scientific disciplines on their evidence for consciousness. After radicalizing Kant (A, 84-129), it justifies all methods and claims with respect to what appears about objects and all manners of referring to them through the sense-fields of the body, its senses and cognitive processes. Because a perspective on meaning for consciousness is asserted as most fundamental, the claim that science is the only arbiter of truth is inverted: From the fundamentality of qualitative experience, real and ideal practices must justify themselves.

In this light, gender as a definitive property and quality of identity is usually implicit, habitual and socially-conditioned understanding, potentially available to everyone. The specific application is to consider gender variance in social space *with* biological variance, understood through naturalistic scientific methods. In a nutshell, the importance of first-hand and second-hand qualitative experience is that types of objects, appearing in types of mental process, are what the natural and human sciences and the ordinary life are about.

If it were not for the general understanding of qualitative types among the public, there could not be their study by qualitative and quantitative methods in the human sciences.

If it were not for the general understanding of qualitative types among the human sciences, there could not be the creation of human science perspectives on specific portions of the ordinary life.

If it were not for the general understanding of qualitative types in mathematics and probability theories, there could not be the creation of human sciences either, because the sciences require the identification and testing of hypotheses, the outcome of these theories in these perspectives. Mathematics, statistics and the ideal understanding of logic play roles in creation the hypotheses that are tested in the empirical sciences. The use of statistics supports the general finding that show Gaussian distributions of variance of any measured ability, which are what scientific psychology finds about measurable abilities.

It needs to be further clarified that there are numerous empirical human sciences that create qualitative studies with actual participants that have adopted the name ‘phenomenology’, and use it to justify an attention to lived experiences in qualitative empiricism. However, some of these positions are often in direct opposition to the philosophical-theoretical original position that they claim has inspired their empirical protocols and theoretical positions. These qualitative, psychological forms of research mention ‘phenomenology’ and may employ some aspects of Husserl’s theorising to produce qualitative analysis.

However, these quasi-phenomenological perspectives frequently omit the role of ideals, plus self-awareness and self-criticism, as part of self-justification. On the contrary, the original thinkers wanted justified theoretical procedures within a meta-scientific view after Kant. There are those who use the word 'phenomenology' often, in contradiction to the ban on Psychologism and the ban on the naturalization of consciousness and its felt-senses. For instance, self-proclaimed phenomenological psychologists such as Jonathon Smith and Max Van Manen deviate from Edmund Husserl while claiming him as justification for what they produce (Zahavi 2019, 2020). Rather, they reinvent Psychologism, ignore ideals and constant timeless relationships, and make empirical protocols that contradict the philosophy they cite to justify themselves.

The perspective of phenomenology was originated and developed by a number of German nineteenth and twentieth century philosophers and psychologists, at a time when the two disciplines were not distinct. Rather than contextualize and explain the events known as German Idealism in the years after Kant, the following remarks are made to state the relevance of connecting with the original content of these debates, in relation to a broad understanding of the human sciences, plus gender and transgender studies (Rodemeyer 2014, 2017, 2018, Rubin 2003). In short, the purpose of the original phenomenological philosophy, shared between Husserl and Heidegger during the time when they were colleagues, can be expressed as follows. Natural and human sciences are evidence-based positions that assert conclusions about reality. The purpose of classical phenomenology was to ground, to provide construct validation, by having personal best evidence of the temporal, emotive and cognitive processes that constitute the meaningful senses of the objects of everyday attention in culture.

Because of accepting the Kantian aim to define objects and mental processes by specifying core-necessary features, the original project was to define the most fundamental objects of a natural science, for instance, by specifying how its natural objects are postulated and appear in specific sense-fields, such as perception, recollection and the conceptual reference of speech and thought. Because commonalities appear across instances of retained experience, for individuals and collectively, definitive and necessary commonality can be personally understood across prior instances of having encountered it. Through prolonged encounters with objects, and through ongoing nonverbal fundamental best evidences of them, phenomena in dynamic interplay can be postulated, alongside fundamental assertions about how types of mental references to objects work. From nonverbal sense-fields upwards, it becomes possible to idealize objects and sense-fields of appearance, and state the core-necessary

aspects of the types, generalities and commonalities of cultural sense, and so use ideal understanding to coordinate the practices of empirical science. Seeing the intersectionality of types is to have direct experience of phenomena and, either by induction or deduction from best evidence, specify the experience-near core-necessary connections between the moments that constitute a whole of a specific sort, combined in a specific way. Applied philosophy for the human sciences, for instance, is a theoretical project to make construct validity that expresses the real identities and differences in the psycho-social communal lifeworld.

The original classical pure psychology worked to ground the human sciences on fundamental constant ideals about what qualitative meaningful sense is, for oneself, one's profession as philosophers, human scientists or theoreticians, and for all persons. Husserl explicitly favoured the cultural whole as the context for understanding individuals, as any wholistic study of community and group identity should. Accordingly, there is a tension in his view. If it were the case that phenomenologists only consulted their solo experiences of being in community with others, then the real views of others would not be taken into account. Specifically, that is not the case. Despite Husserl favouring the best givenness of one's own empathy, his view of sociality was never limited to solo experience alone. Also, after 1921, Husserl made it clear that it is permissible to consult empirical findings of any sort (Kern 2019). Husserl had studied Ferdinand Tönnies (2002), the originator of the terms 'Gemeinschaft' and 'Gesellschaft', two aspects of any multicultural society. Gemeinschaft is the small scale of being in family and amongst friends, the locality of face-to-face relationships, the small-scale attachment and intimate aspects of social life. Family, education, culture and society work together to pass on norms and stereotypes that enable the communal life to be lived. Gesellschaft refers to the larger scale relationships as dictated by the law, state and capitalist organisations, in the context of international trade and politics. In both scopes, gender role and identity relate to both small and large scale rules. Human identity, like any other meaning, takes its sense through the addition of the multiple social senses to which individuals belong. Together, the social types that contribute to the overall sense exist only in social space, and some have proscribed types of membership, that concern specific relata, and exist in rivalrous relationships alongside social enemies and allies.

For the reader who has not got a grasp of phenomenology, the following introductory remarks summarise the original classical perspective. The purpose of this work as a whole is to reactivate the intentions of Kant, Husserl and Heidegger, in their shared perspective called 'transcendental

philosophy'. As a consequence of Kant, the phenomenological view is not just about qualitative experience but shows how ideals are involved in empiricism. It offers a variety of methods through which to justify ideals. The original classical phenomenology of Husserl and Heidegger showed how ideals arise and are transmitted across history and social space. The theoretical and philosophical psychology that results, a type of theory of mind, is the common space of the project made by Husserl and Heidegger.

The meta-scientific perspective offered by Edmund Husserl and Martin Heidegger could relate the theoretical-ideal definitions, entirely constructed by qualitative modelling, to what actually happens in measurements and the processing of independent variable inputs in experiments. The boon of reflective learning about fundamental constant ideal laws of, for instance physics, is that reliable relationships between types of physical matter are found by quantifying these relationships to provide useful and accurate predictions. Given that science is also a social process that exists across the customs and practices of scientific life, in pure and applied research in universities, technology and industry, then scientific models exist against the background of socio-political bias and error estimations, in ways that mean that ethics and human praxis cannot be totally disconnected from the ideal predictions that guide scientific practices. Furthermore, the applications of constant ideal judgments are involved, in how natural and human science findings are applied to solve real world problems.

During the years 1987 to 2021, I was trusted by the public to help them with the consequences of rape, domestic violence and sexual abuse by family members, amongst other complex and enduring problems. I felt anger on their behalf on hearing their accounts and this in-part motivated me to write this book to explain the prevalence of sexual violence, partner violence and domestic violence to men. I have been questioned by those who do not believe that problems caused by incest and partner abuse in childhood, can cause the problems of adult survivors, decades after the receipt of the violence. The answer to this challenge is that there are indeed lifelong problems inflicted on children and women - and the great majority of perpetrators are men.

The preventable reality for many women and children is early damage by men through neglect, rape, torture and abuse, and witnessing partner violence, all of which are still prevalent. These forms of violence often leave lasting damage.

Human identity, the felt-sense people have about themselves, the personal sense that is grasped as a whole, has a doubly historical form. Not only since conception, but throughout the personal situatedness in family and receiving developmental nurturing and positive support, a mixture of

unique development *and* unique, biologically sexed embodiment, co-occur. Persons are considered by the empirical methods of the human sciences, which provide standardised ideal questionnaires and interview protocols for real variance to be measured and concluded on.

What follows is a theoretical and philosophical view of actual empirical studies about gender and transgender identity, as understood from a variety of viewpoints. Of course, gender signifiers co-exist with other signifiers of identity such as social types like race, family role, age, class, occupation and nationality. The lived complexity of identity is such that a number of contested and conflicted meanings can arise because of how people are understood alongside stereotypes, prejudice and bias. The jockeying for dominance and submission in society can produce long-established tensions due to the local social types in conflict. One way of thinking about the allocation of value and disvalue in society is to think of it in terms of in-groups and out-groups according to social psychology.

It is also argued that the word 'Essentialism' is worthy of an overhaul and rehabilitation. If there are no shared definitions of concepts and practices, then the consequences of anti-essentialism are chaos for individual thinkers and professional groups. If persons or professional groups were consistently anti-essentialist then they would have to abandon speech and attempts at rational analysis immediately because of the claim that definitions cannot be made. One danger for theorising is to avoid abstruse meta-theoretical impasses of the sort that ended NeoKantianism. On the contrary, phenomena should never be lost from academic, scientific and public discourse.

Genders are social types and manners of being that are identifiable yet vary greatly at the same time. The terms masculine, feminine, androgynous, nonbinary and other descriptors, are carried and enacted with others in social space by clothed, embodied persons. The sense of social types occurs with the relation of any one specific type to the range of its brothers and sisters in the local geographical region and place in history, the epoch. In this work, the possibility that any social type has a global and universal meaning is considered impossible. A less ambitious cultural definition of gender is preferred. Gendered senses are allied to biology and the local cultural and societal histories in which they exist.

One way to summarise Henri Tajfel's social psychology view of prejudice against social types is to state that members of one group don't value members of another, entirely because they belong to the other group. Immediately, it becomes apparent that type prejudice and type bias are ideological, not based on getting to know specific, real other people, and not being open to knowing them in their complexity and uniqueness,

simply because they are not members of the in-group. Accordingly, one unifying theme in this work is to honour the unity and complexity of the multiple social types to which we belong, and attend to facts about social existence, because of having researched the world in ways that genuinely intend to be impartial and accurate.

Because Chapter 4 changes the focus towards gender politics, something needs to be said of the preference for Simone De Beauvoir over Edith Stein. Women phenomenologists have always been a part of the phenomenological movement. Women philosophers such as Hedwig Conrad-Martius and Edith Stein engaged with the issues and made endorsements and criticisms of Husserl and Heidegger's project. For instance, the influence of Husserl on his student Edith Stein, led to her making her own stance on persons in the lifeworld, and she presented the differences between masculinity and femininity, which she couched in Christian form. For Stein, feminine and masculine share androgynous features which are why she supported equal employment opportunities for both. Edith Stein's contribution can be understood from a contemporary perspective as an interpretation of what it is like to be heterosexual and accept the gender attributed to the self at birth. Stein interpreted the potential of women to give birth and nurture the new generation as the central meaning of the feminine. In her view, the masculine role is to be a physical protector of loved ones, able to defend family and provide for them. Femininity is sociable, secure, empathic and wholistic and involves gestation and the potential for nurturing others. For men, Stein interpreted masculinity as avoidant of intimacy, potentially misogynistic and having poor empathy for others, as well as being overly logical and overly focused on work outside of the home.

Among women phenomenologists, Simone De Beauvoir showed her erudition as she had a broad understanding that favoured a critical grasp of gender roles and identity, as they appear to the self, more than uncritically accepting enculturation into a gender role in family and culture. She compared and contrasted roles and relationships, in family and society, across history and across cultures. For instance, in the historical view, Heinrich Kramer's *Maleus Maleficarum* is a good example of the justification of witch craft trials after 1486 and its influence persisted for centuries, to associate women and the feminine with disvalue and untrustworthy disruptiveness. De Beauvoir explained that patriarchy uses misogyny as false accusations, in order to control. For her, the cultural myths of the two genders are far removed from the true nature of their inter-twinned-ness. The promise to love co-exists with paying women nothing for their extra hours of unpaid housework, childcare, cooking and cleaning, such that

wives need wives of their own (Hochschild 1989). Her work *The Second Sex* (2010) should be read as a feminist criticism of her partner, Jean-Paul Sartre's *Being and Nothingness* (1958). De Beauvoir took, in some ways, a similar approach to Sartre, an existential approach to lived experience.

However, De Beauvoir's view differed sharply with Sartre because it focused on the lived experience of being gendered persons in living bodiliness in culturally- and historically-constituted social conditioning. Her analyses and arguments consider anthropological and historical situations in the breadth of her perspective. Although her focus was on women, clearly the same perspective of historically-constituted social conditioning applies to men and intersex people. Her major contribution was to argue against her partner, Jean-Paul Sartre's assumption, that the ontological type - human being - is amongst all else that it is, condemned to be free, and take a place with respect to social norms, and devise ethical duties according to the uniqueness of specific situations. The importance of norms is that they are objects for joint attention and enable joint reference and understanding with respect to the same exemplars, stereotypes and gender norm expectations. Action, according to gendered understanding, is by appeal to inaccurate common sense beliefs about the social types that populate the local area. Furthermore, gender norms are conservative in nature and are passed on from generation to generation, in order to maintain the same, locally approved style for how masculinity and femininity should inter-relate, for instance. The understanding of gender norms and icons (ideal exemplars for how to be gendered), are what enable gendered behaviour to be understood for what it is – as being one style or another (Wilden 1987, 2). The sense of the word icon concerns how words point to what the passive mental processes present in sense-fields, the same as Kant, Husserl and Heidegger. The infinite real variances of manifest performances of the roles are attempts by the actors to convey something like the culturally-valued collective ideal. In short, norms of all kinds coordinate and enable social practices, customs and belief, to be maintained from one generation to the next.

For De Beauvoir though, human being is structured by gender myths and social norms perpetuated by the local traditions of society and religion. Contrary to Sartre, women are constrained by gender myths, although De Beauvoir agreed with him that human potential can become determined by biology and history, here understood as the interactions between nature and nurture, mammalian biology and norm-infused social contexts. But, for De Beauvoir, the path to freedom is found only when it is understood how false beliefs prevent women from freeing themselves from mythical beliefs about their own being - and as the sole providers of

care to family members, for instance. Only then can women emancipate themselves from their imprisonment in false limiting beliefs and other real restrictions imposed on them.

De Beauvoir concluded that social conditioning to patriarchal norms and myths are deceitful mystifications. Gender myths for men and women promote social types that produce low self-esteem and lack of assertiveness in women, which are enemies of their freedom, and instil complementary, baseless pride and over-confidence in men. She argued for personal responsibility and against a feminine myth of compliance with masculine expectations, when she argued there is no universal maternal instinct as a biological drive, for instance. She argued that because masculinity declares itself as an absolute, a constraining gender norm, this makes femininity *alien* and *other*, when judged with respect to the masculine norm (De Beauvoir 2010, 344). As a result, women are the *opposite* sex in the patriarchal view and caught in a battle between masculine domination and feminine submission with attempts to renegotiate the power imbalance in a better way.

De Beauvoir rejected indoctrination by a masculine view of the world onto women. For her, persons are not wholly determined by biology and history but, unfortunately, can identify with false ideas, mystifications. She raised the question of the degree to which anyone can forge their own destiny and construct their own identity, whilst constrained by myths for social compliance with patriarchy, where the ownership of property is a key issue. Although her focus was on the feminine and natal femaleness, what she wrote about the development of women applies to all persons. For De Beauvoir, the feminist struggle is more important than the socialist struggle against capitalist exploitation via class, social types and their stratification according to different amounts of esteem given to social types by society and its historical influences.

Chapter 1 considers the biology of mammalian dimorphism to provide support for the recognition of complex, sexed variation that coincides with infinite gender performances, despite the existence of norms and taboos required by each cultural lifeworld, society and its history. The natural science of biology has a specific view of mammalian heterosexuality as responsiveness to its environment. The role of biological variance is explained where biological reproduction follows the logic of the combinations of gametes to produce the new generation. Simultaneously, in social space, gender norms promote specified approved behaviours - and taboos inhibit societally undesirable behaviours. Together, norms and taboos motivate and enforce gender rules for their sufficient performance and are common sense knowledge.

Chapter 2 provides an overview of the developmental aspects of gender socialisation and some aspects of physical development. The aim is to consider nature and nurture together. The first two chapters provide a discussion of various findings from empirical research on gender in order to discuss the importance of ideals in Chapter 3. And on the basis of the presentation of the research, to introduce the nature of ethics and politics in relation to Simone De Beauvoir's feminism in Chapter 4.

Chapter 3 works to unify gender and transgender studies around what it is to be gendered in its two major senses: to join a gender community, class or culture, is one major aspect of gender as being-in-the-world. The second major aspect is that people self-gender themselves in their comparative conclusions about their own identities. People rate and compare their enacted personalities as a style of being and living in their relationships across their lifespan. To be a unique human being is to have a being-in-the-world lifestyle, constituted of many smaller moments. The style of the physical bodies exist where there are dimorphic possibilities identifiable as male, female and intersex as a way of designating portions of an infinite variation of bodiliness. Chapter 3 considers the possibility of recognizing that gender variation and degrees of norm noncompliance have always been the case.

Husserl's method of eidetic variation is presented in Chapter 4 in response to specific research questions that concerns the possibility of imagining what life would be like if political changes were introduced to binary gendered society. Chapter 5 concludes with comments on science and defines sexism.

The page references below are made with respect to the German originals in the Husserliana series, published by Springer; and referred to by Roman numerals. The Gesamtausgabe series for Heidegger, published by Vittorio Klostermann, is referred to by "GA" and the volume number. The first edition of Kant's *Critique of Pure Reason* of 1781 is referred to by page numbers starting with the letter A, the second edition of 1787 is referred to by pagination starting with the letter B. The work of Freud is referred to according to the numbering system of the *Standard Edition* of the English translations by James Strachey, published by the Hogarth Press.

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First they came

First they came for the Communists
And I did not speak out
Because I was not a Communist
Then they came for the Socialists
And I did not speak out
Because I was not a Socialist
Then they came for the Trades Unionists
And I did not speak out
Because I was not a Trades Unionist
Then they came for the Jews
And I did not speak out
Because I was not a Jew
Then they came for me
And there was no one left
To speak out for me

—Pastor Martin Niemöller

CHAPTER 1

NATURAL AND HUMAN SCIENCES OF GENDERED PERSONALITY

It is impossible within the confines of one chapter to present and explain the breadth of perspectives in gender and transgender studies. This chapter and the next provide a polythetic definition of gender and the referent experiences of gender and transgender phenomena in a way that unites all gender subtypes revealed in mainstream research methods and their manners of reasoning about gender and gender identity. It unites them because it considers their gender-sex co-occurrence as part of the manifold of one type: human being as biological nature developing within social nurture. A judicious selection of findings from the natural psychological science of sex and gender are discussed. Because transgender people occupy a position in the middle of the binary, in that they are transitioning to modify their physical sex and they wish to become a new person with a new gender role and identity, then it is worthwhile to consider what is changeable for them. Their transition shows what implicit and tacit rules exist about how to be a gendered person. To understand the full spectrum of gendered behaviour and relating, persons who transition gender are part of the spectrum to be understood as part of the real variance of gender.

A person's gender is part of a complex, multifactorial whole of identity, where some aspects can be changed and some cannot. Nature and nurture work together continuously to produce multifactorial, complex personality traits that have heritable polygenic components due to genetic material. The evidence created by the natural science view of reproduction and sexed bodily difference is the focus of this chapter and gender development is considered in Chapter 2. This chapter introduces the perspectives of the psychological and biological sciences in relation to gender in an attention that is developed in Chapter 2. This chapter provides an overview of some scientific approaches to personality that explain gender by emphasising the biological and biochemical conditions of behaviour and personality. In overview, a polythetic understanding of gender is argued for, one that spans individual self-constitution and

adopting the behavioural style, codes and norms of the local gendered groups in social space.

Gender within society is complex. When the difference between the ideal and the real is in mind, the real referents, the gender things themselves, need to be kept firmly distinct from ideal understandings about them. Because there are real variations in masculinities and femininities as they are performed, identifiable differences must exist in social space - or masculinity and femininity are indistinguishable from androgyny, the commonality that includes masculine and feminine moments in co-existence in the same person. Androgyny is when masculine and feminine qualities co-exist, and consequently, particularly in relation to psychometric measurement, it shows itself as problematic, when trying to distinguish those scores that solely belong to one gender. The difficulty is graphically depicted below, in this chapter. Androgyny exists as a range of scores for a personality or gender test that overlap for men and women. The ranges of scores which are androgynous are intersectional for both masculinity and femininity.

One major aspect is specific gender roles and relationships in the family, and subtypes of gender and class in society. For instance, femininity can be connected with the biological potential for motherhood and care-giving to children and other family members. Yet working women with children are also a subtype of femininity because being a working mother is an important variation associated with gender.

For masculinity, there is the role of achieving identity through work, in the general sense of being able to be a breadwinner for the family. Also, there are machismo and bodybuilder subtypes and fatherhood, effeminacy and irresponsibility subtypes as well. Specifically in adulthood, gender, class and religion can be changed. Whereas other biological aspects plus developmentally learned ethnic and socio-economic class aspects of personal development cannot change, as they belong to personal history and are an integral part of the person.

This chapter and the next consider gendered phenomena as they appear in experimental studies and show the difficulties in differentiating masculinity and femininity from androgyny. The focus is on research that has noted that masculine and feminine people have similar abilities. This discovery was first noted by Edward Thorndike (1914) who concluded that, compared to the range of variations in scores to a standardised test across one gender, the amount of difference between the genders was negligible. A similar conclusion was achieved by Leta Hollingworth (1918) who found little evidence to support the idea that personality traits are different between masculinity and femininity. Furthermore, a trenchant

criticism of gender studies was levelled by Helen Woolley: “There is perhaps no field aspiring to be scientific where flagrant personal bias, logic martyred in the cause of supporting a prejudice, unfounded assertions, and even sentimental rot and drivel, have run riot to such an extent as here”, (Woolley 1910, 340). These criticisms of the early twentieth century beginnings of gender studies are as apt today as they were then.

Close attention to gender and the human sciences of gender and transgender phenomena are one example of differentiating trustworthy science from natural attitude common sense, what circulates discursively as consensus normality; as opposed to ideology. The scientific positions on gender need to refute ideology as unevidenced and untrue, which is difficult because belief is put in a claimed position - yet there is no evidence to support it. While it is not the function of common sense, ordinary cultural understanding, to be correct about all aspects of gender, or maintain its stereotypical knowledge and understanding to have credibility and usefulness, its beliefs need to be sufficiently functional as rules of thumb. If the natural attitude understanding were accurate most of the time (but not all the time), then natural attitude beliefs about gender would be minimally functional.

As for ideology, then what is being urged are inaccurate understandings from the start and, if adopted as true, there would be an increase in inequity or the promise of a forthcoming status quo that could never materialize as the positions being urged are unworkable and want to claim that human being is something which it is not.

For the human sciences of gender and transgender, they promise to address the full spectrum of phenomena that are referred to by “gender”. If they do not or cannot address the full spectrum of roles and identities of this type of personality, behaviour and relating, then they cannot be considered to be sophisticated accounts of the full set of experiences of the type “gender”. Given that gender is ubiquitous across the world, yet historical and locally influenced, then the task is for a human science of gender to represent its local manifestations accurately.

During the twentieth century, widely varying views on gender have been created. To note the few chosen here for comment, the views of Judith Lorber (Lorber 1994), and Eleanor Maccoby and Carol Jacklin (1974) who drew on the findings of 2 000 empirical studies, in what is called meta-analysis, concluded that there were far more similarities than differences between the ranges of scores for masculinity and femininity. Although in some areas, differences have been found to exist: specifically in verbal abilities, relational skills, visuo-spatial, mathematical aptitudes

and aggression. The difficulties involved in specifying masculinity and femininity are overlooked by those who are overly committed to the assumption that the binary genders are easily distinguishable.

Science sometimes harbours bias

Bad science includes poor experimental design, the incorrect usage of statistics, and the lack of theoretical co-ordination created by nonphenomenologically grounded ideals. The charges brought against psychology, genetics and neuroscience by thinkers such as Celia Perez (2019), Lise Eliot (2011), Cordelia Fine (2010, 2016), Sharon Moalem (2020) and Gina Rippon (2019), are that some findings about sex and gender are bad science.

The term 'neurosexism' has been stated to refer to the way in which the natural attitude assumption of masculine superiority over the feminine has been furthered in neuroscience, contrary to fact. The neuroscientist Ben Barres (2010) wrote that "*the idea itself* that women are innately less capable may be the primary cause of differences in accomplishment" in a book review of Cordelia Fine (Barres 2010, 1). Barres continued that Cordelia Fine calls this assumption in neuroscience "'neurosexism'. This basic idea is expressed in the concept of 'stereotype threat', the phenomenon in which members of a sex or race perform substantially worse on a test — and perhaps in real-world environments — when they are led to believe before the test that they are innately less capable", (Barres 2010, 1). What he was commenting on is the pervasive belief that men are superior, and women are inferior, a belief that is ubiquitous and believed to the degree that the belief is a widespread unconscious bias, even among scientists.

A neuroscientific hypothesis about the brain structure called the bed nucleus of the stria terminalis (BSTc) is that it is the same for transgender women and natal women (Garcia-Falgueras and Swaab 2008). Other findings on the density of neurons in specific parts of the brain have been suggested as supporting a neurological explanation for social identity (Kruijver et al 2000). Contrary to that though, the genetic material that creates the development of this part of the brain is not entirely responsible for gender identity, the calling of a directly felt-sense and irrepressible sense of themselves as persons with a transgender identity (Smith et al 2015). The social reality that co-occurs with biological variance is gendered styles of relating that co-occur with varying physical sex in complex ways. The current understanding of some sections of neuroscience is that there is no evidence to conclude that any one size or

structure of neuro-anatomy could be individually classified as male or female. Rather, when any aptitudes or abilities are psychometrically measured, and allocated to males and females, what appears are two overlapping bell-shaped curves of the distributions of the scores across a large range, where the top of the bell-shaped curve expresses the average score per sex (Maney 2016). For instance, whales and elephants have large brains, but from that fact it cannot be concluded that they are more intelligent. Merely because the size of one part of the brain is bigger, statistically, does not show or prove that ability is improved in the natural attitude life. This is not to say that there are no gender influences from oestrogen, progesterone, testosterone, and the reproductive system, for instance.

Theories about what exists, ontology, in scientific modelling for predictions and ideal pure psychology, are always a simplification of the genuine territory. Exact representation in mathematical formulae (or in computer modelling such as finite element analysis) enables predictions to be made and then empirically tested, in order to test the accuracy of the theory. Those quantifying models that are empirically shown to be accurate (say, plus or minus 30 per cent accuracy across a stated range of values) are accepted as quantitative consensus about the accuracy of the model. The key is to model natural being by understanding a specified set of boundary conditions of the parameters in natural being, for which accurate predictions can be made. If predictions are less accurate than 30 per cent, across a specific range of values, then the model is poor.

However, the scientific views are at odds with the historical orthodoxy that influences everyday culture. The purpose is to understand gender according to natural and human sciences. The research consulted spans scientific psychology, biology, as well as qualitative understandings of gender in relation to development. The empirical gender literature is large and not all of it can be appraised here. The biological type *sex* (male, female and intersex) is identifiable because of past learning that is carried inside each individual, according to cultural rules for how to be, how to treat others, and how to be oneself with respect to normed stereotypes as exemplars. The difference between the natural and the naturalistic attitudes show as the differences between when biology and natural objects are discussed; as opposed to how social types exist that structure the everyday life. There are ideal conceptual systems of binary opposition and gender normativity operating for judgments and value-ascriptions that are related to real instances of variance. However, the two types of categories are not the same. The cultural customs and practices of ordinary life vary per class, epoch and geographical region. The distinction between clearly

identifiable real referents is one of the functions of speech and thought. Real life as it is experienced is personally variable with respect to the identifiable rules and norms of culture.

Stereotypes are beliefs that can be called bias: inaccurate understanding that serves an ontological function in terms of how to judge and act according to gendered learnings about personalities, behaviours, manners of relating, roles and norms. The presentation recaps the role of theory as genuine universality, and restates the difference between the real and the ideal. Sexually, there is chromosomal dimorphism among mammals, primates and the human species. To explain this requires a return to the idea of biological moments as universals, in order to understand biological reasoning in evolutionary biology, as well as scientific psychology approaches such as behavioural genetics. The model of behavioural genetics is interesting because it works with monozygotic and dizygotic twin studies. It is able to quantify the influences of nature and nurture because monozygotic twins are 100 per cent identical; whereas dizygotic twins are 50 per cent identical. Behavioural genetics works through probabilistic correlations of topics, which should not be understood as biological cause in the sense of inevitability. Behavioural genetics hypothesises probabilistic explanations of the variance between twins, who only vary in the nurture that they have received. Consequently, it is able to compare the influence from different social environments on physically identical children. Because the model is probabilistic and noncausal, the key point to grasp is that a polygenic threshold model is being offered, which quantifies the amounts of natural biological cause in relation to other, co-present genes in the DNA, and with respect to the social environment. In fact, the cutting edge of biology is epigenetic research on the interactions between genes and the social context, in that some type of causality seems to exist where genes can be either activated or deactivated, according to the quality of the social conditions.

In the view of behavioural genetics there is an infinite variation between all persons with no ‘us and them’ around abnormality and normality. Through this model it has been possible to further identify the amounts of the heritability of masculinity and femininity, as 36 per cent and 38 per cent respectively (Lippa and Hershberger 1999), in a measure of gender diagnosticity, a probabilistic estimation of sex according to a person’s gender scores. Through a measure of gender stereotypicality, according to definitions of masculine and feminine interests, it was possible to correlate interests with natal sex, and that showed 53 per cent heritability.

One way to summarise Henri Tajfel's social psychology view of prejudice against social types is to state that members of one group don't value members of another, entirely because they belong to the other group. Immediately, it becomes apparent that type prejudice and type bias are ideological, not based on getting to know specific real other people, and not being open to knowing them in their complexity and uniqueness, simply because they are not members of the in-group. Accordingly, one unifying theme in this work is to honour the unity and complexity of the multiple social types to which we belong, and attend to facts about social existence, because of having researched the world in ways that genuinely intend to be impartial and accurate.

The next three sections consider the contributions of genetic research in biology. The dimorphism of sex is often assumed to have only two chromosomal types. However, the wider picture is to understand more than the conclusions of biology, and explain conclusions by making a commentary on how the findings were made. This requires representing original phenomena in conclusions expressed in language. However, in a wider view, mere biology as a physical fundament gets enculturated in the natural attitude. The meaning added to the materially present body produces the sense of the meaningful life of the other, for themselves, as they are free agents, other selves. The intellectual task of anyone who studies sex and gender is to inter-relate how any object or social process is identified in its region. In the intersubjective realm, the quest is to study those behaviours and manners of relating that are capable of being identified as masculine, feminine and nonbinary, in regular identifiable ways, per the specifics of one cultural group (Richards et al 2016). Let us take these introductory comments to biology in order to understand the reasoning that underpins evolutionary biology to understand the real variation in chromosomal sex.

Biology of mammalian dimorphism

This section explains the view of mammalian biology in contemporary science, where it is possible to make wrong conclusions about dimorphism and its biological consequences. There are two natural attitude assumptions to be revealed before getting a suitable orientation towards the evidence. It is a major, incorrect assumption amongst nonbiologists that heterosexual dimorphism is the only sexual strategy in nature. In order to understand dimorphism and its biological role, it is necessary to compare it to the nondimorphic types. Secondly, sexual characteristics get grouped together as a type. In a fine-detailed view, there is no strict demarcation between

the sexual types classed as male, female and intersex. Rather, these words refer to near infinite biological variance.

Biological analysis focuses on functionality, in the light of what exists currently, and theorises about what can be concluded from evolutionary changes in sex chromosomes, due to understandings gained from the analysis of fossils. The biological attitude is not focused on individual members of a species but on the survival of a species as a whole, against disease and predation. What such analyses show is that, prior to the Jurassic age, reproduction worked differently across the prior evolutionary period. The platypus is one species that is halfway between reptiles and mammals, and which first evolved approximately 160 million years ago. Thereafter, mammals and primates remained dimorphic in their reproductive systems.

The constitutive function of dimorphism is its benefit to the gene pool as a biological strategy for managing the risk of disease and predation. As a species, homo sapiens has been in existence during the last 200 000 years, a relatively short period of evolutionary time. Human beings share 96 per cent of their DNA found in every cell of the human body, with chimpanzees, our nearest primate relatives, and some with Neanderthals, one of several, early humanoid species (Dannemann and Kelso 2017, Marks 2002). The hard science of biology estimates that all humans share 99.5 per cent of their DNA with each other (Baldi et al 2011). When comparing human variance, across its one biological type, DNA plus conditions in the social environment, co-cause all the variance in mental and physical health of adults.

The importance of DNA is that in the nucleus of each cell of a biological being lie the instructions for the creation of proteins in every cell in the organism. In human beings, 23 pairs of chromosomes are packages that hold approximately 20 000 genes. Four of the most basic polymers are the DNA code that provides the information required to make protein and control aspects of the biological maturation of the organism. Evolutionary biology shows that dimorphism is only one sort of reproductive system in nature overall. Other types are extant that are nondimorphic, and as representatives of the evolutionary past, they continue to exist biologically. The manner of explanation is to unpick the assumptions about dimorphic sex in order to show the evolutionary reasons for its variance. There are functional advantages and disadvantages to dimorphic reproduction.

One nondimorphic type of sexual reproduction is cloning, parthenogenesis. Some species such as the female Komodo dragon, when the conditions of possibility are correct, are able to give birth to offspring

without any male gamete. In specific social conditions, where there is an absence of suitable males, females can produce male offspring that have her genetic material in their cells, the DNA. In nature, some species are entirely female and reproduce by asexual cloning. However, functionally, this makes them vulnerable to diseases, predators and parasites. Functionally speaking, asexual cloning is a vulnerable strategy for the continuation of a species. The problem of an all-female species is that they are identical, from one generation to the next. Because the offspring are identical, they lack variance and this is why they are vulnerable to diseases, predators and parasites that could endanger the species. In the functional view that biology takes, those species that clone themselves conserve energy. But when nature produces males, it wastes energy because the male half of the species do not bear offspring and only contribute their gamete to the next generation.

The theoretical work in evolutionary biology by John Maynard-Smith (1976) interpreted different reproductive strategies in nature by applying the mathematical game theory of John von Neumann (1928), as explained by Gregory Chaitin (2012). The finding is that it is more difficult to have three or four sexes, because there are opposing tendencies. If there are more than two sexes, the strategy to spread risk is improved, but that in itself increases a waste of energy for the species. Consequently, dimorphism is an optimal place between increasing variance in the species and not being excessively wasteful of energy.

The worth of an increase of variegation in a species is that the vulnerability, due to the identicality of a species, is reduced; although the biological worth of cloning reproduction is its ease and relatively low complexity. In cloning, no second sex is required, but when parasites and predators predominate, they could become successful in the destruction of the species. Evolution and natural selection after the Jurassic age show that having two sexes is an optimal way to achieve variance, and so, manage the risk of predation by increasing genetic complexity to an optimum by having two chromosomal sexes, female XX and male XY. However, the majority of extant types co-occur with many other minorities of chromosomal variation. Therefore, sexual dimorphism is a balance between two opposing tendencies and is an optimal management of the complexity involved. Dimorphic reproduction serves the biological purpose of increasing the variance of biological features across a species. It increases the heterogeneity of the variance of DNA in the gene pool in order to improve survival over diseases, predators and parasites.

Any life form that employs dimorphic reproduction thus requires two parents to make its offspring. Every cell of the offspring contains genes

from both parents. When the sperm and the egg combine, there is a recombination of the DNA to produce the new life that has DNA from both parents. However, the contribution from the sperm and the egg are different. Male vertebrate animals have a penis and the sperm produced by males are small and fast-moving. In humans, the Y chromosome contains approximately 70 protein-coding genes and sperm have no mitochondria. The egg, however, is much larger, comparatively, and contains all the mitochondria and each X chromosome contains approximately 800 protein-coding genes. Genetically speaking, nature has put most of the resources for new life into the egg. The point to bear in mind in the biology of dimorphism is to understand that all creatures who have dimorphism as their reproductive form, serve the biological purpose of increasing variegation in the gene pool, so that future generations benefit from ongoing increases in biological variation. This is expressed in the increased heterogeneity in each successive generation. For instance, every human generation increases by approximately 60 new gene mutations, comparative to its parental generation (Kondrashov 2012).

Bodily signifiers such as genitals and the emotional effects of hormones are far broader in their actual variance, in comparison to the difference between their two exemplars, the stereotypical understanding of male and female. Currently, there is a lack of agreed explanation as to why dimorphism exists in biology as a whole, but the account above is the consensus among biologists as it stands (Williams and Carroll 2009).

Understanding dimorphism highlights the difference between the real and the ideal. The evidence for the dimorphism of sex is related to the majority of human society who have one of two types of genitals and reproductive capacities. The sexual necessity of two gametes, a sperm and an egg within biological being, produce the new generation that blooms into intersubjective, lived experience, through social development. Despite nonbiologists mistakenly assuming that human beings are only ever XX and XY chromosomally, the set of chromosomal sexes have at least eight major types plus a larger range of more infrequent variations. It is how the real variance is typified with respect to the dimorphic majority that is of interest. The other types of chromosomal genotype are people with further complicated chromosomal forms called ‘mosaicism’, which are also part of natural variance (Blackless et al 2000). The purpose in mentioning the full range of biological differences is that all of these are provided by natural variance and a comprehensive sexual theory of the human being accounts for them all. The genital types that coincide with the chromosomal types are as follows.