

We are IntechOpen, the world's leading publisher of Open Access books Built by scientists, for scientists

5,800

Open access books available

142,000

International authors and editors

180M

Downloads

Our authors are among the

154

Countries delivered to

TOP 1%

most cited scientists

12.2%

Contributors from top 500 universities



WEB OF SCIENCE™

Selection of our books indexed in the Book Citation Index
in Web of Science™ Core Collection (BKCI)

Interested in publishing with us?
Contact book.department@intechopen.com

Numbers displayed above are based on latest data collected.
For more information visit www.intechopen.com



Chapter

Narrativity in Becoming Sex/Gender

Rogena Sterling

Abstract

Most discussions of sex and gender development are discussed as science and expressed as a linear progression from birth as one step as biology develops of which the psychosocial self is built upon. Though biology is an important to a person's being, including any modifications to it for a variety of reasons, it is not controlling of a person's identity. At the same time, the concept that biology is a material that is malleable of which a person's gender is constructed. A person can find in their inner psychological being their true self as male or female that may or may not reflect their assignment at birth. Neither of these tell story of life. A person's sex/gender is a narrative becoming over time from pre-birth through their death. Becoming includes, when permitted, spiritual and cultural aspects in addition to biological, psychological, and social aspects. When understood within such a narrative, a person's becoming (development) that reflects their identity as a gender-sex.

Keywords: narrativity, becoming, sex, gender, sex determinism, social constructionism, development

1. Introduction

Traditional societies have long considered what it means to be male or female, masculine and feminine. Ancestors have watched the sun and the moon for clues and signs as to natures of man and woman, masculine and feminine [1]. The creation stories around the world have always included roles of masculine and feminine in forming the world as we know it and its organizing principles [2–4]. Moreover, many places around the world did not organize their society within fixed, mutable concepts of positional understanding of masculine or feminine, but in the sense of balance, and acknowledged other possibilities of existence in between being male or female [5–9]. Both in human and animals, there has been recognition in diversity and transformative powers in the early times of society [1, 10, 11]. These societies had their own narratives on sex development and these remained throughout time.

Western narratives in sex and development have origins that can be traced back to medical and nonmedical philosophers over the last 2000 years. In Particular, the ideas from Aristotle, Plato, and Galen were influential medical thought on sex and development [12]. The ideas of how sex developed by these medical minds are somewhat strange today but set the early beginnings of scientific and medical understanding of sex development from the seventeenth century [12, 13]. For example, Aristotle did

not see men and women as identical but nor did he see them as polar opposites [12]. Through the expansion of the Roman Empire, there was a strong influence of religious ideals of sex which had held until the seventeenth century. Of interesting note, and seldom discussed of Western thought, intersex people have been used to understand the true nature of sex and what it could or should mean and understanding normal and abnormal development [14].

From the seventeenth century with pioneering new medical and scientific technologies, it was possible to understand sex diversity in its elements such as genetics and chromosomes, hormones, enzymes, anatomy such as genitals and gonads, and the many others. These have been important to understanding how sex develops. This chapter does not intend to reproduce detail of each of these in defining what they are, their variations, and involvement in development. There are many textbooks and articles explaining each of these.

The chapter focuses on the narrative of the understanding of sex and development. Science as with every area of life is explained and understood through narratives. Facts never speak for themselves, rather they are understood within schemas and worldviews through those narratives. Sex and development is a good example of one such point. Science has demonstrated much diversity is the elements considered to make up sex – chromosomal, genetic, gonadal, internal genital, external genital, pubertal, and psychological [13]. These have been understood for some time now. Sex development through the elements of sex is understood through narratives, and these narratives affect people's lives, physically, psychologically, and socially. Biologist Joan Roughgarden asks how do two fertilized eggs that start out looking about the same end up producing two adults as different as a man or woman, drag queen, or CEO [11]. How we understand the question and how it is narrated is of interest in this chapter. What is called normal and how it affects people who are outside normal is also important.

From narratives taught at school through to academic articles and books, the idea that biology controls development of the body. It is seen as a natural, biological process that begins from the joining of the two gametes – the egg and the sperm. From this point, a linear development progression begins that leads to a human being. It is that developing body that interacts with society. The chapter identifies how the current narratives either reinforce a biological essentialism or diminish the importance of biology in the narrative through social constructionism. There are issues with narrating through a biological essentialism of sex while also using a social construction of gender. Development cannot be reduced to either.

Rather the chapter focuses on the need to consider an alternative version of develop that is not focused on development like a mechanism nor as a social construction of development. The alternative is one of sex/gender narrative of becoming. It is a means of embodiment as through embodied being becomes from pre-birth through death. It is a narrativity of becoming that recognizes both a biological and social, and cultural being interacting with the surrounding environment.

The purpose of the chapter is not to debate the physiology, but how the narratives of these in development occur. It will do so through the differentiating between sex development or sex becoming. As the chapter will illustrate, the difference in the narrative is the difference of how people react to the body and the outside world throughout their life and also how medicine and society reacts to people of sex/gender diversity.

2. Failure of biological determinism and social constructionism in understanding sex/gender

Before continuing on the focus of sex and gender development, it is important to have a brief discussion of particular framings that have been utilized in interpreting sex development. These framings have often limited discussion and the historicity of such framings have often either been ignored or been forgotten in relation to discussion of sex development.

The two framings of focus here that influence the discussion of sex development are biological determinism and social constructionism. The influences of both of these have had political impact on the biological and social lives of people over the last many hundreds of years. In particular, these framings have had negative impact on diversity of sex and gender. It is important to break these down to understand the nuggets of truth in them, if there are any, and separate from issues to have oppressed groups of people.

2.1 Biological determinism

Biological determinism is the basic idea is that there is an underlying true essence that discontinues between forms of the essence and has a constancy in the absence of change over time (p. 13) [15]. Biological determinism represents the claim that the present states of human societies are the specific result of biological forces and the biological “nature” of the human species [16]. Biological determinism refers to the idea that human behavior originates in and is dictated by biological entities or processes, either innate or constitutional (p. 16) [17]. The essence indicates that certain phenomena are natural, inevitable, universal, and biologically determined, and any variation is attributed to the imperfect manifestation of the essences (p. 10) [15].

Biological determinism of sex thus is the criteria that determine as two discrete true forms – male and female – with no overlap or ambiguity. The biological traits (genetic, hormonal, neuro-anatomical, and so on) determine a person’s sex as male or female development through life (and holds their place in social life) with a heterosexual orientation (p. 10) [15]. Furthermore, it suggests that not only the biological traits, but also psychological and orientation reside within the individual as essence of their being (p. 13) [15].

Cultural determinism is another form believing that there are determinist attributes of being male or female that continues the Western ideals, for example, through gender. Gender is the viewpoint that women and men do differ because of socialization and that women are at least equal to and possibly superior to men [19]. It is another way to foil for biological determinism except for the biological but including virtually everything in the human social world such as capitalism, colonialism, urbanism, poverty, sexism, racism, social structure, imperialism, family structure, and an assortment of other social, economic, and political variables [18].

2.2 Social constructionism

Social constructionism is the any social influence on individual experience [15]. Burger and Luckman propose that reality is socially constructed, and that the sociology of knowledge must analyze the process in which this occurs [20]. Social

constructionism is not the trait of the individual such as taken from an essentialist position. Social constructionism sees it as a process external to the individual [15]. It suggests that the power and structures have control over the individual, and their traits are non-consequential. Moreover, while essentialists suggest universal values, social constructionists acknowledge there may be some universal traits, but there is no universal standard for such traits (p. 15) [15].

Social constructionism is often reflected through the notion of gender and development. The idea is that gender is not reliant on biological development, but the social structures in which the individual develops. It is not the gendered traits of the individual but the result social processes that are external to the individual that impact upon any traits of the individual [15]. Gender is defined by interactions between people, by language, and by the discourse of a culture [15]. Rather than conceiving of sexuality as an unchanging individual essence that we might trace over time, we can investigate its contingency upon historically specific frameworks of thought and practice (p. 91) [21].

2.3 Critique of both

Sex and gender development is still framed as both oppositional and disembodied. Like many concepts referred to in the nineteenth and twentieth centuries, they are seen as either/or concepts. While one framing focuses on biology or physiology drives development and behavior, the other framing disregards it in favor of the social and institutional derivation.

Basing sex/gender development in either biological determinism or social constructionism is both misleading and has negative impact on people, but especially those who do not fit within the ideals of male or female. Intersex and transgender people who have had various names over the years have been the most severely impacted through these framings and still continue till today. Both deny or ignore critical elements of how human beings become who they are.

Though Western feminists in particular long criticized the notion that the behavior and abilities of women are uniquely determined by their biology [22], they adopted the social constructionist framing established by medical professionals from psychological theory – plasticity thesis. While trying to overcome being bounded by biology, they shift the focus from biology to psychology, while maintaining the oppositional binary of being male or female.

What these narratives of biological determinism and social constructionism indicate are binary understandings and how the Western concepts of opposition hold in discourse. Science in all of its forms from biological through social science has been influenced by such discourses. Science is a process of narrating around the discover of facts and evidence. In itself, it is a set of information that is available to be woven into narratives. These narratives are also influenced by ideologies and their worldview. It is time for a different discourse that recognizes truths while not essentializing individuals into a particular structure and form. It is also necessary to understand that people are not just machines open to receiving and performing or adopting social structures.

Though a person's biology does not define a person's life, it is still very important in the development of a person. The consideration of biology as a mechanical system or a controlling essence do a disservice to the embodiment of people and

their life experience. The implicit denial of the biological events of our lives has also failed to appeal to people's ideas of "common sense" [22]. At the same time, nonrecognition of the effects and/or interconnections of society and the environment also neglect major impacts on a person and development. Both determinism and constructionism in its forms deny connectedness and agency of the person and community.

3. Narrating the development or becoming of sex/gender

Understanding the framing of sex/gender, it is now possible to begin to consider the narrating of the sex and gender development or becoming. Narrating is core to the human experience. Human beings are self-reflexive, narrative beings transformed its raw experiences into abstractions [26]. Becoming indicates a person with capabilities and agency, a life plan, make choices and responsible to others [27]. It is organic yet susceptible to significant environmental, social, and cultural influences, for example, it assumes that it includes meaning and is value laden [27].

Self-narration is an experience of temporal dimension that gathers events together into a coherent and meaningful structure that gives significance to the overall configuration, that is, the person [28]. Narration cannot be only understood in objective social categories, and these cannot adequately account for the lived dynamic aspects, rather resulting in reductive and reified understandings [28].

To ensure an illustrative difference, the chapter will discuss a difference between the development of sex and gender and (sex) becoming. The distinction is important as it illustrates how these narratives are written into people's lives and what impact these narratives have.

Development since the early 1600s has been used to infer improvement, but for many individuals and collectives has resulted in quite the opposite. In terms of sex and gender, development implies a procedural sense or something being developed. It also indicates that such processes will follow linear paths from the beginning to the end. There is a determinist connotation within development and questions as to whether there is agency or autonomy possible in development. Development also suggests that that any deviations from the linear development processes are abnormalities. A clear example of such deviations is a population referred to as having disorders of sex development [29]. While there is a diversity of possibilities of the various biological parts of becoming, those not part of the ideal type are considered out of the normal, abnormal, or atypical.

In contrast, becoming is used to suggest organic nature of "becoming a person." Becoming involves more than an individuated process. It has a multitude of influences and interconnections from the social, spiritual/cultural, and environmental embodiment of the person. Further, individual becoming always involves and is part of community sustenance and identity. Becoming is ongoing with the possibility of transformation from pre-birth through death. It is not linear nor immutable. Becoming is a narrativity of the socialized sex through the embodied physiological being with the surrounding community and context depending world.

This part of the chapter will discuss sex and gender development and the differences and similarities. It will also set out how biological determinism and social constructionism are or are not embedded in sex/gender development. It will then move to sex becoming and how that differs from sex/gender development.

3.1 Sex and gender development

To begin with, it is important to briefly describe the common narrative of sex and sex development. The common narrative also indicates particular understandings of what is abnormal, even disease, and outside of the common narrative. These variations outside of the norm have had impact on people outside of the standard ideal of the heterosexual male or female.

The narrative of sex/gender and its development must begin with the structures upon which it is based. That is, there is a norm, a standard pattern all life follows and that norm states that sex is an oppositional binary of being male or female with the male includes particular biological characteristics while the female has other characteristics. There are other general characteristics that are shared between the two – males and females.

3.1.1 Sex development

The narrativity of sex development has an assumed foundation of an egg representing female and a sperm representing male. These are discrete and oppositional and the only possibilities. Females have XX chromosomes and particular physiology while males have XY chromosomes and particular physiology distinct from females. There are three core assumptions: it is binary (two different forms, male and female) which have distinct anatomical structures and biological functions; each form has different physical characteristics; and each form has different psychological and behavioral characteristics [30, 31]. There are two different species as male and female and not just two different reproductive systems (women have ovaries, a womb, and lactate while men are sperm producers) [32–34]. There are many texts defining these differences. Outside of these are mistakes of nature or abnormalities.

Sex development begins as process-based and linear. The very beginning of development is where the egg and the sperm meet and the egg provides an X and the sperm either an X or Y chromosome. Depending on what gene is provided from the sperm, X or Y, will determine if the newly formed zygote is a male or female. The zygote then begins the development process into either male physiology or female physiology. The presence of a Y chromosome makes the embryo develop as a male (individuals with Y will develop testes); in its absence, the default development is along the female pathway (ovaries will develop) [33]. Sex development theory assumes a master template (a master gene) as the norm that triggers a subordinate gene which cascades to downstream genes in a descending hierarchy of control [11]. As an analogy, development occurs as though a bowling ball was accurately rolled to hit a genetic kingpin at just the right spot and cause all the genetic bowling pins behind to fall down in perfect order and producing a normal baby is bowling a genetic strike [11]. This assumes there is a close linear association of “3G” sex – genetic, gonadal, and genitals – as core markers of sex [33]. The sex will then lead to the direction of other related sex characteristics. The chromosomes lead to a linear development of other anatomical structures including those often referred to as sex structures (e.g. ovaries, testes, uterus, scrotum, vagina, and clitoris) and most importantly the brain and the neural system [35].

From the time of birth, the linear development continues along the chromosomal pathway albeit at a slower pace until puberty. At puberty, sex development continues with “secondary sex characteristics” of body hair, breasts, voice, pitch, menstruation, and sexual sensations and desires [13, 35, 36]. One’s biological sex further develops

into adulthood. Later in life, other factors change such as menopause in women. Up till recently, it has also been assumed that this determined sex will also determine one's sexual relations, and hence the system of heterosexuality.

Development assumes an oppositional binary whereby from chromosomes to hormones to gonads to secondary sex characteristics there are only two choices: male (XY) or female (XX). The assumption is social sex social roles and function, expression follows on from sex development as male or female as biology established [37]. In another words, sex is understood here as a status determined by nature that unfurls into sociopolitical roles. Sex is so fundamental in the developmental program and experience is secondary to that of development in forming the male brain and male nature, or to a female brain and female nature [33].

The general sex development theory at its core is biological determinism. It infers that social development derives from the biological essence. The narrative imposed on these development systems upholds the oppression based on biological systems. It also maintains that any variation and difference is abnormal or not socially acceptable.

3.1.2 Gender development

Prior to the 1950s, the term gender was not used, and social roles, expressions, and others relations to sex came within the umbrella of the term "sex." The assumption was that the development of biology would extend to the developing of matching social roles and expressions and so on of society. When held strictly to such ideas, it became biological essentialism in that the person's biology dictated the person's position and function in society. Enforcement of biological determinism has led to sex oppression over the years, which has been often centered through patriarchy. Biological determinism of race and sex which began in the seventeenth century was recognized as having large social repercussions, especially for women and people of sex diversity [38]. Feminists have long criticized biological determinism that subordinated women to the behavior and abilities of women uniquely determined by their biology [22].

Gender as a concept and understanding arose with the rise of plasticity of human being [24]. The psychological theory posited that human beings are malleable or there is a plasticity of human beings [24]. This was the idea that humans are malleable beings and not fixed and subordinated to biological traits such as race and sex. It has its roots in the work of Konrad Lorenz concept of imprinting into dominance and adopted by Dr. John Money in establishing gender to imprint intersex people into the male–female binary [23]. The biological morphology (outer (and sometimes inner)) body was malleable and alterable [25]. The intersex and transgender persons' bodies were alterable to fit the assigned or re-assigned gender. Dr. Robert Stoller extended the concept of gender to suggest that once a gender was assigned at birth, biology virtually superfluous except to medical professionals and produced the raw material (linear development) upon which gender developed which became known as the sex/gender split [23, 25, 39–42].

Gender indicated that irrespective of the diversity of biology, a person's development began from the assignment of gender at birth along with any necessary alteration of biology to match that assignment. A person's gender identity derives from an inner sense of self – the psychological self – that usually matches the assignment at birth [23, 39, 43]. That sense of self develops social cues around them into the masculine and feminine person they were assigned to be. Gender development enables

a concentration on the development psychological phenomena such as thoughts, behavior, and personality [23, 39]. A person has the ability to take roles that are not based on their biology in society and therefore be equal to each other – that is equality of man and woman (at least in theory). Gender development is the way a person perceives, expresses, and experiences sex identity within social relations of a social-political environment through imposed expectations (such as getting married and having children), norms, qualities, and behaviors upon an individual which vary across history societies, cultures, and classes [11, 44–49]. Gender development is a complex process within the sociopolitical world. It is an integration of one’s “inner sense of being male or female” experienced within the sociopolitical expectations and is influenced by other’s view of themselves [50].

Gender development begins at the time of birth, though some cues are even learnt pre-birth. Late in the pre-birth process, the fetus recognizes cues of acceptability within society of what it means to be their gender [51, 52]. After birth and by the age of 5 years, a child recognizes their gender; however, the child also recognizes the what gender recognition is acceptable or needs to be concealed/suppressed within the social setting and expects them to be [53, 54]. Through the early years, the infant continues to pick up those cues around them. As the child develops, they encounter endless gender clues and hints in the real world including gender stereotypes, encouraging or discouraging words, expressions, or body language from others, and sex segregation of adult social roles [33]. These clues and hints are taken on board in the person’s gender development. Consciously or unconsciously, developing gender with its associated patterns of permitted freedoms is quickly understood including the boundaries of that gender [34].

From childhood onward, gender development is fortified through internal and external sense of their psychological self [13, 36]. Development includes socially appropriate cues of being male or female including the socially constructed roles, behavior, activities, and attributes [55]. Development is reinforced through carers, whether it is family or other members of society their own social interests in the child’s gender becoming are reinforced [56]. These considerations influence one’s inner sense of self as expectations about the characteristics men and women have, and as gender norms dictating double standards for how women and men should behave, influencing people’s interests, self-concept, performance, and beliefs about capabilities in gendered domains [33].

Moreover, as one matures, one continues to author gender as cued by relationships, society, and sociality [56]. This continues with the child as their status as sex determined, and gender authored. This becomes their sociopolitical status of life which is not escapable. It is central to and entangled within one’s social and legal life of recognition and relationality. At an early age, they pick up on cues about acceptable and non-acceptable relationships, even though they yet may not know their favored sexual relationships [53, 54]. As they turn to their teens, they begin to form relationships usually favoring culturally accepted values, such as heterosexual [53, 54]. The infant uses these cues as a guide together with the gendered world around them in becoming their gender. These relationships primarily adhere to the sociopolitical way of life.

Gender introduced by Western feminists into the public sphere derived from and was based in the work of Dr. John Money and Dr. Robert Stoller. They accepted that through gender it was possible to socialize a person into an assigned sex stable sexed subject [23]. The focus of the theory was to normalize intersex and transgender people into the male female binary as they were creating ambiguity of the two-sex

system. The sex/gender split introduced by Dr. Stoller was essential to feminist work. Removing biology as the root of the diversity enabling a capturing of these populations and normalizing them with the binary, oppositional system. Moreover, gender did not interfere with the broader institutional, patriarchal system, but only remove biology as an essence upon which it was built. This enabled women to be equal in social and psychological development as men. It was this idea that feminists adopted introducing gender into the public sphere [23, 39].

3.1.3 Variation and sex/gender development

Western science has had an interesting relationship with biological diversity. As far back as the Greeks such as Aristotle and Plato, there was recognition of the diversity of being beyond male or female even though there was little acceptance of them as full human beings [12, 14]. Since the modern science period, there has been a large discovery of various diversities of sex and gender.

Sex development and diversity are not generally considered as possibility. When sex development ranged beyond the standard norm, they as considered as abnormal sex development. Though sex diversity was not fully accepted, especially in the West, under various names people we call intersex and transgender people today still existed.

Due to greater awareness of biological diversity and social unrest of norms including increasing awareness and recognition of gays and lesbians, and fear of communism, there was a need to protect the binary and diminish and erase diversity [23]. Gender was such an institution to remove sex and maintain the binary including its meaning and basis in society. Dr. John Money established gender it was to erase the possibility of intersex people and ensure they conform to being male or female to fit into society. He believed that in spite of the physiological characteristics, intersex children were malleable and could be assigned a gender – male or female – and raised accordingly [57]. Once assigned, there may be necessity to change the child's body to match the assignment – completing what nature did not finish – and encourage child and parent bonding and development of gender [25].

Dr. Robert Stoller also worked with Money's notion of gender in his work with transgender people. Transgender was earlier understood as a biological reality, but this was transformed by Stoller as an independent psychological phenomenon (p. 31) [23]. The development of gender identity as a psychological reality shifted sense of embodiment that transgender people once had (p. 99) [25]. Though transgender people may have desired transformative support of particular biological parts, they still would relate to the world through their body. The focus of gender changed that indicating that the relationship was through their psychological being.

Both for intersex and transgender people, they were seen as diseased and in need of a cure [11]. By fixing these groups, they could live successful lives in society. Such an implementation of social construction upon the bodies and lives of these groups was still rooted in biological determinism – the belief that there are only two human which are male or female.

Though gender was an attempt to overcome the problems of biological determinism, through using social constructionism, it is questionable to what extent it has done so. Gender and its development are underpinned by cultural determinism based in the male and female ideal (minus the control of biology). It has not freed society of the shackles of the binary understanding of the world as an immutable state and

erased diversity. Though there is a use of the term gender diversity, it is in the sense of social constructionism and not including biological diversity such as intersex people exemplify nor does it provide for and enable embodiment.

3.2 Narrativity in becoming a sex/gender

The development of sex and gender indicated a linear process of development as either male or female. Any deviation was a developmental error. This has led to nonrecognition of people who are no longer recognized as a person without the help of medicine to rehabilitate them into the standardized norm as a male or female, even if it was the opposite to that assigned at birth (as with transgender people).

Narrativity of becoming is not just a different name but indicates a different way to understand a narrative of how a person becomes who they are. As mentioned earlier, it is organic interaction and interconnections of their embodied being within a social-cultural and environmental place. Embodiment moves beyond the body as a bodily form to a conception that through the body provides realms of agency, practice, custom, and so on [58]. It infers social relationality and connectedness – a sense of belonging. Embodiment indicates the agency and experience of the world through a person's bodily form, mediated from physiology within and the cultural, social, political, and environmental world without [58]. Becoming throughout their life is inclusive of overlapping and intersecting multiplicities such as sex/gender, race, ethicality, class, (dis)ability, and so on. Becoming is a process of evolving, reinventing, or transforming nature. [62]. It is a mediation between stasis and change [28, 63] where nothing is resolved or in closure, yet often contradictory as it accommodates the emergence of new possibilities or transformations of the whole and the parts of one's becoming [50, 62–66].

The very beginning of sex becoming is prenatal. As various physiological interactions begin, there are decisions made as to “pathways” of becoming of the future being. Each physiological part of a person is a the consequence of dozens of different genes and numerous pathways by which cells are assembled, differentiated, and assigned alternate functions in sex becoming [13]. Even chromosomes do not operate in isolation but require certain biochemicals called enzymes to makes the genes effective [11]. As Joan Roughgarden suggests as analogy, it is like a committee (chromosomes, hormones, enzymes, and other physiological members) that meets throughout becoming even at the early physiology stages before society and culture even have become part of the person's becoming [11]. This analogy is important to indicate that diversity in biology and physiology is important in becoming but is not an automatic process but organic with multiple possibilities.

The processes continue from the time of birth. The only difference is that from the time of birth the social, cultural, and environmental members of the committee have more voice on the committee that they had pre-birth to continue the analogy further. Becoming continues through childhood, adolescence into adulthood. Even late into the later stages of life becoming, or even slowing of life, continues. Becoming is a recognition of the interconnectedness not only of the people around them but also the land from which they derive.

Sex becoming is the embodiment of being and belonging as male, female, both, or neither relating how they see themselves, and how they think others see them, in performing social roles, expressions, and functions through their biological body [51, 59–61]. Such a becoming enables people to connect with their spiritual and

cultural ancestral beings and contribute to overall human potentiality and community sustenance and identity. Although sex becoming will always in and through social relations, the relations will not necessarily completely define us where reciprocity exists and there is respect for uniqueness of being.

Becoming is organic enables transformative possibilities. Though it recognizes biological and physiological importance, it is not as a controlling force as in biological determinism. Rather, it is in the sense of embodiment, that is through the body (whether it is in the form that one is born with or has been transformed due to medical necessity or gender-confirming need) with the social and environmental interconnectedness. What becomes clear is social constructionism does not provide the basis for embodiment and interconnectedness but leads back to a type of determinism.

4. Conclusion

The aim of this chapter was not to go through the various biological mechanisms involved in sex development. As mentioned near the beginning, there are numerous texts out there providing eloquent discussions of the various parts and their functions in the development process.

Rather, the chapter has aimed to focus on the narratives used in describing the development process. All facts are only understood when incorporated within a narrative. As noted in the chapter, all meaning is understood through narratives. Whether in early times, in the modern era, or the technological era, narratives are how humans understand the world. It is through these narratives that it is possible to indicate what something is worth and how it is valued. The narratives are also central to social organization and understanding how a person fits into the world around them and what functions they may have within society.

Sex and gender development narratives are bound within narratives that have been maintained over many years through religious and scientific dominions. The early understanding was through early form and the more direct biological determinism. Though it has largely been debunked regarding race, there is still a strong support for such ideas today regarding sex and sex development. Many of the texts do not use the words today but when read contextually still maintain such a theory.

The introduction of social constructionism, however, was aimed to curve the impact of sex determinism, or at least that is how some in the gender studies have argued. The idea of social constructionism is that biology should not and does not control destiny. Though there was oppression linked to biology as destiny, and hence the purpose for introducing social constructionism, at the same time it has led to the abandonment of embodiment. Furthermore, in particular for sex/gender development has been implemented as the same ideology as a binary, oppositional system of male and female only not based on biology determining future roles and functions of people. The result has been a cultural determinism and enforcement of a Western ideal of what it means to be male or female and the spreading of its particular narrative of sex/gender development.

The group or population that has suffered the most of both of these ideas has been those of sex/gender diversity. While under sex biological determinism has led to limited or no recognition and acceptance, under social constructionism it led to enforced transformation into assigned or reassigned genders which often also involved changing the morphology of the body to match their newly assigned

genders. A greater impact for both intersex and transgender people was the loss of embodiment as the move to gender concentrated a person's knowledge and sense of oneself was based in their psychology. Not only did it deny a relationship with the person's body and being, but also it was an individualizing process separating people from community and connectedness. The effect of social constructionism, or even it could be argued cultural determinism, was a loss of ability to develop a diversity of being, for example as intersex or transgender, that was outside of the framing of maleness or femaleness.

Realizing development as a becoming enables a return to embodiment. It is a relation to the body (even if it be transformed from that at birth) and at the same time, a relatedness to the social and environmental world around them. Mover, becoming was organic, not linear nor immutable. It provided a means of agency yet still had bounds of social and cultural responsibility.

Understanding development as becoming recognized the complex organic being with multiple interconnected communicating with each other. From both internal and external directions, the physiological, social, psychological, and cultural multiplicities communicate and discuss at various stages of becoming of what possibilities there are and which direction to become. It is an ongoing process that continues through death where even some cultures would suggest that some of these multiplicities continue becoming in some way.

Becoming does not deny that there are external forces, yet at the same time recognizes that agency derives through the embodied being, and not simply a psychological sense of self. It is a means of acknowledging a cultural and spiritual connectedness of being along with its collective identity rather than the individualized and atomized notion of being. Becoming is a narrativity of the socialized sex through the embodied physiological being with the surrounding community and context depending world.

Understanding development through a different paradigm does not deny biological or physiological reality but does change the narrative of how life, society, and the surrounding environment connect and organize together. It provides a narrative of cohesiveness yet respect for difference and uniqueness, while individuals have duties to one another. As such, it provides a space of relationality rather the separateness and individuality that derives from sex/gender development.

Conflict of interest

The author declares no conflict of interest.

IntechOpen


IntechOpen

Author details

Rogena Sterling
The University of Waikato, New Zealand

*Address all correspondence to: rogenasterling@gmail.com

IntechOpen

© 2022 The Author(s). Licensee IntechOpen. This chapter is distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/3.0>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited. 

References

- [1] Ryan C, Jethá C. *Sex at Dawn: The Prehistoric Origins of Modern Sexuality*. New York: Harper; 2010
- [2] Reed AW, Calman R. *He Atua, He Tangata: The World of Maori Mythology*. New Zealand: Oratia Media; 2021
- [3] McHardy S. *The Pagan Symbols of the Picts*. Edinburgh: Luath Press; 2012. p. 190
- [4] Native American Mythology & Legends – Legends of America [Internet]. *Legends of America*. 2021 [cited 2022 February 21]. Available from: <https://www.legendsofamerica.com/native-american-legends/>
- [5] Epple C. Coming to terms with Navajo Nádleehí: A critique of Berdache, “gay,” “alternate gender,” and “two-spirit”. *American Ethnologist*. 1998;25(2):267-290
- [6] Picq ML. Decolonizing indigenous sexualities: Between erasure and resurgence. In: Bosia MJ, McEvoy SM, Rahman M, editors. *The Oxford Handbook of Global LGBT and Sexual Diversity Politics*. London, UK: Oxford University Press; 2020. [cited Dec 19, 2021]. pp. 167-184. Available from: <http://oxfordhandbooks.com/view/10.1093/oxfordhb/9780190673741.001.0001/oxfordhb-9780190673741-e-23>
- [7] Samuels AJ. Fa’afafines and Fa’afatamas: the Four Genders in Samoa [Internet]. *Culture Trip*. 2021 [cited 2021 December 19]. Available from: [/pacific/samoa/articles/fa-afafines-the-third-gender/](http://pacific/samoa/articles/fa-afafines-the-third-gender/)
- [8] Interactive Map: Gender-Diverse Cultures [Internet]. *Independent Lens*. 2021 [cited 2021 December 13]. Available from: https://www.pbs.org/independentlens/content/two-spirits_map-html/
- [9] Kerekere E. Part of the Whānau: The Emergence of Takatāpui Identity - He Whāriki Takatāpui [Doctoral Dissertation Thesis]. Wellington, New Zealand: Victoria University of Wellington; 2017. Available from: <http://researcharchive.vuw.ac.nz/handle/10063/6369>
- [10] Ryan C. *Civilized to Death: The Price of Progress*. New York: Avid Reader Press; 2019. p. 288
- [11] Roughgarden J. *Evolution’s Rainbow: Diversity, Gender, and Sexuality in Nature and People*. Berkeley, California: University of California Press; 2009
- [12] Callahan GN. *Between X and Y: The Myth of Two Sexes*. Chicago, Ill: Chicago Review Press; 2009
- [13] Carlson EA. *The 7 Sexes: Biology of Sex Determination*. Bloomington, Indiana: Indiana University Press; 2013
- [14] Dreger AD. *Hermaphrodites and the Medical Invention of Sex*. Cambridge, Massachusetts: Harvard University Press; 1998. p. 268
- [15] DeLamater JD, Hyde JS. Essentialism vs. Social constructionism in the study of human sexuality. *Journal of Sex Research*. 1998;35(1):10-18
- [16] Sociobiology Study Group of Science for the People. *Dialogue. The critique: Sociobiology: Another biological determinism*. *Bioscience*. 1976;26(3):182-186
- [17] Greene S. Biological determinism and Essentialism. In: Naples NA, editor. *Companion to Feminist Studies*. Oxford, UK: John Wiley & Sons, Ltd.; 2020. pp.

- 13-34. [cited Jan 23, 2022]. Available from: <http://onlinelibrary.wiley.com/doi/abs/10.1002/9781119314967.ch2>
- [18] Spiro ME. Cultural determinism, cultural relativism, and the comparative study of psychopathology. *Ethos*. 2001;**29**(2):218-234
- [19] Rollins JH. *Women's Minds/Women's Bodies: The Psychology of Women in a Biosocial Context*. New Jersey, USA: Prentice Hall; 1996
- [20] Berger PL, Luckmann T. *The Social Construction of Reality: A Treatise in the Sociology of Knowledge* [Internet]. Great Britain: Penguin Books limited; 1966. Available from: <http://www.perflensburg.se/Berger%20social-construction-of-reality.pdf>
- [21] Brickell C. The sociological construction of gender and sexuality. *The Sociological Review*. 2006;**54**(1):87-113
- [22] Birke LIA, Vines G. Beyond nature versus nurture: Process and biology in the development of gender. *Women's Studies International Forum*. 1987;**10**(6):555-570
- [23] Repo J. *The Biopolitics of Gender*. Oxford; New York: Oxford University Press; 2016. p. 218
- [24] UNESCO. *The Race Concept: Results of an Inquiry*. Paris: United Nations Educational, Scientific and Cultural Organization; 1952
- [25] Gill-Peterson J. *Histories of the Transgender Child*. Minneapolis: University of Minnesota Press; 2018
- [26] Maines DR. Narrative's moment and Sociology's phenomena: Toward a narrative sociology. *The Sociological Quarterly*. 1993;**34**(1):17-38
- [27] Guignon C. Becoming a person: Hermeneutic Phenomenology's contribution. *New Ideas in Psychology*. 2012;**30**(1):97-106
- [28] McNay L. *Gender and Agency: Reconfiguring the Subject in Feminist and Social Theory*. Cambridge, UK: Malden, Massachusetts: Polity Press; Blackwell Publishers; 2000. p. 190
- [29] Sinajon P, Babul-Hirji R, Chitayat D. Approach to the Newborn with disorders of sex development. In: P. Verma R, editor. *Congenital Anomalies in Newborn Infants - Clinical and Etiopathological Perspectives*. London, UK: IntechOpen; 2021. [cited Feb 20, 2022] Available from: <https://www.intechopen.com/books/congenital-anomalies-in-newborn-infants-clinical-and-etio-pathological-perspectives/approach-to-the-newborn-with-disorders-of-sex-development>
- [30] Weiss JT. Transgender identity, Textualism, and the supreme court: What is the plain meaning of sex in title VII of the civil rights act of 1964. *Temple Political & Civil Rights Law Review*. 2009;**18**:573
- [31] Braun V, Wilkinson S. Vagina equals woman? On genitals and gendered identity. *Women's Studies International Forum*. 2005;**28**(6):509-522
- [32] Beauvoir S d. *The Second Sex*. London: Jonathan Cape; 2009. p. 822
- [33] Fine C. *Testosterone rex—Unmaking the Myths of our Gendered Minds*. London, United Kingdom: Icon Books Ltd; 2017
- [34] Lorber J. Believing is seeing: Biology as ideology. *Gender and Society*. 1993;**7**(4):568
- [35] Curra J. *The Relativity of Deviance*. Third. Thousand Oaks, California: Sage Publications, Inc; 2014. p. 369

- [36] Fausto-Sterling A. *Sex/Gender: Biology in a Social World*. New York: Taylor & Francis; 2012. (Routledge Series Integrating Science and Culture)
- [37] Saewyc EM. Respecting variations in embodiment as well as gender: Beyond the presumed 'binary' of sex. *Nursing Inquiry*. 2017;**24**(1):e12184
- [38] McWhorter L. Sex, race, and biopower: A Foucauldian genealogy. *Hypatia*. 2004;**19**(3):38-62
- [39] Germon JE. *Gender: A Genealogy of an Idea*. Basingstoke: Palgrave Macmillan; 2010. Available from: <http://www.dawsonera.com/depp/reader/protected/external/AbstractView/S9780230101814>
- [40] Downing L, Morland I, Sullivan N, editors. *Fuckology: Critical Essays on John Money's Diagnostic Concepts*. University of Chicago Press; 2014. Available from: <http://www.bibliovault.org/BV.landing.epl?ISBN=9780226186610>
- [41] Morland I. Gender, genitals, and the meaning of being human. In: Downing L, Morland I, Sullivan N, editors. *Fuckology: Critical Essays on John Money's Diagnostic Concepts*. USA: University of Chicago Press; 2014. [cited 2019 Oct 31]. Available from: <http://www.bibliovault.org/BV.landing.epl?ISBN=9780226186610>
- [42] Rubin DA. Provincializing intersex: US intersex activism, human rights, and transnational body politics. *Frontiers: A Journal of Women Studies*. 2015;**36**(3):51-83
- [43] Stoller RJ. *Sex and Gender: The Development of Masculinity and Femininity*. London, United Kingdom: Taylor & Francis Group; 1994. Available from: <http://ebookcentral.proquest.com/lib/waikato/detail.action?docID=690108>
- [44] Agius S, Tobler C. *Trans and Intersex People: Discrimination on the Grounds of Sex, Gender Identity and Gender Expression*. Directorate-General for Justice. Luxembourg: European Commission; 2012
- [45] Chapman A, Turnbull M, Branson C, Australian Human Rights Commission. *Addressing Sexual Orientation and Sex and/or Gender Identity Discrimination: Consultation Report: 2011*. Sydney: Australian Human Rights Commission; 2011
- [46] Hird MJ. Gender's nature: Intersexuality, transsexualism and the 'sex'/'gender' binary. *Feminist Theory*. 2000;**1**(3):347-364
- [47] Greenberg JA. Defining male and female: Intersexuality and the collision between law and biology. *Arizona Law Review*. 1999;**41**:265
- [48] Chau PL, Herring J. Defining, assigning and designing sex. *International Journal of Law, Policy and the Family*. 2002;**16**:327
- [49] Knouse J. Intersexuality and the social construction of anatomical sex. *Cardozo Journal of Law & Gender*. 2005;**12**:135
- [50] Guibernau MM. *Belonging: Solidarity and Division in Modern Societies*. Cambridge, UK: Polity Press; 2013
- [51] Martin CL, Ruble D. Children's search for gender cues cognitive perspectives on gender development. *Current Directions in Psychological Science*. 2004;**13**(2):67-70
- [52] Witt SD. Parental influence on Children's socialization to gender roles. *Adolescence*. 1997;**32**(126):253-259

- [53] Kennedy N, Hellen M. Transgender children: More than a theoretical challenge. *Graduate Journal of Social Science*. 2010;7(2):25-43
- [54] Skougard E. Best interests of transgender children. *Utah Law Review*. 2011;2011:1161
- [55] World Health Organisation. What Do We Mean by “Sex” and “Gender”? [Internet]. WHO; 2014. [cited Mar 28, 2014]. Available from: <http://www.who.int/gender/whatisgender/en/>
- [56] Marshall J. *Human Rights Law and Personal Identity*. Abingdon, Oxon; New York, NY: Routledge; 2014. p. 271. (Routledge Research in Human Rights Law)
- [57] Money J, Hampson JG, Hampson JL. An examination of some basic sexual concepts: The evidence of human hermaphroditism. *Bulletin of the Johns Hopkins Hospital*. 1955;97(4):301-319
- [58] Strathern AJ, Stewart PJ. PERSONHOOD: Embodiment and Personhood. In: Mascia-Lees FE, editor. *A Companion to the Anthropology of the Body and Embodiment*. United Kingdom: Wiley-Blackwell; 2011. Available from: <https://nbn-resolving.org/urn:nbn:de:101:1-201412017739>
- [59] Australian Human Rights Commission. *Sex Files: The Legal Recognition of Sex in Documents and Government Records: Concluding Paper of the Sex and Gender Diversity Project*. Canberra, ACT, Australia: Australian Human Rights Commission; 2009
- [60] Polster H. Gender identity as a new prohibited ground of discrimination. *New Zealand Journal of Public and International Law*. 2003;1:157
- [61] Egan SK, Perry DG. Gender identity: A multidimensional analysis with implications for psychosocial adjustment. *Developmental Psychology*. 2001;37(4):451-463
- [62] Jones SR, MK ME. A conceptual model of multiple dimensions of identity. *Journal of College Student Development*. 2000;41(4):405
- [63] McNay L. Gender and narrative identity. *Journal of Political Ideologies*. 1999;4(3):315-336
- [64] Gutwirth S. Beyond identity? Identity in the Information Society. 2009;1(1):123-133
- [65] Fox RC, Willis DP. Personhood, medicine, and American society. *The Milbank Memorial Fund Quarterly Health and Society*. 1983;61(1):127-147
- [66] Ross A. Multiple identities and education for active citizenship. *British Journal of Educational Studies*. 2007;55(3):286-303