

# The Development of Transgender Behaviour and Identities in Early Life

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## 1:0: Overview

For many people the sense of gender seems so firmly fixed that it is accepted as a self-governing fact of everyday life. For transgender people their rejection of this sense of identity and their belief that they are “*Born into the wrong body*” often has a life-changing effect. The distress created by the early assigning or reassigning of the gender of intersex and very young children is used to argue that this gender incongruence is present from the moment of birth. It is also argued that how a baby responds to a wash of sex hormones in the foetal brain about ten to twelve weeks after conception determines the way in which gender identity develops. Because of these considerations, much research has been carried out on brain structure and functioning which attempts to identify sufficient gender based differences in the brains of males and females to show how these outcomes occur. However those arguments are challenged in this investigation.

Many studies do show that sexual differentiation in the brain develops well before birth. However the development of gender identity depends on the ability to separate the self from the other. That cannot happen in the womb. This means that the development of a gender differentiated brain, as distinct from a sexually differentiated brain, can only begin for the moment of birth. Some transformation mechanism is needed and it is shown that the range of behavioural differences between male and female babies from the moment of birth can be sufficient to trigger the direction in which gender identity develops and the contagion of the development processes may lead to atypical gender identities being formed. The process is the same for everyone: however large variations are found. Development will usually, but need not always be, in line with biological sex.

The second challenge comes from the neurophysiological studies on early development. At birth the part of the brain responsible for these understandings is very primitive in nature, and massive advances take place during the first three to four years of life. In this work I map the transition between the contagious, fragmented, internally created driving forces identified in the neuroscience based studies pioneered by Girard, Dawkins, Gallese and others: which dominate development from birth, to the restraining forces of cognitive development identified in the traditional psychodynamic and social learning theories pioneered by Freud, Piaget and others: which only later can come into effect. Attempts to explain the origins of transgender conditions using these traditional theories and other social learning methods fail because the presumptions underlying them is that cognitive and social learning processes guide development at all times of life. Therefore in studies which rely on these traditional theories the impact of the early and innate neurophysiological driving forces are ignored. For Freud, Piaget and others the development of gender identity is presumed to begin from around the age of three years, primarily as a reactive process on a blank canvas. In this study, which takes account of the self-generating

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<sup>1</sup> Personal biography at: <http://www.tgdr.co.uk/documents/SusanBiographyPapers.pdf>

<sup>2</sup> Available online at Gilchrist, S. (2019): “*The Development of Transgender Behaviour and Identities in Early Life*”: <http://www.tgdr.co.uk/documents/243P-BehaviourSelfIdentity.pdf>

neurophysiological processes, this early period is instead shown to be a time of intense and rapid development, during which the core senses of gender identity and personality are formed and before this time have become locked in place.

All of the neurophysiological studies emphasise the extreme intensity and contagion of these early development processes. These indicate that: *“the need to possess and imitate is built into physiology and the foremost challenge to be explained is not about how learning develops but about how the observer can inhibit this imitative process so that he or she does not respond by actually engaging in the same process or act”*. They are in addition self-reinforcing processes, where minor inputs can trigger the direction in which development takes place. In this investigation I show that all of the physiological, neurological and psychological aspects of brain development act together to form a finely tuned system in which the maximum amount of individuality, possessiveness, intelligence and inquisitiveness, together with the minimum degree of energy expenditure are generated. I show that typical or atypical gender identities can therefore develop and, from a statistical point of view alone it is expected that a proportion of people who have gender or sexually variant identities must be created without the requirement for any external cause.

For transgender people, and all people, the development of gender identity starts from the moment of birth. Evolutionary processes and studies on how people enact and respond to aggression show that different patterns for males and females exist. These differences are shown to be pre-natal in origin. They are encountered in babies before any gender socialisation occurs. The overlap in behaviour and the contagion of early development means that some male newly born babies will behave and interact more like female babies and vice versa. This early difference is then reinforced by the momentum of the development process, and that pattern continues into adult life. This process begins far too early for masculine and feminine identities to be created, and these elements only exist as overlays on what has already been formed. It is shown that that the creation of a sense of gender identity and the intensity with which gender reassignment is pursued is a consequence of these social interactions rather than the cause. Trauma arises because of the rejection, attrition and alienation which are created through the inability to identify with the expected demands. The conflict with gender is not about rewards. It is driven by identity instead. In everyday terms this means that male to female transsexuals are men who interact with society in emotions and attitudes in the same way as women. After transition many merge invisibly into society living ordinary lives.

A fundamental contradiction arises when the innate neurophysiological forces which dominate early development are ignored. Gender socialisation begins around the age of two to three years of age. From this time very strong and exclusive gender role identifications begin to be formed. The failure to recognise the existence of the core sense of gender identity means that, instead of any pre-existing gender identity which informs the roles and allegiances that develop, the sense of gender arises entirely as a consequence of experiencing these gender roles. The perceived nature of any conflict is reversed. Instead of searching for personality, fulfilment and identity the goals of any form of gender or sexually variant behaviour are understood to be those of desire, disruption and reward. This, together with the dogma pursued by religious groups and some more feminist groups which demands that gender identity must at all times be congruent with biological sex denies the legitimacy of transgender identities. This also means that two completely different views about how atypical gender identities are created and what their moral standings should be, are currently held.

For many lesbians and feminists male to female transsexuals are predatory men who seek to exert power and domination over women, who manipulate femininity to their own desires and advantage by adopting a female role: It is argued that their failure to succeed in the male role means they try to do it in the female role instead. For transsexuals, (as a generalisation) an opposite view is taken. Their understanding of history is instead one of a lifetime being forced to live in a gender role which one cannot identify with, with all of the anguish distress, rejection and high suicide rates that are involved. The former viewpoint disregards the neurophysiological processes which dominate early

development, the latter takes account of their effects. Justification for either point of view relies on experiential evidence, and the failure to take into account, the role of these early, and internally driven neurophysiological processes: which involves the actions of possessive imitation, empathy and mirror neurons leaves a yawning gap in present understanding of how personality, gender identity, and identity in general develops. Filling that gap is one of the objectives of this research.

## 2:0: Introduction

Many studies have shown that sexual differentiation in the brain develops well before birth. However the development of gender identity depends on the ability to separate the self from the other. That cannot happen in the womb. This means that the development of a gender differentiated brain, as distinct from a sexually differentiated brain, can only begin for the moment of birth. Behavioural studies show that even a few hours after birth on average there are subtle differences in the behaviour of male and female babies. Different patterns of aggression are also encountered. Pre-natal sexual influences are understood to be involved in this and these extend from before gender socialisation takes place into adult life. However there are wide variations; and appreciable overlap occurs. Neural studies also demonstrate that the pre-frontal cortex of the brain, which is the part responsible for perception, intuition, identification and reasoning is very primitive at the time of birth and massive developments in this area of the brain take place most notably during the first four years of life.

In this investigation I examine these processes from both a neurophysiological and a psychological point of view. I show how the momentum of the contagious and innate neurophysiologically driven forces of early development leads to a basic core sense of gender identity being created. Although behavioural differences at birth may set the direction of travel, the contagion of these processes means that this usually, but not always, conforms to the biological sex: This core sense of identity only defines the place of the child in society. It is concerned with identity alone. I then show how later developments in brain physiology and cognition enable a gender role identification to be created, and also an underlying constancy of personality to be formed. In this investigation I demonstrate that all of the physiological, neurological and psychological aspects of brain development act together to form a finely tuned system in which the maximum amount of individuality, possessiveness, intelligence and inquisitiveness, together with the minimum degree of energy expenditure are generated. Typical or atypical gender identities can therefore develop and, from a statistical point of view alone it is expected that a proportion of people who have gender or sexually variant identities must be created without the requirement for any external cause. Children do not have the ability to be aware of any incongruence in the gender identity that is created until about the age of four years, and for some the conflicts that exist may continue to be confined to the unconscious mind. By this age any incongruence in the gender identity that has been created has been locked in place.

The overlap in behaviour and the contagion of early development means that some male newly born babies will behave and interact more like female babies and vice versa. This early difference is then reinforced by the momentum of the development process, and that pattern continues into adult life. In everyday terms this means that male to female transsexuals are men who interact with society in emotions and attitudes in the same way as women. This process begins far too early for masculine and feminine identities to be created, and these elements only exist as overlays on what has already been formed. It is shown that that the creation of a sense of gender identity and the intensity with which gender reassignment is pursued is a consequence of these social interactions rather than the cause. Trauma arises because of the rejection, attrition and alienation which are created through the inability to identify with the expected demands.

A major failing of current psychology and psychiatry is that the existence and the impact of the innate neurophysiologically driven development processes which dominate development from birth are largely dismissed or ignored. I show that the present failure by the traditional approaches to psychiatry and psychology to take account of these initial development processes has major consequences for interpreting psychology and religious belief. A particular difficulty arises because of the failure to find an effective way of linking these contagious and innate biologically driven processes of early development to the later developing cognitive processes which standard psychiatry and psychology only employs. Mapping that transition is a key element in this research. This demonstrates that the development of gender identity is not through the pursuit of masculinity or femininity as these traditional theories predict. Instead it is from the different interactions between aggression, possessive imitation, competition, co-operation and empathy that are formed. This also means that, in place of conflicts which arise from the pursuit of rewards, the conflicts which transgender people face are concerned with identity instead. The management methods which should be used for reward driven and identity driven interactions differ greatly from each other and great harm may be done when incorrect medical and social diagnoses are made.

### 3:0 Personality and Identity

In the answer to “What is a Personality Disorder” on its Website<sup>3</sup> the Royal college of Psychiatrists states that: *“The answer is not clear.... Generally it is concerned with keeping good relationships with others, but it is noted that Upbringing, Early Problems and Brain Problems are all likely to be involved: As far as upbringing is concerned it is noted that sometimes, but not always, people with personality disorder have experienced; physical or sexual abuse in childhood; violence in the family; parents who drink too much can play a part. Early problems manifest themselves in features, such as severe aggression, disobedience, and repeated temper tantrums in childhood. Some people with antisocial personality disorder have very slight differences in the structure of their brains, and in the way some chemicals work in their brains can also be involved”*. This describes a vast range of features in which genetic, social and environmental features are involved.

It also notes that *“However, there is no brain scan or blood test that can diagnose a personality disorder”*. That comment may be relevant to what is discussed later in this account.

In his work on sexuality Freud drew a distinction between inversion and perversion<sup>4</sup>. However these were always interpreted in terms of the sexual motive. He described homosexuality as an inversion, the cause of which, for Freud, was in the boy's failure to separate his own identity from that of his mother so that he identifies with the father, and in the girl's case, identification with the father rather than its transference to the mother. He also used the term to describe the dream's transformation of one thing into its opposite, in order to disguise it. Perversion for Freud was a sexual drive component that fails to come under the dominance of the genital area and its reproductive needs, instead it focuses on some non-reproductive object or aim. Jung rejected Freud's use of sexuality in this way and sought to interpret these drives in terms of social inputs such as histories, atmospheres and the collective unconscious. A distinction between inversion and perversion might therefore be made by describing inversion, (or a deviation) as a characteristic which has developed from the outset, and a perversion as something where the normal path of development has been disrupted. Management methods for personality disorders tend to be through therapies which concentrate on how to manage the still continuing conditions, whereas perversions might be managed in ways which seek to provide a cure. All of these descriptions

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<sup>3</sup> <https://www.rcpsych.ac.uk/mental-health/problems-disorders/personality-disorder>

<sup>4</sup> Freud (1905/1915) 'Three Essays on the Theory of Sexuality', in *The Standard Edition of the Complete Psychological Works of Sigmund Freud, Volume VII (1901-1905)*, Hogarth Press: 123-246.

involve considerations of upbringing, early personality characteristics and neural processes. What is really needed is some method of separating each of these elements and unravelling their effects.

In this analysis I take a psychodynamic based approach which has similarities to that of Freud's. However instead of identifying the sexual motives as the driving force I replace it with the innate, contagious and fragmented processes of early development, research into which has been pioneered by Gallese, Dawkins, Girard and others. This involves the actions of mirror neurons, possessive imitation and neurological processes. Unlike the Freudian approach, which requires the development of sufficient cognitive abilities to process the demands, which usually appears at around the age of three years, the actions of the neurophysiological driving forces are present from birth. Studies on gender dysphoria (or gender incongruence) allege that the features which give rise to it are present from birth, and they attribute its characteristics to the action of endocrines in the foetal brain. Experiential evidence confirms its early presence. I then use this as a case study to map how the transition takes place between the contagious, fragmented, internally created driving forces identified in the neuroscience based studies pioneered by Girard, Dawkins, Gallese and others: which dominate development from birth, to the restraining forces of cognitive development identified in the traditional psychodynamic and social learning theories pioneered by Freud, Piaget and others: which only later can come into effect.

A rapid and major advance in neural and cognitive takes place around a (median) age of two years. Using the results of the neurophysiological studies I show that up to this time development takes place in a fragmented way, where neural physiology and self-generated learning processes create massive capacities to absorb information, but in the form of largely un-coordinated thought. Once development begins in a particular direction it becomes difficult to stop. These are also self-reinforcing processes where minor inputs can trigger the direction in which development takes place. What is also created depends on the momentum of the process, before the full impact of cognitive thought.

As well as a sudden and intense explosion in cognitive activities from the time of the neural transformation period, there are also major neural changes which enable the brain to function as a more co-ordinated unit. This is the time when I argue that the elements of previously un-coordinated thought coalesce to form the core elements of personality and identity. I conclude that these define the place which the child holds in society and they set the framework for attitudes that are formed. I identify gender identity, including incongruent gender identity as one of these core elements of personality. Previous work on the development of incongruent core gender identities has shown that these are unchangeably fixed at the latest by the age of three years. However repeated work has also shown that this age should be reduced instead of increased, and the convergence created by reducing this time to the time of the neural transformation period, leads me to conclude that that is the particular period when these core elements of personality and identity are formed. A constancy of personality is created via further neural processes that are involved.

It is important to note that the development of typical gender identities cannot be used for these studies, since it needs the consideration of incongruent gender identities for these conflicts to be exposed. Significantly gender socialisation does not begin until about the age of three years. From that time on strong, stereotyped and often exclusive gender role identities begin to be created, but by then the unconscious core gender identity has already been locked in place. In this investigation I show that all of the physiological, neurological and psychological aspects of brain development act together to form a finely tuned system in which the maximum amount of individuality, possessiveness, intelligence and inquisitiveness, together with the minimum degree of energy expenditure are generated. I show that typical or atypical gender identities can therefore develop and, from a statistical point of view alone it is expected that a proportion of people who have gender or sexually variant identities must be created without the requirement for any external cause.

Identifying these stages and making the presumption that gender identity is just one of the core elements of personality that are created, gives a greater opportunity to consider how the three areas of “*Upbringing, Early Problems and Brain Problems*” are involved. In this analysis it is noted that the core elements of personality are created and fixed before gender socialisation occurs. In this analysis I classify their development as identity and brain driven characteristics and conflicts, since they are created by the momentum of the innate neurophysiologically based processes, and they predate any behavioural influences arising from the later socialisation that occurs. Much of the coherence of identity and personality that develops depends on the success of the coalescence that takes place during the neurophysiological transformation period. However, because of the roughness of this process I argue that the earlier elemental concepts are not lost. These remain hidden inside the matrix underneath and it is the underlying graininess which disturbs the coherence of selfhood that is being created. This means that there is a different end point for every individual who resolves their conflict with the gender that they are assigned to, and this can account for the great variety of experience that appears. By similar arguments those early problems of severe aggression, disobedience, and repeated temper tantrums can arise. In this investigation I have mapped the transition between the contagious, fragmented and neurophysiologically created driving forces present from birth to the restraining forces of cognitive development which later arise. I characterise conflicts and characteristics which arise under the influence of these cognitive processes as reward driven since the senses of gender and personal identities is understood to be created because of the socialisation that occurs, not before it.

It is this reversal of order between identification and socialisation which I argue is the key distinguishing feature between the two development processes. Although present descriptions of personality disorders feature all elements of upbringing, early issues and brain problems, I associate the key element to be defined by the order in which identification and socialising takes place, and I note that the key elements are fixed in place before socialisation occurs. That occurs with the present consensus on gender and sexually variant conditions which declares that the core elements of personality and gender and sexual identities are features which arise very early in development, which do not respond to the predations of others and cannot be changed in later life. Methods of management such as talking therapies remain valid; however care should be taken to ensure that the correct assumptions are made. This analysis takes account of the innate neurophysiological forces which dominate early development, but standard psychiatric processes ignore them. Therefore, in place of the early identification of gender and sexual identities described in this analysis, these theories presume that gender identity is formed through the action of cognitive processes alone, therefore these approaches predict that gender identities do not become confirmed before a relatively late stage. Furthermore instead of the elements being formed through an identity driven process, they are understood to be created by a reward driven one instead.

For more details see section17:0: Conflict and Psychoanalysis in this account and: Gilchrist, S. (2015a): “*Personality Development and Gender: Why We Should Re-think the Process*”<sup>5</sup>

#### **4:0: Methods and Scope**

In this work I take the neuroscientific approach pioneered by Dawkins, Blackmore, Gallese and others.... I include Girard in this category, and I compare the results of the neuroscientific work with the traditional psychodynamic and social learning theories pioneered by Freud, Piaget and others. I also use the increasing neurophysiological understanding of how the brain develops during the first years of life. I then use research on transgender children to examine how the transition between the

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<sup>5</sup> Gilchrist, S. (2015a): “*Personality Development and Gender: Why We Should Re-think the Process*”:  
[Updating]: <http://www.tgdr.co.uk/documents/209P-RethinkPaperFull.pdf>

contagious, fragmented, internally created driving forces identified in the neurophysiological studies come to be checked and moderated by the restraining forces of cognitive development which only later come into effect<sup>6</sup>. Although this account is written up in a way which seeks to explain how gender identities develop, the actual methodology that has been applied uses the current understanding of how atypical gender identities are created as a case study. This is then used to examine how the development of personality and identity occurs.

This paper on “*The Development of Transgender Behaviour and Identities in Early Life*”<sup>7</sup> is additionally the second in a series of papers which examine issues that are concerned with proposals to allow people to self-declare their gender identity for legal purposes without requiring independent medical proof. The first of these papers: Gilchrist, S. (2019): “*Divisions: Self-Declaration and Gender Variant People*”<sup>8</sup> examines the arguments that are presented on what has regrettably become a heated and toxic dispute. The third paper: Gilchrist, S. (2019): “*Interpreting Science and Challenges to Gender Identity Research*” discusses the research approaches which are adopted in attempts to prove particular points<sup>9</sup>. The fourth paper: Gilchrist, S. (2019): “*Conflict, Self-Declaration and the Misdiagnosing of Gender Variant People*”<sup>10</sup> incorporates these first three papers in an extended discussion of the issues that are involved.

## 5:0: Development Stages.

Gender is perhaps the principal way in which children and adults carve the social world into categories<sup>11 12</sup>. Therefore it may not be surprising to find that gender is likely to be the earliest identity and social category to emerge<sup>13</sup> and that acquiring gender knowledge is considered a critical component of early childhood development<sup>14</sup>. Sexual differentiation between the brains of men and women is a feature which is well-established in scientific research<sup>15</sup>. Four primary areas of difference in male and female brains which involve, processing, chemistry, structure, and activity are generally studied. It is usually considered that every brain is a mosaic of attributes some of which can be associated with female characteristics, others with male. Transgender people may describe themselves as “*Being born into the wrong body*” but the development of gender identity depends on the ability to separate the self from the other: and that cannot happen in the womb. Therefore some

<sup>6</sup> In this account I summarise my earlier work. For more papers on my neurophysiological and psychological research work see: Gilchrist, S. (2016): “Taking a Different Path”: Chapter 10 in: “*This Is My Body: Hearing the Theology of Transgender Christians*”, Ed: Beardsley, T. and O'Brien, M: Darton Longman and Todd. May 2016 ISBN 978-0-232-53206-7 also Gilchrist, S. (2016): “*A New Approach to Identity and Personality Formation in Early Life*”: <http://www.tgdr.co.uk/documents/218P-InfluencesPersonality.pdf>, and also Gilchrist, S. (2013): “*Personality Development and LGB&T People: A New Approach*”: <http://www.tgdr.co.uk/documents/201P-PersonalityDevelopmentAndLGBTPeople.pdf>, as well as Gilchrist, S. (2013): “*A Reassessment of the Traditional Christian Teaching on Homosexuality, Transsexuality and on Gender and Sexual Variation Using a New Neurophysiological and Psychological Approach*”: <http://www.tgdr.co.uk/documents/207P-ReassessmentPsychologyExtended.pdf>

<sup>7</sup> Gilchrist, S. (2019): “*The Development of Transgender Behaviour and Identities in Early Life*”: <http://www.tgdr.co.uk/documents/243P-BehaviourSelfIdentity.pdf>

<sup>8</sup> Gilchrist, S. (2019): “*Divisions: Self-Declaration and Gender Variant People*”: <http://www.tgdr.co.uk/documents/243P-DivisionsSelfDeclaration.pdf>

<sup>9</sup> Gilchrist, S. (2019): “*Interpreting Science and Challenges to Gender Identity Research*” <http://www.tgdr.co.uk/documents/243P-InterpretationsSelfDeclaration.pdf>

<sup>10</sup> Gilchrist, S. (2019): “*Conflict, Self-Declaration and the Misdiagnosing of Gender Variant People*”: <http://www.tgdr.co.uk/documents/243P-ConflictsSelfDeclaration.pdf>

<sup>11</sup> Maccoby, E. (1998). “*The two sexes: Growing up apart, coming together*”. Cambridge, MA: Harvard University Press

<sup>12</sup> Ruble, D. N., Martin, C. L., & Berenbaum, S. A. (2006). “*Gender development*”. In W. Damon & R. M. Lerner (Series Eds.) & N. Eisenberg (Vol. Ed.), *Handbook of child psychology*. Vol. 3: Social, emotional, and personality development (6th ed., pp. 858–932). New York, NY: Wiley

<sup>13</sup> Lewis, M., & Brooks-Gunn, J. (1979). “*Social cognition and the acquisition of self*”. New York, NY: Plenum Press.

<sup>14</sup> Ruble, D. N., Taylor, L. J., Cyphers, L., Greulich, F. K., Lurye, L. E., & Shroud, P. E. (2007). “The role of gender constancy in early gender development”. *Child Development*, 78, 1121–1136.

<sup>15</sup> This is considered to begin about seven weeks after conception. For a full description of the current understanding, see Chapter 9 of: Mitchell, Kevin J. (2018): “*Innate: How the Wiring of our Brain Shapes Who We Are*”: Princeton University Press; ISBN 978-0-691-17388-7. See also Reber, Justin, Tranel, Daniel: (2017): Sex differences in the functional lateralization of emotion and decision making in the human brain” *Journal of Neuroscience Research*: Volume 95, Issue 1-2 January/February 2017 Pages 270-278: First published: 07 November 2016 <https://doi.org/10.1002/jnr.23829>

process of transformation is required. This analysis uses the tools of neurology, physiology and psychology to study the formation of gender identity. It considers these pre-natal influences but uniquely it focusses on how development after birth proceeds, particularly during the first four years.

In this study I identify four differing post-natal stages in development<sup>16</sup>. The first which lasts up to a median age of around two years is dominated by innate and intense internally generated physiological driving forces. They have been identified in the pioneering work of Girard, Gallese, Dawkins and others. These create a contagious feed-forward drive which maximises the information gained<sup>17</sup>. However the lack of neural co-ordination during this period means that little order and control can be applied. As a consequence development takes place in a fragmented way. The neurophysiological transformation period represents the second stage in the process. Around the median age of two years a rapid and far-reaching increase in neural capabilities occurs. This is characterised by an explosion in cognitive abilities and the brain becomes more able to use the feed-back processes of order, perception, reasoning and control because of its increased ability to function as a co-ordinated unit. At this time the previously fragmented elements of thought are considered to coalesce into the core concepts of identity and personality, and in this examination I consider how “*quorum sensing*” mechanisms may be involved in this process. During the third stage which follows, the cognitive abilities of perception, reasoning, intuition and understanding provide an increasingly controlling and ordering effect. However at this time the neurological processes which are most used grow stronger: those that are less used also grow weaker and capabilities which previously existed are lost<sup>18</sup>. This tunes the brain to its environment and it is shown in this analysis that a constancy of personality is created<sup>19</sup>. Evolutionary gender based differences in attitude to socialisation and aggression are shown to influence the direction in which gender identification develops<sup>20</sup>. By the age of three years at the latest it is found that the elemental or core foundations of personality and identity, including a basic sense of gender identity are locked in place. However children do not develop the degree of self-awareness which enables them to feel discomfort about what has happened until about the age of four years. That represents the fourth stage in the process and this takes place too late for changes to be made.

A feature common to all of the neurophysiological studies is the emphasis on the great strength and intensity of these processes. This study matches learning abilities to these changes. All of these theories deal with conflicts which straddle the conscious and unconscious mind. When no conflict exists there will be no conscious awareness of the early formation processes that are involved<sup>21</sup>. Nevertheless the impact of the innate neurophysiological driving forces remains. The lifetime tension between these feedforward and adventurous forces of physiology and the feedback and restraining forces of cognition is demonstrated in this analysis to provide the stimulation whereby the highest degrees of achievements of humanity, and of individuality are obtained.

## 6:0: Physiology and Psychology

At birth the pre-frontal cortex of the brain, which is the part of the brain responsible for reasoning, intuition and perception is very underdeveloped. Brain plasticity and brain permeability reach very high values during the first three years: these are terms which describe how the brain is able to physically reshape itself due to external inputs. Their large values can also be related to the very

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<sup>16</sup> A correlation of these stages with those predicted by Freud and Piaget is given in section 6:3: “Comparison” in: Gilchrist, S. (2013): “*Personality Development and LGB&T People: A New Approach*”: <http://www.tgdr.co.uk/documents/201P-PersonalityDevelopmentAndLGBTPeople.pdf>

<sup>17</sup> The median age is quoted as a rounded figure. The actual age may vary from as early as 14 months onwards.

<sup>18</sup> This process is described as Hebbian Learning, and features which drives it are the need to increase the effectiveness of neural firing, and to minimise the energy consumption of the brain

<sup>19</sup> This only provides the underlying foundation which is needed to ensure that a continuity of identity is maintained.

<sup>20</sup> This is discussed in detail in section 10:0 “*Aggression and Identification*” of this document

<sup>21</sup> This is why the case study of the development of atypical rather than typical gender identities must be used

high learning, capacities although specifically focussed capabilities that as this time exist. This period is associated with a huge ability to absorb information but without the powers needed to process it, little interlinking is shown to occur. Much research has sought to assess the development of cognition by examining times delays in imitative responses<sup>22</sup>. The contagious nature of these early development processes and the lack of neural co-ordination during this period, means that once development starts in a particular direction any departure from an expected direction is difficult to correct. The lack of neural co-ordination at this time means that future consequences cannot be predicted and seeking to create expectations which encourage the development of masculinity or femininity in later life, (or seeking not to create them at this time), for example by the exhortation of gender stereotyped expectations and behaviour, has limited effect<sup>23</sup>.

A baby's brain consumes approximately 50 percent of the total energy input that he or she receives, in the adult this drops to about a third. The density of the synapses in the pre-frontal cortex of a baby's brain, which can broadly be taken as the number of neural connections and pathways available, starts from a low value and reaches a peak at around the age of three years. Notably this is one and a half to twice that in the adult, and then after this peak period it gradually dies back. There is a very long delay in the maturation of the pre-frontal cortex of the human brain, when this is compared with other parts of the brain and with other animals. It is argued that this delay enables the maximum possible human potential to be obtained, however it means that there is more that could go wrong. There is also an energy cost<sup>24</sup>. Clearly there are major developmental changes taking place during the neurophysiological transformation period, as the explosion in cognition and neural co-ordination shows.

Studies in neurology demonstrate that cognitive abilities continue to increase rapidly after the neurophysiological transformation period and greater neural co-ordination occurs. From this time those neurological processes which are most used grow stronger. Those that are less used become weaker and capabilities which previously existed are lost<sup>25</sup>. For energy economy and reasons of effectiveness it may be argued that the learning processes which take place after the neurophysiological transformation period are characterised by a more efficient use of neural interconnections rather than increasing the connections that are made. In this investigation it is shown that the core elements of gender identity are formed as an integral part of the underlying personality that is created, and also that: barring physical brain injury or dementia, these remain fixed for life<sup>26</sup>. The test for this constancy of personality and gender identity is to ask if the same person can still be recognised when two people again meet, regardless of many other changes: even if no meeting has taken place for many years. This is needed for commitments to be kept, relationships to be made, love to be sustained, and continuing faithfulness in married life. The intense and contagious natures of these processes also ensure that the maximum possible degrees of individuality are created and variations in gender and sexual identification will occur. All of this is

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<sup>22</sup> For a discussion on delayed imitation in pre-cognitive learning see section 5:0: "Neurology and Learning" in Gilchrist, S. (2013): "Personality Development and LGB&T People: A New Approach": <http://www.tgdr.co.uk/documents/201P-PersonalityDevelopmentAndLGBTPeople.pdf>

<sup>23</sup> That is discussed in detail in section 2:0: "Initial Formation" in Gilchrist, S. (2013): "Personality Development and LGB&T People: A New Approach": <http://www.tgdr.co.uk/documents/201P-PersonalityDevelopmentAndLGBTPeople.pdf>

<sup>24</sup> See section 2:1: "Neural Development Processes" in Gilchrist, S. (2013): "Personality Development and LGB&T People: A New Approach": <http://www.tgdr.co.uk/documents/201P-PersonalityDevelopmentAndLGBTPeople.pdf>

<sup>25</sup> This involves the process called "Hebbian learning" Hebbian theory is a neuroscientific theory which claims that an increase in synaptic efficacy arises through the repeated and persistent stimulation of a cell before a neural junction (synapse) acting on the cell after it. The theory attempts to explain neural plasticity, and the adaptation of brain neurons during the learning process. The process adjusts the connection strengths based on the relative timing of a particular neuron's output and input action potentials (or spikes). The theory is often summarized as "Cells that fire together wire together." Although this description should not be taken too literally the net consequence is to strengthen the pathways that are used. Hebbian learning: See section 5:3: "Conflict Types" and section 5:7: "Brain Plasticity" in Gilchrist, S. (2013): "Personality Development and LGB&T People: A New Approach": <http://www.tgdr.co.uk/documents/201P-PersonalityDevelopmentAndLGBTPeople.pdf>

<sup>26</sup> Both the Hippocampus and the Pre-frontal Cortex are involved in the storage of short and long term memories. See for example: Preston Alison R.; and Eichenbaum, Howard (2013): "Interplay of hippocampus and prefrontal cortex in memory" *Curr Biol.* 2013 Sep 9; 23(17): R764–R773. doi: 10.1016/j.cub.2013.05.041 <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3789138/>

shown to have happened before transgender people become consciously aware of it. Although the expression of *“Being born into the wrong body”* in gender terms is not technically correct, it eloquently describes how many transgender people feel about the ways in which they live their lives

## 7:0: Development Processes

In Gilchrist, S. (2019): *“Divisions: Self-Declaration and Gender Variant People”*.<sup>27</sup> it is noted that two completely different views about how atypical gender identities are created are currently held. For many lesbians and feminists male to female transsexuals are predatory men who seek to exert power and domination over women, who manipulate femininity to their own desires and advantage by adopting a female role: It is argued that their failure to succeed in the male role means they try to do it in the female role instead. In virtually all of these discussions female to male transsexuals are not considered, although these form an equally large group. For transsexuals, (as a generalisation) an opposite view is taken. Their understanding of history is instead one of a lifetime being forced to live in a gender role which one cannot identify with, with all of the anguish distress, rejection and high suicide rates that are involved. The former viewpoint disregards the neurophysiological processes which dominate early development, the latter takes account of their effects<sup>28</sup>. There is therefore a fundamental difference which results in a deep seated contradiction between these two explanations. This is shown in the types of behaviour encountered, since the first is driven by rewards that may be offered, while the second is manifest through the search for identity instead. The management methods and behaviours encountered in these identity driven and reward driven interactions are almost opposite in character to one and other<sup>29</sup>. Great harm can be created by the misdiagnoses which are made.

The first of these approaches is rejected by this research. However there are also difficulties with the second version. Although the scientific consensus adopted by all of the major professional institutions dealing with transgender issues confirms this second approach, the presence of the internally created forces which drive development during the first three years of life is also dismissed. The argument this approach presents implies that the way in which people respond or do not respond to a wash of sex differentiating hormones about 10 to 12 weeks after conception causes the brain to develop in a male to female direction, and everything follows thereafter. That leaves a yawning gap which this investigation seeks to explain. There is an additional problem with the interpretation of the second approach. That arises because gender identity is determined by how each person relates the other. Interactions with the other can only happen at the earliest from the first moment after birth: they do not happen before that time.

Physical differentiation of the brain along sexual lines begins to take place about seven weeks after conception. It is also shown that preconditioning to sexually differentiated attitudes to aggression and socialisation also occur during this pre-natal period. This is discussed in section of 11:0 of this article. These become effective from the moment of birth. However gender identity requires the ability to separate the self from the other and that develops onwards from birth. Therefore the direction in which gender identity develops arises because of the sexually differentiated preconditions that have already been formed. Transgender people may describe themselves as *“Being born into the wrong body”*. However this is not because of the perceived gender

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<sup>27</sup> Gilchrist, S. (2019): *“Divisions: Self-Declaration and Gender Variant People”*: <http://www.tgdr.co.uk/documents/243P-DivisionsSelfDeclaration.pdf>.

<sup>28</sup> For papers on this neurophysiological and psychological research work see: Gilchrist, S. (2016): “Taking a Different Path”: Chapter 10 in: *This Is My Body: Hearing the Theology of Transgender Christians*, Ed: Beardsley, T. and O'Brien, M: Darton Longman and Todd. May 2016 ISBN 978-0-232-53206-7: Gilchrist, S. (2016): *“A New Approach to Identity and Personality Formation in Early Life”*: <http://www.tgdr.co.uk/documents/218P-InfluencesPersonality.pdf> also Gilchrist, S. (2013): *“Personality Development and LGB&T People: A New Approach”*: <http://www.tgdr.co.uk/documents/201P-PersonalityDevelopmentAndLGBTPeople.pdf>

<sup>29</sup> These differences are well known. The management and treatment methods for identity driven conflicts are those applied to personality disorder or variation. Those required for reward driven conflicts relate to perversion or disruption instead.

differentiation, but because they interact with society in the same way that any woman who was forced to live as a man might expect. These differences also create conflicts which straddle the conscious and unconscious mind, so that great variations between individuals and over time should be expected. From the outset some male to female transsexuals may adopt feminine roles, but for many any associations with those roles are totally rejected until a lifetime of trying to conform to the male role they sense they do not belong to brings trauma and often collapse.

These pre-natal sex differences are found in independent research<sup>30</sup>, and endocrine (hormone) related differences also occur<sup>31</sup>. The different ways in which men and women express aggression is also an inbuilt trait. Male and female babies are shown to respond in different ways to external stimuli, even just hours after birth<sup>32</sup>. These patterns of behaviour are formed before gender socialisation occurs, thus there is no search for power and reward. However the overlaps between male and female patterns are considerable and only generalised differentiations can be made<sup>33</sup>. What is needed to resolve this issue is the identification of a process whereby the physical attributes of biology which are present at birth can be translated into the social identifications that gender identity requires.

On their own minor differences which observed at birth are unlikely to create the conflicts that later occur. However that ignores the contagion and intensity of the development processes which the neurophysiological studies have shown, together with the strength and ability of the controlling forces that are later needed to constrain their demands. These early development processes are examined in detail in this analysis. The contagious processes of early development are demonstrated in this study to initiate the development of gender identity through the innate drives for possession, imitation and rivalry which the physiology creates. For most people this will take place in a direction which corresponds to the biological sex; however the variability involved means that anomalies will also occur: thus the wide variation on output is found. That equally creates problems for intersex people where surgical assignment to a gender which gives a more cosmetically conventional appearance, close to birth and often without their knowledge, has taken place<sup>34</sup>. These are initially fragmented processes where isolated strands of thought separately

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<sup>30</sup> See section 10:0 "Aggression and Identification" in this account.

<sup>31</sup> I discuss these in Gilchrist, S. (2016): "Taking a Different Path": Chapter 10 in: "This Is My Body: Hearing the Theology of Transgender Christians", Ed: Beardsley, T. and O'Brien, M: Darton Longman and Todd. May 2016 ISBN 978-0-232-53206-7 and Gilchrist, S. (2016): "A New Approach to Identity and Personality Formation in Early Life": <http://www.tgdr.co.uk/documents/218P-InfluencesPersonality.pdf>

<sup>32</sup> PET scans and electrical measurements reveal differences in boys' and girls' brain function from the moment of birth. By most measures of sensory and cognitive development, girls are slightly more advanced: vision, hearing, memory, smell, and touch are all more acute in female than male infants. Girl babies also tend to be somewhat more socially-attuned - responding more readily to human voices or faces, or crying more vigorously in response to another infant's cry - and they generally lead boys in the emergence of fine motor and language skills. By three months of age, boys' and girls' brains respond differently to the sound of human speech. Experiments with babies just a few days old show sex related differences in behaviour as measured by factors such as the ability to hold the length of a gaze. See for example: Alexander, Gerianne M.; and Wilcox, Teresa: (2012): "Sex Differences in Early Infancy": *Child Development Perspectives*, Volume 6, Number 4, 2012, Pages 400–406  
<https://pdfs.semanticscholar.org/7f84/8898be00e243a9c8748b453c1f3420292345.pdf>

<sup>33</sup> Gilchrist, S. (2016): "Taking a Different Path": Chapter 10 in: "This Is My Body: Hearing the Theology of Transgender Christians", Ed: Beardsley, T. and O'Brien, M: Darton Longman and Todd. May 2016 ISBN 978-0-232-53206-7:

<sup>34</sup> There are a large range of intersex conditions, some of which arise from genetic or hormonal abnormality, including those in which the body fails to respond to the changes that testosterone brings. Those who have this condition have male XY chromosomes but outwardly they develop as women, they think of themselves as women and are happy in this gender role. The cases which are most relevant to this study are those who because of physical malformation alone have had gender reassignment carried out at or close to birth. Such people are perfectly normal members of their sex in every other way.. Cloacal extrophy for example is a condition in which the pelvic structures are abnormal and these have to be surgically corrected. Males with this condition were typically raised as girls with their genitalia reconstructed at birth or within the first months of life, to appear female. Normal policy was not to inform the children about their reassignment. Studies have indicated that a significant number of those treated in this way were not comfortable with their gender of rearing. One such study involved twenty-nine subjects all of whom had the normal complement of XY chromosomes. Five were raised male and continued to live as male, one individual dropped out and another died. Of the remaining twenty-two, who were reassigned female, thirteen declared themselves male, six of whom did so spontaneously and without birth status information. All of the individuals who were raised female showed moderate to marked male gender role preferences. The results of this study were published by Reiner and Gearhart in 2004. For other studies of intersex conditions see Section 8:1 of Gilchrist, S. (2013). "Personality Development and LGB&T People: A New Approach": Plus: Berenbaum, Sheri A. (2018): "Beyond Pink and Blue: The Complexity of Early Androgen Effects

form<sup>35</sup>. Dawkins, Gallese, Girard and others have shown how, under the contagious dominance of the neurophysiologically driven processes of early development, these elemental strands combine to form larger units<sup>36</sup>. Girard describes how tribal identities are created through a self-reinforcing process where the original trigger which causes development to take place in a particular direction may be so insignificant or irrelevant, that all awareness of it is lost. The absence of the cognitive abilities that are needed to check the direction that development is taking makes these processes resistant to assessing the expectations of behaviour applicable to their sex<sup>37</sup>. In these innate contagious processes, once development starts in a particular direction it can be very difficult to change. The limited nature of neural co-ordination and the lack of cognition also restrict the understanding of cause and effect.

## 8:0: Physiological Effects

In this analysis I argue that fragmented development continues up to the time when the neural transformation takes place. I examine the recent work on “*Quorum sensing*”<sup>38</sup> processes: These processes have been shown to be present in many biological systems, and I conclude that this is a means by which coalescence can occur. I show how they can enable the core concepts of personality and identity, including the core gender identity, to rapidly coalesce and to be formed from previously fragmented thought. This implies that gender identities are created largely by the momentum of these processes instead of deduction and exploration. Crucially this also means that the elemental or core sense of gender identity, which only describes in gender terms how the self is separated from the other, has already been created before the cognitive abilities of reasoning, perception, analysis and understanding which later develop during and after the neurophysiological transformation period can become involved.

It is commonly accepted that around the median age of two years a rapid and wide-ranging transformation in neural capabilities takes place<sup>39</sup>. At this time, neural activity, which was previously localised in nature, rapidly spreads. Distant areas of the brain become connected, and networks between the two hemispheres develop. There is an explosion in language abilities and cognitive capacity. This is the period when, for the first time the pre-frontal cortex of the brain can start to effectively function as a single co-ordinating unit. After this neurophysiological transformation period, the brain is more able to use the feed-back processes of reasoning, order and control to manage how development takes place. As a consequence more global concepts become able to form, reasons are sought, and predictions begin to be made. On top of the previous elemental identification with a gender (or rather the rejection of the wrong one) associations with gender roles and what it means to be a boy or a girl can begin to be created. Using the results of earlier research<sup>40</sup> it is shown that by the age of three years at the latest this underlying sense of core

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on Gender Development” *Child Development Perspectives* Volume 12, Number 1, 2018, Pages 58–64: First published: 01 November 2017 <https://doi.org/10.1111/cdep.12261>

<sup>35</sup> Dawkins identifies these as memes, Girard independently describes this as a process of mimesis

<sup>36</sup> This is fully written up in Section 2:0: “Initial Formation” in Gilchrist, S. (2013d): “*Personality Development and LGB&T People: A New Approach*”: <http://www.tgdr.co.uk/documents/201P-PersonalityDevelopmentAndLGBTPeople.pdf>

<sup>37</sup> Exposing children to gender stereotyped behaviour, or refusing to endorse it is unlikely to have a significant effect, since the cognitive abilities which would enable children to treat these as future expectations have not yet come into effect. For a more detailed discussion see: Section 2:0: “Initial Formation” in Gilchrist, S. (2013): “*Personality Development and LGB&T People: A New Approach*”: <http://www.tgdr.co.uk/documents/201P-PersonalityDevelopmentAndLGBTPeople.pdf>

<sup>38</sup> Quorum Sensing can best be described by an analogy. Imagine a crowd of people milling randomly around. Suddenly someone shouts out “look at this” and the crowd rushes to that point. They will not rush to that point if they do not hear what is said. Therefore quorum sensing will not occur until that level of communication has been achieved.

<sup>39</sup> The time when this occurs can vary widely between individuals. Two years is taken here as a median value but for some children this rapid transformation can occur much earlier within the second year of life.

<sup>40</sup> For the full accounts see the papers: Gilchrist, S. (2016): “*A New Approach to Identity and Personality Formation in Early Life*”: <http://www.tgdr.co.uk/documents/218P-InfluencesPersonality.pdf> also Gilchrist, S. (2013d): “*Personality Development and LGB&T People: A New Approach*”: <http://www.tgdr.co.uk/documents/201P-PersonalityDevelopmentAndLGBTPeople.pdf>

gender identity has been unchangeably fixed. From about three years onwards children begin to create for themselves often strongly differentiated associations with a gender role<sup>41</sup>.

If these early contagious and disordered processes were to continue unchecked, chaos would occur. Moderating influences are therefore needed, and it is shown that two major controls are involved. These provide controlling and feedback systems which regulate the chaos that would otherwise take place. The first is the rapid development of cognitive abilities around the median age of two years. The second requirement is to ensure that an underlying constancy of personality and identity is formed. A process of tuning the brain to its environment also takes place<sup>42</sup>. The mechanism for this arises through Hebbian learning. The core elements of identity and personality become locked in place because these physiological processes strengthen the most used neural connections, and cause others to die back<sup>43</sup>. As a consequence an underlying constancy of personality and gender identity is created, and capabilities which previously existed are lost<sup>44</sup>.

Although sexual differentiation in the foetal brain begins about seven weeks after gestation, the development of gender awareness and gender identity depends on establishing interactions between the self and the other, but that cannot happen before birth. In this analysis I show that the direction in which gender identity is most likely to develop is reliant on the different responses of babies to aggression and competition which are created during the pre-natal sexual differentiation. These become active from the moment of birth. The nature of these differences is also shown to have an evolutionary base<sup>45</sup>. The type of historical and evolutionary based process upon which these characteristics are established is sometimes described as the "*Domestication of the Brain*"<sup>46</sup>. In this account I describe the developmental processes that take place in each individual as the "*Tuning of the Brain*". In previous articles it should be noted that I have used the same term to combine both elements and I argue that both of these contribute to the identities and personalities that are formed<sup>47</sup>.

However children do not develop their own "*Theories of Mind*"<sup>48</sup> until around four years of age - Children are said to have develop this "*Theory of Mind*" when they are able to independently distinguish between true and false information, when it is presented to them as true, and to examine for themselves what has already occurred. This is the age at which many transgender people report that their awareness of their discomfort first occurs.

## 9:0: Identification

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<sup>41</sup> This is often described as the gender role identity. I prefer to use the terms gender orientation or gender allegiance instead.

<sup>42</sup> See also Mitchell, Kevin J. (2018): "*Innate: How the Wiring of our Brain Shapes Who We Are*": Princeton University Press; ISBN 978-0-691-17388-7

<sup>43</sup> From the time of the neurophysiological transformation period, two major considerations come into play. The first is the rapid development of cognitive abilities around the median age of two years. These provide controlling and feedback systems which regulate the chaos that would otherwise occur. The second requirement to prevent similar chaos is to ensure that an underlying constancy of personality is formed. The mechanism for this arises through Hebbian learning. In this those neural interconnections that are most used become stronger and those that are less used die back. The test for this constancy is to ask if the same person can still be recognised when two people again meet, regardless of many other changes, even if no meeting has taken place for many years. The development of the core gender identity is part of this process. However it is important to note that it is not unique. Interrelationships between the self-awareness of gender identity and the development of language skills for example are also found. It is commonly accepted that this constancy of personality (and core gender identity) remains fixed at least until such time as dementia or physical brain injury occurs.

<sup>44</sup> In neurological research this process can be categorised as "Hebbian learning". The term "Tuning of the brain" is used in this account

<sup>45</sup> See section 10:0 of this paper

<sup>46</sup> See section:1:3:4 "Constancies of Personality and Later Development" in Gilchrist, S. (2016): "*A New Approach to Identity and Personality Formation in Early Life*": <http://www.tgdr.co.uk/documents/218P-InfluencesPersonality.pdf> also Hood, Bruce: (2014): "*The Domesticated Brain: A Pelican Introduction*": ISBN-10: 0141974869 ISBN-13: 978-0141974866

<sup>47</sup> In previous work I have included both the evolutionary elements associated with development in society, and the tuning of the brain which takes place in the individual under the inclusive term "*Domestication of the brain*"

<sup>48</sup> Theory of mind; See section 4:0: "Cognition and Theory of Mind" in Gilchrist, S. (2013): "*Personality Development and LGB&T People: A New Approach*": <http://www.tgdr.co.uk/documents/201P-PersonalityDevelopmentAndLGBTPeople.pdf>

This analysis does not support the simple explanation that gender identification arises simply because a wash of hormones ten to twelve weeks after gestation causes the brain to develop in a male or female direction. What it does recognise is that evolutionary and pre-natally created neural and behavioural differences between the sexes, together with the contagion and momentum of the early development processes are responsible for determining how gender identity develops. That identification is usually in line with the biological sex. However it may not occur since considerable overlap occurs and wide variations are found. The point from which gender identity becomes hard-wired into the brain is shown to begin during the neurophysiological transformation period, when cognitive abilities first seek to interpret what these earlier processes have created, and Hebbian learning locks them in place.

With the traditional psychoanalytic, psychodynamic and social learning approaches, meaningful development has conventionally been considered to start from a blank canvas when the cognitive functions of reasoning; perception; analysis and intuition come into effect, at around the ages of two to three years. That is contradicted in all of the neurophysiological studies which emphasise the extreme intensity and contagion of these early development processes. These indicate that: *“the need to possess and imitate is built into physiology and the foremost challenge to be explained is not about how learning develops but about how the observer can inhibit this imitative process so that he or she does not respond by actually engaging in the same process or act”*. The contagious elements of neurophysiological development provide powerful driving forces. The actions of the quorum sensing mechanisms further imply that the initial steps in the formation of the core gender identity are driven by the momentum of the process. It is additionally demonstrated that for the highest degrees of human potential to be achieved it is necessary for the greatest possible degree of individuality to be created. It is further shown how the momentum of these processes can translate physical or behavioural differences at birth into the psychologically based development patterns which result in a particular core gender identity being formed. For some people that can be at variance with their biological sex. This predisposition can be compared with practical experience and a correlation is found<sup>49</sup>.

In this investigation I have demonstrated that all of the physiological, neurological and psychological aspects of brain development act together to form a finely tuned system in which the maximum amount of individuality, possessiveness, intelligence and inquisitiveness, together with the minimum degree of energy expenditure is generated. I show that typical or atypical gender identities can therefore develop and, from a statistical point of view alone it is expected that a proportion of people who have gender or sexually variant identities must be created without the requirement for any external cause.

This also means that for everyone the development of their own gender identity and allegiance, atypical or not, proceeds in the same way. A consequence is that transsexuals develop a gender allegiance which is contrary to their biological sex<sup>50</sup>, but this is at least as firmly held as those for whom their gender identity and allegiance follow a normal path, indeed it may be argued that the gender allegiance and identity which is felt by transsexuals should be even stronger because it has had to be fought for at all times. The failures or the inability to identify with the male and female attitudes to aggression and competition which are expected of their biological sex in addition means that social attitudes and behaviour should correspond with the gender identity that is actually possessed. These conclusions therefore support the viewpoint taken by the great majority of professional institutions in the Western world which regard gender and sexually variant identities and behaviour as being naturally expected variations of the human condition, which are intrinsic to

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<sup>49</sup> Gilchrist, S.(2016) :*“A New Approach to Identity and Personality Formation in Early Life”*: <http://www.tgdr.co.uk/documents/218P-InfluencesPersonality.pdf>

<sup>50</sup> See: Gilchrist, S.: (2013): *“Personality Development and LGB&T People: A New Approach”*: <http://www.tgdr.co.uk/documents/201P-PersonalityDevelopmentAndLGBTPeople.pdf>

the personality created, that arise very early in development, and which cannot be changed by the individual concerned, by predation or recruitment, or by the actions of others in subsequent life. In addition it affirms why gender identity must be taken as the primary marker for social and legal interaction, and not biological sex.

## 10:0: Male and Female Brains

The current perception that transgender conditions arise because the effect of a wash of hormones in the brain about ten to twelve weeks after gestation causes the brain to develop in a male or female direction has led many people to examine brain structures in an attempt to determine the morphology of these conditions. There are many studies which claim to confirm this<sup>51 52</sup>, but other groups deny it<sup>53</sup>. The arguments may not be as straightforward as expected. The differences in behaviour between men and women and the allegiances to masculinity and femininity appear so strongly divided that marked differences in brain physiology should be found. However it has proved difficult to confirm this in neurological studies. The human brain is a mosaic of features which cannot be divided directly into male and female characteristics. Endocrinal processes are also involved and simple research programmes which aim to differentiate between “male and female” brains, let alone define the gender identities that are created, are unlikely to produce uniform results. However that argument cannot be used to justify conclusions made by some groups who claim that there are no clear or reliable differences between male and female brains. The results of meta-studies and reviews, which combine the results of many investigations show that distinct and separate transgender phenotypes exist<sup>54</sup>.

Although arguments for the existence of “male” and “female” brains may not be justified, that does not eliminate the arguments that brain physiology, plasticity and morphology do not have a major role. In one such comprehensive review it is concluded that: *“Untreated male to female transsexuals and female to male transsexuals who have an early onset of their gender dysphoria and are sexually oriented to persons of their natal sex show a distinctive brain morphology, reflecting a brain phenotype. These phenotypes are different from those of heterosexual males or females; the differences affect the right hemisphere and cortical structures underlying body perception. The genesis of these phenotypes might be caused by atypical effects of sex hormones or their metabolites in specific cortical regions of male to female transsexuals and female to male transsexuals. These effects of hormones on the cortex suggest the hypothesis that brain differences between homosexual male to female transsexuals and female to male transsexuals and male and female controls are due to differences in the development of the cortex; this hypothesis would imply*

<sup>51</sup> For a current review, see the New Scientist article: Williams, Shawna: (2018): Are the Brains of Transgender People Different from Those of Cisgender People? *New Scientist*, March 1 2018: <https://www.the-scientist.com/features/are-the-brains-of-transgender-people-different-from-those-of-cisgender-people-30027>

<sup>52</sup> See for example: Bakker, Julie: (2018): “Brain structure and function in gender dysphoria”: *Endocrine Abstracts* (2018) 56 S30.3 | DOI: 10.1530/endoabs.56.S30.3 <https://www.endocrine-abstracts.org/ea/0056/ea0056s30.3>

<sup>53</sup> Transgender Trend website: <https://www.transgendertrend.com/>: *“Although we often hear that transgender people are trapped in the wrong body this is a myth and not based on any credible scientific evidence. There is virtually no clear or reliable difference between male and female brains structurally, let alone evidence that transgender people have a brain that does not match up with their natal sex. It is currently unknown whether there is a biological basis to the transgender phenomenon”*. Simply because a distinct “Gender Area” cannot be found in the brain cannot justify the conclusion they reach, that no other neurological processes which are a causal feature of gender identification and differentiation can exist. This I argue is the misuse of science to make a campaigning point. See: for further discussion

<sup>54</sup> Joela, Daphna; Bermanb, Zohar; Tavorc, Ido; Nadav, Wexlerd; Gabera, Olga; Steind, Yaniv; Shefia, Nisan; Poole, Jared; Urchse, Sebastian; Marguliese, Daniel S.; Lieme, Franziskus; Hänggij, Jürgen; Jänckef, Lutz; Assaf, Yaniv: (2015): *“Sex beyond the genitalia: The human brain mosaic”* CrossMark: Elsevier PNAS Vol 112 No 50 Published 15 Dec 2015 DOI: <https://doi.org/10.1073/PNAS.1509654112> : Conclusions: *“The lack of internal consistency in human brain and gender characteristics undermines the dimorphic view of human brain and behaviour and calls for a shift in our conceptualization of the relations between sex and the brain. Specifically, we should shift from thinking of brains as falling into two classes, one typical of males and the other typical of females, to appreciating the variability of the human brain mosaic. Scientifically, this paradigm shift entails replacing the currently dominant practice of looking for and listing sex/gender differences with analysis methods that take into account the huge variability in the human brain (rather than treat it as noise), as well as individual differences in the specific composition of the brain mosaic. At the social level, adopting a view that acknowledges human variability and diversity has important implications for social debates on longstanding issues such as the desirability of single-sex education and the meaning of sex/gender as a social category”*.

that the thinning process undergone by some regions of the cortex is timed differently in each phenotype<sup>55</sup>. In my own work I argue that gender identification in the brain is associated with a restructuring of neural pathways, rather than an increase. The possibility that this differential thinning may be directly related to gender differentiation and identification is therefore a hypothesis which might be explored in future studies. Current research is increasingly showing a direct link between brain morphology and transgender identification. However studies on brain structure must be treated with care because of the massive changes of brain interconnectivities that take place, up to and beyond the first four years. Like the expected development of self-identity and consciousness the creation of gender identity may also be the result of a distributed process, so that no individual part of the brain responsible for creating it may be found. In place of attempting to identify male and female characteristics in terms of physical brain differences, it may be better use an approach which concentrates cognitive processing instead<sup>56</sup>

At this point a comparison may usefully be made. It has been noted that there is a close correlation between the establishing of gender identity and how language skills evolve<sup>57 58 59</sup>. It has also been shown that different areas of the brain reach peak levels of plasticity at different times. This is the period when the maximum advances in learning and capabilities can be made, and outside these times the advances that are possible are much more limited in scope. Up to this time children are able to differentiate between all sounds in all different languages, after it children lose this ability and then can only differentiate between the sounds that are used in the languages they know<sup>60</sup>. This can be seen as part of the processes of the “*Tuning of the Brain*” where those neural interconnections grow stronger and those that are less used die back. It is argued that the same process applies to the development of gender identity. The sensitive period for learning to speak is from 7 months to 2.5-3 years of age. If this comparison is correct it provides further evidence that the core sense of gender identity is physically and inviolably locked in place by the age of three years, and that conclusion corresponds with the other results of this analysis.

A significant problem with the studies which seek to identify differences in the brain morphology of transgender people is that they often concentrate on pre-natal development and ignore the massive changes in physical brain structure and function which take place, most notably during the first three to four years of life. That has been discussed earlier in this account where it is shown that the rapid growth in neural interconnections prior to the neurophysiological transformation period can be matched to the huge learning capabilities that are then present. The increased level of neural co-

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<sup>55</sup> Guillamon A, Junque C, Gómez-Gil E: (2016) “A Review of the Status of Brain Structure Research in Transsexualism”. Arch Sex Behav. 2016 Oct;45(7):1615-48. doi: 10.1007/s10508-016-0768-5. Epub 2016 Jun 2.  
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4987404/>

<sup>56</sup> Svedholm-Häkkinen, Annika M; Ojala, Sini J; Lindeman, Marjaana: (2018): “Male brain type women and female brain type men: Gender atypical cognitive profiles and their correlates”. *Personality and Individual Differences*: Volume 122, 1 February 2018, Pages 7-12: <https://doi.org/10.1016/j.paid.2017.09.041>: “Gender differences exist in abilities, interests, and occupations. According to the Empathizing-Systemizing theory, the reason for all gender differences lies in the relative weights of two cognitive processes: women empathize more, which is useful in understanding people, while men systemize more, which means interpreting phenomena as rule-based systems. The terms “male and female brain type” refer to a heightened preference for one process over the other. We aimed to find out whether the gender atypical groups of male brain type women and female brain type men are more similar to the opposite sex than to their own in terms of a range of social, cognitive and personality variables. Female and male brain type groups were identified and compared within both genders in an online study (N = 2983). The results show there are female brain type men and male brain type women, who are characterized by qualities more often associated with the opposite sex, and who have not been reached by prior research. Thus, these findings demonstrate that cognitive type is a more powerful predictor of certain characteristics than is biological sex”.

<sup>57</sup> Money, J. (1980). “*Love and Love Sickness: the Science of Sex, Gender Difference and Pair-Bonding*”, Johns Hopkins University Press, 1980. ISBN 0-8018-2317-X, ISBN 0-8018-2318-8 (pbk.)

<sup>58</sup> Cahill, S.E. (1986) “Language Practices and Self Definition: The case of Gender Acquisition” *The Sociological Quarterly*, Volume 27, Number 5. Pages 295-311 ISSN: 0038-0253

<sup>59</sup> Money, John (1995) “*Gendermaps: Social Constructionism, Feminism, and Sexosophical History*” Continuum International Publishing Group; October 1995, ISBN-10: 0826408524, ISBN-13: 978-0826408525

<sup>60</sup> White, Erin J.; Hutka, Stefanie A.; Williams, Lynne J.; and Moreno, Sylvain: (2013): “Learning, neural plasticity and sensitive periods: implications for language acquisition, music training and transfer across the lifespan”. *Front Syst Neurosci*. 2013; 7: 90. Published online 2013 Nov 20. doi: 10.3389/fnsys.2013.00090 <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3834520/>

ordination at the time of the neurophysiological transformation period enables core concepts of personality and identity, including the core sense of gender identity to develop. It has similarly been noted that around this time the numbers of neural interconnections reach their peak values, and then start to die back. These timescales and the increasing neural co-ordination mean that the development the core gender identity and the later gender allegiance are set against the context of a potential decrease in the number of neural interconnections, rather than an increase, as one might expect. This the time when the interactions between gender identity, brain plasticity and permeability should be expected to be at their strongest, and it is also the time when the constancy of the core gender identity and personality could be connected, since the decrease in neural interconnectivity can be argued to lock these in place. Not only do these processes lead to energy economy they may also lead to greater efficiency in the neural processing that takes place.

Sexually based physical differentiations in the brain which develop at a very early stage may be attributed to genetic and physiological factors. However gender based physical differentiations, however strongly they are made, are additionally moderated through the interactions which take place in early life. Therefore distinct phenotypes for transgender people; which are separate from those belonging to people whose gender identity conforms to their biological sex, should not be an unexpected result.

## 11:0: Aggression and Identification

There significant differences in the patterns of aggression between men and women. These differences are encountered at a very early age. Large-scale longitudinal studies based on mothers' reports show higher levels of physical aggression for boys at 17 months and at 2 years<sup>61</sup>. From his studies on early development and possessive imitation Girard has shown how these differences can lead to tribal allegiances being created. As this behaviour occurs before gender socialisation begins, those tribal differences are going to have a direct impact on how gender identity develops<sup>62</sup>. Studies also show that pre-natal influences are involved<sup>63</sup>. Both sexes show a decline in physical aggression from a peak value between 2-4 years, as alternative ways of resolving conflicts are found. However the same sex differences are maintained through childhood and into adult life. In proportions of their total aggression scores, girls use more indirect aggression. Boys use more physical aggression. Both genders use direct verbal aggression equally. There are genetic components of both physical and indirect aggression and it is shown that exposure to prenatal hormones is crucial element in the development of aggressive styles<sup>64</sup>.

Evolutionary influences have also played a significant role in determining aspects of human behaviour and aggression. The brains of animals which live in co-operation with each other are smaller in size than their wild counterparts. Faces and body structures tend towards a more feminised appearance. The human brain has shrunk in size by about 15 percent over the last 30,000 years, with no evident diminution in intellect and cognitive abilities<sup>65</sup>. Given the advances in society an increase might instead be expected. The development of these characteristics has been attributed to the evolutionary "*Domestication of the Brain*" where: as with the adaptations of the

<sup>61</sup> Archer, John. (2012). "Sex Differences in the Development of Aggression From Early Childhood to Adulthood" Encyclopaedia on Early Childhood Development. January 2012. <http://www.child-encyclopedia.com/sites/default/files/textes-experts/en/530/sex-differences-in-the-development-of-aggression-from-early-childhood-to-adulthood.pdf>

<sup>62</sup> Baillargeon, Raymond H.; Zoccolillo, Mark.; Keenan, Kate; Côté, Sylvania M. (2007) "Gender Differences in Physical Aggression: A Prospective Population-Based Survey of Children Before and After 2 Years of Age" *Developmental Psychology* 43(1):13-26 · February 2007 DOI: 10.1037/0012-1649.43.1.1

<sup>63</sup> Staniloiu, Angelica, Markowitscha, Hans. (2012). "Gender differences in violence and aggression – a neurobiological perspective" *Procedia - Social and Behavioral Sciences* 33 (2012) 1032 – 1036 1877-0428 Published by Elsevier B.V [https://ac.els-cdn.com/S187704281200287X/1-s2.0-S187704281200287X-main.pdf?\\_tid=63b5f1b6-e66d-4746-ad8b-f242a06c6559&acdnat=1548719059\\_79216006f16c9dd0132238bde3049add](https://ac.els-cdn.com/S187704281200287X/1-s2.0-S187704281200287X-main.pdf?_tid=63b5f1b6-e66d-4746-ad8b-f242a06c6559&acdnat=1548719059_79216006f16c9dd0132238bde3049add)

<sup>64</sup> Björkqvist, Kaj. (2018) "Gender differences in aggression" *Current Opinion in Psychology* Volume 19, February 2018, Pages 39-42

<sup>65</sup> Hood, Bruce: (2014): "*The Domesticated Brain: A Pelican Introduction*": ISBN-10: 0141974869 ISBN-13: 978-0141974866

brain in early childhood (described earlier in this account), it is presumed that the brain has become tuned to its actual environment. It is however possible that the more feminised characteristics associated with domestication could be attributed to juvenilisation; since another feature associated with these developments is the prolonging of childhood. However Wrangham, citing the work of Belyav, demonstrates that if selective breeding for minimum aggression takes place all of these other features associated with the domestication of the brain spontaneously appear<sup>66</sup>. Significantly this influence of aggression on relationships seems to be the dominant factor that is involved.

It is of interest to examine how these attitudes to aggression have evolved. Compared with many primates, humans have a high propensity for proactive aggression. This is a trait shared with chimpanzees but not bonobos. By contrast, compared with chimpanzees, humans have a low propensity for reactive aggression. To live without conflict in increasingly complex society the propensity for reactive aggression needs to be low, but in hunter-gatherer societies the capacity for proactive aggression among men needs to be high. Nevertheless that needs to be policed effectively if community cohesion is to be maintained. High rates of murder of men who have overstepped the mark are encountered in these types of societies. Those murders might be regarded as honour killings. They are not feuds since they are carried out by the kinsmen of the victims in these groups<sup>67</sup>.

Male homosexuals and male to female transsexuals disrupt the gendered order of society in the opposite direction and similar censures might be expected to apply. However it appears that two different outcomes are encountered. In some societies where inclusion is found, transgender people can be given very high status: These people may be described as two-spirited and given shamanic roles. However in other societies, where gender complementarity is socially and legally enforced, honour killings and discrimination may instead occur. That persecution can apply even when no social injustices take place and this universal condemnation is written into the traditional theology of the Christian Church<sup>68</sup>. In many states, notably in Africa the death penalty, or severe prison sentences, are imposed for homosexual behaviour. In South America with a strong conservative Christian and Latin influence, the murder rates of male to female transsexuals are high. In other countries and religious traditions where gender complementarity is socially and legally enforced, repression, harassment, persecution and the denial of transgender identities is found to occur. Attempts to deny the legitimacy of transgender identities is prominently seen in the approaches adopted by the present administration and in the Conservative Christian right in the United States. Extreme penalties may be enforced through the collusion of Christian elements in the secular scapegoating that occurs<sup>69</sup>.

Although both sexes respond in the same way to reactive aggression, in proactive aggression different schema exists for men and women. Proactive aggression among men tends towards the direct actions of violence while female aggression tends towards disparagement instead. The differences in the numbers of men and women in prison bear this out. This is also an inbuilt trait since pre-natal influences, notably the effect of sex hormones is considered to be involved, and the patterns of behaviour are created before gender socialisation occurs. In section 2:0 of this account I have already noted that sexual differentiation in the brain develops well before birth. However I also note that the development of gender identity depends on the ability to separate the self from the

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<sup>66</sup>Wrangham, Richard: (2019): *"The Goodness Paradox: How Evolution Made Us More and Less Violent"* Pantheon Books ISBN 978 1 78125 583 4

<sup>67</sup>Wrangham, Richard W. (2018): "Two types of aggression in human evolution". *PNAS* January 9, 2018 115 (2) 245-253; <https://doi.org/10.1073/pnas.1713611115>

<sup>68</sup> That is most clearly expressed in Article 2357 of the Catechism of the Roman Catholic Church which condemns without exception homosexuality and by extension, every form of sexual and gender variant acts as intrinsically disordered. It also condemns them as acts of grave depravity which must not be tolerated under any circumstances.

<sup>69</sup> Gilchrist, S. (2017): *"Religious and Secular Scapegoating of Transgender People: and its impact on the Christian Church"*: <http://www.tgdr.co.uk/documents/238P-SecularScapegoating.pdf>

other. That cannot happen in the womb: therefore the development of a gender differentiated brain, as distinct from a sexually differentiated one can only begin for the moment of birth. This this applies to everybody, so that the formation of all gender identities arises as a consequence of these influences, rather than the cause.

Concepts of the gender any individual belongs to; and their perceptions of maleness and femaleness are so firmly fixed in the human psyche that they are taken for granted in everyday life. However when the individual traits are examined, evidence of the expected differences largely disappears. Neurological studies which attempt to identify separate male and female type brains find that all brains are a mosaic of features, with different elements having more male or female directed physiologies and traits and considerable overlap occurs. Significantly it is the selective breeding of animals and the evolution of humans to minimise aggression, and also to create the patterns that are needed in increasingly complex societies which have the most profound effect on neural structures. Little else in the way of input seems to be required. If differences in the patterns of aggression set the direction of travel for the development of gender identity; it is the momentum and contagion of the early development processes which enforce the results.

## 12:0: Review

At the start of this document I noted that two opposing views on how gender identities develop, and also that both of these are currently held. In this investigation I have sought to examine how personality and identity develops using the neurophysiologically and behaviourally based theories pioneered by Gallese, Girard, Dawkins and others. In traditional psychology and psychiatric approaches the existence and consequences of these approaches have been ignored. That is why a major contradiction in understanding is shown to occur. Those people who follow this traditional approach are committed to presuming that gender identities develop entirely through cognitively based processes which seek the identification and rewards associated with male and female roles. These employ the stereotypically different patterns to male and female attitudes to power and aggression to justify their approach. When this is adopted transgender people may be seen as a danger to natal women. The conclusion is that gender identity should always be in accord with biological sex. When it is not some disruption or perversion is assumed to have occurred. Those arguments are contradicted by the approach described in this document, where it is shown that the innate and physiologically driven processes of early development - which are disregarded by these traditional approaches, play a dominant role in determining how attitudes to society and gender identities are formed.

In this investigation I demonstrate that all of the physiological, neurological and psychological aspects of brain development act together to form a finely tuned system in which the maximum amount of individuality, possessiveness, intelligence and inquisitiveness, together with the minimum degree of energy expenditure are generated. Typical or atypical gender identities can therefore develop and, from a statistical point of view alone it is expected that a proportion of people who have gender or sexually variant identities must be created without the requirement for any external cause. By the time a child reaches three years of age the core sense of gender identity has been locked in place. Although sexual differentiation in the foetal brain begins about seven weeks after gestation, the development of gender awareness and gender identity depends on establishing interactions between the self and the other, but that cannot happen before birth. In this analysis I show that the direction in which gender identity is most likely to develop is reliant on the different responses of babies to aggression, socialisation and competition which are created because of the pre-natal sexual differentiations in the human brain. A wide variation is encountered and overlap may occur. Therefore the development of a particular gender identity is a consequence of these interactions rather than the cause.

This means that experiential evidence must be the dominant factor in determining the legitimacy of transgender identities. That experiential evidence already exists in the current scientific consensus which is supported on a worldwide basis by all of the major professional medical institutions who are involved in these areas. This includes the World Professional Association for Transgender Health (WPATH), whose guidelines are endorsed by virtually all of these major professional bodies<sup>70</sup>. It further supports the latest Memorandum of Understanding issued jointly by all the major medical and psychological professional institutions in the United Kingdom which condemns both “Gay Cures” and “Reparative Therapy” as being totally inappropriate for their harmful and destructive effect<sup>71</sup>. This consensus considers the core elements of both gender and sexual identities to be features which arise very early in development, which do not respond to the predations of others and cannot be changed in later life. It confirms the experiences of transgender people whose history is one of a lifetime being forced to live in a gender role which one cannot identify with, with all of the anguish distress, rejection and high suicide rates that are involved. It does not demand conformity to masculine or feminine stereotypes and it confirms the results of this investigation which shows that trans women relate as themselves and to others in society in the same way that any woman who was forced to live as a man might expect. It contradicts the opposition view which argues on the basis of selected evidence that much more research is needed before any conclusions can be reached<sup>72</sup>. In the following sections of this article I want to discuss the effects that these issues have on people’s lives

### **13:0: Gender Identity and Gender Allegiance.**

It is commonly assumed that both gender and biological sex must be defined in binary terms. However, as can be seen from the previous arguments, this is not adequate. In terms of sexual development we have seen that the brain is considered to be this mosaic of male and female features. Although the identification with one sex may be exclusively made and strongly felt, a purely male or female brain cannot be presumed. Similarly, the fragmented and contagious nature of the early development processes are unlikely to lead to the creation of purely male or female gender identifications before the neurophysiological transformation period occurs. The neural phenotypes of transgender people are separate and distinct, but they are not the same as those whose gender identity corresponds with their biological sex. It may be argued that the high strength and intensity of the contagious and innate forces which propel early development demand equally strong controlling forces of cognitive development to keep them in check, also that the strength of these conflicts means that strongly differentiated identifications with sex and gender are made. This analysis therefore makes a distinction between identity and allegiance. Instead of building a gender identity which is either male or female, people create an identity which a composite of the early concepts that were developing. The need to make sense of these fragmented patterns of early development means that, from a median age of around two years, children first start to create exclusive male or female gender allegiances to which total loyalty is required. This is often called the gender role identity: I prefer to use the term gender allegiance instead: it should be clearly distinguished from the core gender identity; where no behavioural implications are involved.

These are processes which can be characterised as aiming to create order from the disorder of earlier development. Starting about the age of three years it is generally accepted that these strongly stereotyped and exclusive roles begin to be found. However, because of the roughness of this process it is argued that the earlier elemental concepts are not lost. These remain hidden inside the matrix underneath and it is the underlying graininess which disturbs the coherence of selfhood

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<sup>70</sup> The guidelines can be downloaded from this website: <https://www.wpath.org/publications/soc>

<sup>71</sup> This memorandum can be found at: <https://www.psychotherapy.org.uk/wp-content/uploads/2017/10/UKCP-Memorandum-of-Understanding-on-Conversion-Therapy-in-the-UK.pdf>

<sup>72</sup> See: Gilchrist, S. (2019): “*Interpreting Science and Challenges to Gender Identity Research*” <http://www.tgdr.co.uk/documents/243P-InterpretationsSelfDeclaration.pdf>

that is being created. This means that there is a different end point for every individual who resolves their conflict with the gender that they are assigned to, and this can account for the great variety of experience that appears<sup>73</sup>. The changes in society may additionally enable people to more easily reject the exclusive allegiances that are enforced. Today increasing numbers of people are refusing to accept a binary male or female identity and many of these people are identifying themselves as “gender queer”. In the experience of the author this sense of non-binary gender identification is equally strongly held<sup>74</sup>. The timescales, contagion and the fragmentations involved in these processes mean that children may create a pre-conscious core gender identity which conflicts with a conscious gender allegiance that is later created. However (as has been noted in section 7:0 of this document), children do reach the level of self-awareness to experience any discomfort over this until around the age of four years. Therefore these are conflicts which straddle the conscious and unconscious mind. Gender oscillations (or what is usually described as gender fluidity<sup>75</sup>) may appear as balances between these alter and on some occasions, intense disruption may be found<sup>76</sup>. Often the conflict may continue to be hidden from conscious awareness until the changes in neural processing at puberty reveal it or until some trauma, which may not be directly related to any gender issue occurs. This may be a cause of rapid onset gender dysphoria; for once the genie has been let out of the bottle it cannot be put back.

In section 12:0 of this document I have noted that the current social learning, psychodynamic and psychoanalytic theories make predictions on the presumption that cognitive processes drive development at all times. This means that the innate neurophysiologically driven processes of early development are ignored. As a consequence these current theories presume that the development of gender identities takes place because children seek to associate themselves with masculine and feminine roles. That is shown to be wrong in this analysis, where it has been demonstrated that differences in behaviour and patterns of aggression which are present from birth, may trigger the direction gender development takes. This is far too early for masculine and feminine identities to be created. Instead it is necessary to consider how male and female attitudes to aggression and competition are established and how these differences may lead to core elements of gender identity being formed. How that applies to others, such as transvestites and other cross-dressers is discussed elsewhere<sup>77</sup>. This also means that the patterns of behaviour which should instead be looked at are the different ways in which men and women relate to each other. This includes the differences associated with aggression, competition and co-operation that are found. These early innate neurophysiological development processes are driven by the internally and biologically created action of mirror neurons<sup>78</sup> and possessive imitation. In the absence of cognitive abilities to

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<sup>73</sup> This includes everyone who rejects in any way the implications of some aspects of the gender identity expected of their biological sex. That includes gender motivated transvestites and cross dressers who in all other ways associate their gender identity with their biological sex. See the commentary in: Gilchrist, S. (2011): “*Verses in Search of the Self: Poems and Commentary*”: <http://www.tgdr.co.uk/documents/301V-VersesSearchOfSelf-PoetryAnthology.pdf>

<sup>74</sup> This can also be used to explain the differences and the wide range of experiences which are encountered, even if just one specific condition is examined. For example the relationship between transvestism and transsexuality can be explained by this analysis, as well as providing explanations for both conditions. For a consideration of how this applies to all transgendered people see section 12:5: “Transvestites, Transsexuals and Gender Queer” In Gilchrist, S. (2013). “*Personality Development and LGB&T People: A New Approach*”

: <http://www.tgdr.co.uk/documents/201P-PersonalityDevelopmentAndLGBTPeople.pdf>

<sup>75</sup> The concept of gender fluidity implies that these lie somewhere along a cognitive continuum predicted by conventional theories. The fragmented nature of development described in this analysis challenges this concept. That is also important when other conditions, such as autism are considered: See: 5:0: “Manifestations” in: Gilchrist, S. (2015): “*Personality Development and Gender: Why We Should Re-think the Process*”: [Updating]: <http://www.tgdr.co.uk/documents/209P-RethinkPaperFull.pdf> . Please note that this paper is currently being revised and updated. However it can still be accessed on the web at the present time.

<sup>76</sup> The term oscillation is preferred because elements of bipolarity may be involved. See 5:2 and 9:1:4: “Bipolarity” in Gilchrist, S. (2015): “*Personality Development and Gender: Why We Should Re-think the Process*”: [Updating]: <http://www.tgdr.co.uk/documents/209P-RethinkPaperFull.pdf> . Please note that this paper is currently being revised and updated. However it can still be accessed on the web at the present time

<sup>77</sup> See section 12:5: “Transvestites, Transsexuals and Gender Queer” In Gilchrist, S. (2013). “*Personality Development and LGB&T People: A New Approach*”: <http://www.tgdr.co.uk/documents/201P-PersonalityDevelopmentAndLGBTPeople.pdf>

<sup>78</sup> Mirror neurons; See section 2:0: “Initial Formation” In Gilchrist, S. (2013). “*Personality Development and LGB&T People: A New Approach*”: <http://www.tgdr.co.uk/documents/201P-PersonalityDevelopmentAndLGBTPeople.pdf>

assess these results, learning is focussed on the rejection of what is wrong<sup>79</sup>. This means that these basic core elements of gender identity can best be understood to be defined in the negative terms of: “*I am nor a boy*” or: “*I am not a girl*” and that they are concerned with identity alone. They only affirm the place a child occupies in society: they do not determine behaviour or what gender means. This association with masculinity and femininity can only occur after the cognitive processes have developed sufficiently to enable those linkages to be made.

In section 8:0 of this document I show that, although sexual differentiation in the foetal brain begins about seven weeks after gestation, the development of gender awareness and gender identity depends on establishing interactions between the self and the other. That cannot happen before birth, therefore the development of a sense of gender identity is a product of the behavioural differences that are found. It is notable that the underlying driving forces behind gender reassignment are not for people to become members of the opposite gender, but for the ability for people to live in ways which are true to their own identities, and to be true to themselves. The real test is to consider how people who have undergone gender reassignment integrate into society. That a great many do merge invisibly into society and live ordinary and unremarkable lives in the identity they belong to, is a testament of the truth of this demand. It also means that those who publically declare that they are transsexual are outliers in their approach. Transition brings costs in the relationships and commitments it may destroy. Some like me may seek not to transition, but instead attempt to manage these demands. Personally, my hope that I can use my experiences to help others also leads me into a more public role. Others may have more or less altruistic reasons. When people who are not transsexual attempt to judge those they know to be transsexual, they should also be aware that invisibility and propriety are the most often sought after roles.

An important feature to note is that this staged process also gives rise to different characteristics and conflicts. In identity driven conflicts the characteristics which drive it are determined before the cognitive analysis can take effect. In a reward driven conflict the sense of identity comes after the cognitive experiences have already occurred. The existence of the early neurophysiological driving forces is denied in Christian doctrine on gender and sexual variation, which presumes that these are reward driven activities, and that gender identity must always be in accord with biological sex. The influence of the same forces is also dismissed by the traditional psychodynamic and social learning theories, because they presume that cognitive processes control all aspects of learning and development at all times of life. The management methods are almost opposite to each other and Christian doctrine medically misdiagnoses these conditions, as do those feminist approaches which presume that transgender people masquerade as women for those rewards, which they argue are sought<sup>80</sup>.

## 14:0: Living in My Body

In this account it is shown that the challenges which transgender people face come from disagreements between the unconscious core gender identity which may be in dispute with the role and allegiance which the person and society may expect, together with the conscious sense of gender that is held. Therefore conflicts that occur straddle the conscious and the unconscious mind. In this section I consider how people seek to live with the types of conflict this creates. For some people, the core gender identity and the role and allegiance which are identified with may conflict with each other. For others the core gender identity and allegiance may both be opposite to that

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<sup>79</sup> Learning Limitations: See section 2:0: Initial Formation” In Gilchrist, S. (2013). “*Personality Development and LGB&T People: A New Approach*”: <http://www.tgdr.co.uk/documents/201P-PersonalityDevelopmentAndLGBTPeople.pdf>

<sup>80</sup> These differences are well known. The management and treatment methods for identity driven conflicts are those applied to personality disorder or variation. Those required for reward driven conflicts relate to perversion or disruption instead.

which is predicted by the biological sex. There may be many variations in between<sup>81</sup>. The rejection of the gender identity assigned at birth can also occur on two counts. The first is the rejection of the assigned gender identity directly as a result of the development processes. The second is the failure or inability to identify with the male and female attitudes to aggression and competition which are expected by their biological sex. Many transsexuals try desperately to conform to the gender roles and identities expected of them, but these attempts may feel increasingly like playing a part, and it is the attrition which comes from fighting this conflict which too often leads to catastrophic collapse.

This is also why the development of the largely hidden and pre-conscious core gender identity cannot be considered a choice: it is irrevocably fixed before any conscious awareness of it can occur. The physical changes in brain structure which result from the tuning of the brain and the creation of an elemental constancy of personality have already locked it in place. For many transsexuals the age of four years is also the age at which they first sense that “*something is wrong*”. That is why the perception that some transgender people hold of “*being born into the wrong body*” can often be used. However as has previously been noted, that statement only describes how many transsexuals understand their predicaments, it should not be taken as a statement of biological fact. Although sexual differences in the foetal brain are present from an early stage some female babies respond to behavioural stimulation in a way more akin to those of their male counterparts, even within a few hours after birth. The reverse also occurs and overlaps in male and female psychologies are found. For some, these behavioural differences, together with the contagion of the early development triggers a gender identification which does not conform to that expected from the biological sex.

Crucially it is shown in this study that it is the behavioural differences created by this neural differentiation which still drives the development of gender identity in later life. This means that male to female transsexual people are transsexual because they engage and respond in the same way as women. The reasons why transgender people reject the gender identity assigned to them is not simply because they come to believe it is incorrect. It is because of the implications created by trying to live of behaviours they cannot identify with, together the alienation and attrition from the unremitting conflicts and the constancy of the personality that is created. Debbie Hayton, in her own account states: “*I was a male that always struggled with the expectations and restrictions that society placed on me because of my sex. Struggled was an understatement. The incongruence between how I wanted to relate to society and how society insisted on relating to me caused my mental health to collapse. I transitioned to escape. I changed my body and I changed my relationship with society. But I didn't change my sex*”<sup>82</sup>. I can compare this with my own situation. In my own case, I did everything I could to identify with the male role. Outwardly, I believe that I have been very successful in this, I could also be as aggressive and competitive as anybody, but these attitudes did not belong to me, and inwardly I was playing a part. As a boy I tried desperately to fit in, I more than conformed to the male behaviour expected of me but I was imposing this on myself, and the other boys knew it. I never succumbed to bullying but to my regret I bullied those who fitted in less well than me. Twice in my life I came close to total collapse, and I only avoided this by being able to change my approach. I have never wanted to be a woman, but as a woman I can be myself.

That is the experience of many. Gender and sexually variant people are fellow travellers in relationships with society although each goes different ways. When gender and sexuality are in conflict it is usually sexuality that is suppressed. Many transsexuals marry in their imposed gender role for all the right reasons and love they possess. However as age increases the drive gets stronger and if no way is found to manage these dynamics the outcome can be a total, sudden and

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<sup>81</sup> Transvestites: See section 12:5: “Transvestites, Transsexuals and Gender Queer” In Gilchrist, S. (2013). “*Personality Development and LGB&T People: A New Approach*”: <http://www.tgdr.co.uk/documents/201P-PersonalityDevelopmentAndLGBTPeople.pdf>

<sup>82</sup> Hayton, Debbie (2018): “*Trust and confidence must be restored*”: October 20, 2018: <https://debbiehayton.wordpress.com/2018/10/20/trust-and-confidence-must-be-restored/>

catastrophic collapse. This can have devastating results. There is the destruction of relationships and commitments through the failure to cope, even when love is as strong as ever. There is the blame for letting oneself down, the hurt to other people that has been caused and the guilt for the inability to conform to the edicts of others and one's own expectations. Crippling harm can be created by the attitudes of some religious groups who heap guilt on transsexuals who cannot follow the path they prescribe. The trauma that this creates can be enormous and further attempts to fight the conflict only accelerate the demand. Much of one's self identity is built on a foundation that is wrong. A different approach is therefore required<sup>83</sup>. This must calm the dynamics and provide a firm base. That has been the focus for my research. Early support is needed since methods of assessment, which often demands living continuously in role of the gender identified with for periods of up to two years already alters the equilibrium that is sought.

The results of this study do not require the action of pre-natal hormones to determine the direction in which gender identities develop, but they do not preclude it. The experiences encountered with intersex children surgically assigned to a gender close to birth without their knowledge shows that some causal connection exists. That is why the current advice is to avoid such assignments until intersex children are able to decide for themselves<sup>84 85 86 87 88 89</sup>. For others the contagion of early development can lead to non-conforming core gender identities being formed. When transsexuals try to describe their predicaments as being "*born into the wrong body*" they are also being right for the wrong reasons. It is the massive degree of post-natal brain plasticity and permeability<sup>90</sup>, subsequent to birth, and during early development that physically shapes and fixes the core elements of personality and gender identity that are created.

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<sup>83</sup> These are more fully discussed in Gilchrist, S. (2013). "*Personality Development and LGB&T People: A New Approach*". Gilchrist, S. (2015) *Personality Development and Gender: Why We Should Re-think the Process*: and in Gilchrist, S. (2011) "*Management Techniques for Gender Dysphoria with Particular Reference to Transsexuality*". Research and clinical practice has shown that the core concept of gender, in the sense of being who one is, is one of the first, (if not the first) general concept of self to be formed. It develops from birth. Attempts to fight it or to suppress it invariably fail and methods similar to those which are used to manage addiction or depression must be employed. However addiction and depression are compulsions of mortido which lead to oblivion or death. The compulsions associated with the gender conflict lead towards fulfilment and life. They grow stronger with age and gender reassignment is generally considered to be the inevitable outcome of the condition. Once it has been correctly assessed current psychiatric approaches concentrate on enabling ways of enabling the most effective and least disruptive transition. See footer for access to these papers.

<sup>84</sup> Early medical involvement in the management and treatment of transgender and intersex people was made on the assumption that the standard descriptions of the development of gender identity applied. Social learning theories were used and it was presumed that a blank canvas was available before these gender associations could be learned. The experience of treating gender variant people showed that this was not the case, and gender identification was firmly fixed at a much earlier age. Furthermore they came to the conclusion that it was impossible for the core gender identity to be changed any later than three years of age. This still did not fit the actual circumstances and one investigator (Stoller) tried to adapt Freud's theory of psychodynamics by presuming that the desired state was female, and not male, in order to bring this threshold down to an age of between one and two years. However he still tried to apply the psychodynamic and social learning theories on this basis. This persistence had disastrous consequences. Stoller and Money continued to treat and report the results of their gender and sexually variant people on the presumptions that social learning theories applied, after their own results had challenged the conclusions that were made. That led to the discrediting of their work. Work on intersex children, who were reassigned/assigned to a particular gender soon after birth also showed that considerable trauma could occur. This has led to the current practice of deferring surgery on intersex children until they could decide for themselves, the gender identity that is correct. Stoller, Robert. (1968): "*Sex and Gender: On the Development of Masculinity and Femininity*", Science House: Stoller, Robert. (1973): "*Splitting: A Case of Female Masculinity*", Quadrangle, New York. Money, J. and Erhardt, A.A (1996) *Man and Woman, Boy and Girl: Gender Identity from Conception to Maturity* (Masterwork Series) New Edition 1 Jan. 1996, Jason Aronson Inc. ISBN-10: 1568218125 ISBN-13: 978-1568218120

<sup>85</sup> Diamond, M and Sigmundson H K (1997) Sex reassignment at birth. Long term review and clinical implications. *Archives of Pediatrics and Adolescent Medicine* 151: 298-304.

<sup>86</sup> Kipnis K and Diamond M. (1998) Pediatric ethics and the surgical assignment of sex. *Journal of Clinical Ethics*, 9(4) :398-410.

<sup>87</sup> Reiner, WG (2004) Psychosexual development in genetic males assigned female: the cloacal exstrophy experience. In *Child and Adolescent Clinics of North America (Sex and Gender)* Milton Diamond and Alan Yates (eds.) WB. Saunders, Philadelphia 13(3): 657-674.

<sup>88</sup> Hines, M (2004) *Brain Gender*, New York, Oxford University Press. A very small minority of female individuals with congenital adrenal hyperplasia, who have been raised as girls, choose to live in adulthood as males (estimates range from about 1% to about 3%)

<sup>89</sup> Dessens, AB, Froukje, ME, Slijper, FME, Stenvert, LS, Drop SLS (2005) Gender dysphoria and gender change in chromosomal females with congenital adrenal hyperplasia. *Archives of Sexual Behavior* 34(4):389-397. Dessens found a much higher frequency of individuals within this group who identify comfortably as men: Of 250 raised as girls, 13(5.2%) experienced FtM gender dysphoria; of 33 raised as boys, 4 experienced mTF gender dysphoria; therefore, it appears that of the total 283, 42 individuals must be living comfortably as men or uncomfortably as women. These figures do not represent the whole XX, CAH population and, therefore, although interesting should be viewed with caution).

<sup>90</sup> Broadly the ability of the brain to physically re-shape itself according to the inputs that are provided.

## 15:0: Implications

For almost every person the identification with a gender is so strongly made that it provides a foundation which does not need to be thought about, and simply accepted as an obvious fact which underpins everyday life. It can therefore be difficult for anyone who does not face these conflicts to understand the trauma and intensity of feelings encountered when such clashes occur. In this account it has been shown that the development of gender identity depends on the ability to separate the self from the other and that cannot happen in the womb. In this article we have seen that although biology and physiology may set the initial direction, gender identity develops independently of biological sex. What is therefore needed to resolve this issue is the identification of a process whereby the physical attributes of biology which are present at birth, can be translated into the social identifications that gender identity requires. In this analysis I have shown how subtle behavioural differences at birth can trigger the direction of the development of gender identity. These early triggers are reinforced by the contagion and momentum of the development processes which act together with the changes in neural functioning and brain physiology. The massive degrees of neural plasticity which are present during the first three years of life, together with the tuning of the brain to the environment lock these in place. For most people these processes will confirm a gender identity which is in line with the biological sex. However considerable overlap exists so that, from birth, some male babies, will exhibit behaviour more associated with female babies and vice versa. Genetics are not considered in detail in this discussion, but genes only determine the probability of an outcome and no genetic abnormality is needed for such overlaps to occur. The relationships between nature and nurture are discussed in detail elsewhere<sup>91</sup>. This is a process which is based on behavioural difference, and the same types of difference are found in later life. Many male to female transsexual people desperately try to conform to the gender identity and roles which are expected of them, but their inability to identify with the male patterns of behaviour creates the tension and alienation which causes rejection and alienation and also the trauma that too often leads to collapse. Therefore male to female transsexuals do not just identify themselves with women, in these matters they also behave like them. (The inverse is true for female to male transsexuals). The hurt that is caused can be enormous when people dismiss or repudiate these struggles, for example through the misattribution of motives, by disparaging any explanations which disagree with those they present, by denying the validity of the existing scientific experience and research, or by deliberately using inappropriate personal names and pronouns when they refer to or address transgender people. A much greater understanding by these people, and by others in society, is required.

It is not just this research that should be considered. When Penny Mordaunt; then the United Kingdom Equalities Minister launched the consultation on reforming the 2004 Gender Recognition Act<sup>92</sup> she declared that *"Trans Women are Women. That is the starting point of the consultation"*. If gender identity is the primary marker for social interaction her statement that *"Trans Women are Women"* is quite correct<sup>93</sup>. However Penny Mordant was doing more than this. Not only was she saying that for legal purposes trans women must be regarded as women for the starting point of the consultation, she was affirming not only the experiences of many transgender people and results of this research, but also the conclusions of the professional medical institutions, the scientific consensus, the memorandum of understanding<sup>94</sup>, and the mass of experiential evidence which shows that trans women relate as themselves and to others in society in the same way that any woman who was forced to live as a man might expect.

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<sup>91</sup> Gilchrist, S. (2016): "Taking a Different Path": Chapter 10 in: *"This Is My Body: Hearing the Theology of Transgender Christians"*, Ed: Beardsley, T. and O'Brien, M: Darton Longman and Todd. May 2016 ISBN 978-0-232-53206-7

<sup>92</sup> UK Gender Recognition Act Reform <https://www.gov.uk/government/consultations/reform-of-the-gender-recognition-act-2004>

<sup>93</sup> When this statement by Penny Mordaunt is quoted the second part: *"That is the starting point of the consultation"* is often left out

<sup>94</sup> These are described in section 13:0

This statement is rejected by Debbie Hayton in her Spectator article<sup>95</sup>. She states: “*Whether anyone really believes this remains to be seen. Yet our political leaders are willing to endorse this Orwellian thinking, and when it comes to the transgender debate, objective truth plays second fiddle to political expediency*”. It is these differences which indicate how far the toxic arguments have departed from objective discussion and debate.

## 16:0: Limitations

In this analysis I have demonstrated that there is a fundamental contradiction between the contagious and forceful processes of early development predicted by the neurophysiological analysis and the outcomes predicted by the traditional psychoanalytic and psychodynamic theories. The causes of this contradiction are now considered. A reason for this contradiction comes from the limitations in the social learning and psychodynamic theories that have traditionally been used<sup>96</sup>. Compared with the “bottom up” neurophysiologically based analysis which has been presented in this article, these traditional theories adopt a “top down” approach. They begin by considering mature brain functioning, from which constructs are created which seek to explain the relationships between the conscious and unconscious mind. Although constructs such as the ego and id are created, the interactions between them are still described in cognitive terms. A sufficient level of cognitive ability must therefore be present for the psychodynamic theories to come into effect, and the social learning theories require them to be present at all times. The existence of identity driven characteristics and conflicts arising from the internally created physiologically based forces is therefore denied, and no account is taken of the innate neurophysiological forces which dominate early life. It is therefore presumed that meaningful development starts from about the age of three years on a blank and malleable canvas.

This should not be taken to invalidate the usefulness of these traditional theories during later development. It does however mean that the traditional psychodynamic and psychoanalytic theories must instead be used as overlays on what has already been formed. Freud considered deviation to be a departure from the normal path of development. He divided this into two categories, inversion and perversion. Perversion happens when the normal path of development is disrupted: inversion occurs when deviation from the outset occurs. Although Freud was mainly dealing with sexuality, equivalent arguments can be applied to the development of gender identity. Freud could only base his analysis on the knowledge that was available to him at the time. He also needed to identify a strong driving force. He chose the sexual motive although he was not entirely happy with this choice. Under Freud’s understanding, gender and sexually variant people are inverts whose normal path of development has been arrested but not disrupted. Therefore the normally expected gender and sexual orientations do not form.

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<sup>95</sup> Hayton, Debbie:(2018) “*Not all transsexuals think that” Trans women are Women*”: The Spectator 17 October 2018  
<https://blogs.spectator.co.uk/2018/10/not-all-transsexuals-think-trans-women-are-women/>

<sup>96</sup> Early medical involvement in the management and treatment of transgender and intersex people was made on the assumption that the standard descriptions of the development of gender identity applied. Social learning theories were used and it was presumed that a blank canvas was available before these gender associations could be learned. The experience of treating gender variant people showed that this was not the case, and gender identification was firmly fixed at a much earlier age. Furthermore they came to the conclusion that it was impossible for the core gender identity to be changed any later than three years of age. This still did not fit the actual circumstances and one investigator (Stoller) tried to adapt Freud’s theory of psychodynamics by presuming that the desired state was female, and not male, in order to bring this threshold down to an age of between one and two years. However he still tried to apply the psychodynamic and social learning theories on this basis. This persistence had disastrous consequences. Stoller and Money continued to treat and report the results of their gender and sexually variant people on the presumptions that social learning theories applied, after their own results had challenged the conclusions that were made. That led to the discrediting of their work. Work on intersex children, who were reassigned/assigned to a particular gender soon after birth also showed that considerable trauma could occur. This has led to the current practice of deferring surgery on intersex children until they could decide for themselves, the gender identity that is correct. Stoller, Robert. (1968): “*Sex and Gender: On the Development of Masculinity and Femininity*”, Science House: Stoller, Robert. (1973): “*Splitting: A Case of Female Masculinity*”, Quadrangle, New York. Money, J. and Erhardt, A.A (1996) *Man and Woman, Boy and Girl: Gender Identity from Conception to Maturity* (Masterwork Series) New Edition 1 Jan. 1996, Jason Aronson Inc. ISBN-10: 1568218125 ISBN-13: 978-1568218120

Contrary to Freud's perception in this examination it is concluded that the reverse occurs. The contagious neurophysiological processes in early development, which ensure that the maximum possible degrees of human potential, inquisitiveness and individuality are created, means that, instead of being a product of arrested development, inverts are if anything more likely to be found within those who are high flyers in society. Freud himself noted that many of the most revered people in history were themselves inverts<sup>97</sup>. There is a perception today that this capacity is true of transgender people as well. A greater proportion of transgender people are also on the autistic spectrum than there are in the general population, and some degree of bipolarity is found. These issues are beyond the scope of this article however they are discussed in detail in: Gilchrist, S. (2015): "*Personality Development and Gender: Why We Should Re-think the Process*"<sup>98</sup>, where it is determined that the higher incidences of autism and these bipolar elements are co-incident features that arise because of the strength of these forces of development and greater abilities of the person concerned, and not from gender identification itself. Furthermore Freud concluded that provided an individual was well adjusted to his or her own sexuality (and by extension, gender identity) then all such individuals should be free to live responsible lives in society without having feelings of guilt or censure in a lifestyle that their identity provides. If the innate internally created neurophysiological driving forces instead of sexual motives are taken to power the psychodynamic driving forces for identity and personality development, there is much common with what Freud discovered and what this analysis provides.

The principle of inversion lies behind my own approach<sup>99</sup>. By fully accepting and completely welcoming the reality of my own gender identity I seek to build a skyscraper which can withstand the storms that are created by swaying at the top. That is instead of a tower of selfhood which completely collapses because its foundations are wrong, At the same time I know that I am trying to find a truce between my loyalty, love, activities, relationships and commitments which I cherish and want to maintain in the life I have built, which fights the forces of identity that drive me deep inside. That conflict will change when commitments and relationships alter and as hopes for the future give way to realities of the past. Early support is needed since methods of assessment which aim to test the reality of transgender identities often demand living continuously in role of the gender identified with for periods of up to two years. That already alters the equilibrium which is sought. Attempts to fight these conflicts or to suppress them in the longer or shorter term do not succeed. By fully transitioning and living as Susan alone I am convinced that my skyscraper can be even stronger and higher with the ability to calm the storms that attack it, but those storms are created by the conflict between my loyalty to those things in the life I have built, and what it means to be me, deep inside<sup>100</sup>. To weather these storms is the decision I made, and have kept to for many years. My aim is to calm the dynamics rather than force a demand. This does not give freedom of choice: it gives freedom to do what is right, and if the time comes to transition and seek social and surgical gender reassignment that should never be fought. Indeed having this freedom to change and the ability to build self-acceptance and understanding may also mean that it is less likely to be needed: and if it is needed it may then proceed in an orderly way<sup>101</sup>.

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<sup>97</sup> See also Freud, Sigmund: (1935). "A Letter from Freud": Published as Historical Notes in: *The American Journal of Psychiatry*, April, 1951, 107, No. 10, pp. 786 and 787.

<sup>98</sup> Please note that this paper is currently being revised and updated. However it can still be accessed on the web at the present time: See sections 2:17: "Genetic Inputs" and section 9:1:3: "Conflict Types" in Gilchrist, S. (2015): "*Personality Development and Gender: Why We Should Re-think the Process*": [Updating]: <http://www.tgdr.co.uk/documents/209P-RethinkPaperFull.pdf>

<sup>99</sup> For a description of this approach see: Gilchrist, Susan: (2015): "*A Path of My Own*": Person Centred Care and Support: NHS Transgender and Non-binary Symposium 30 June 2015 <http://www.tgdr.co.uk/documents/SuF0630g-TransgenderNBSymposiumSlidesSil-30Jun15.pdf>. For the Symposium Report see: <http://www.tgdr.co.uk/documents/SuF0630s-FINALSymposiumReport.pdf>. Also Gilchrist, S. (2013): "*Management Techniques for Gender Dysphoria with Particular Reference to Transsexuality*": <http://www.tgdr.co.uk/documents/205P-ManagementTechniquesInGenderDysphoria.pdf>

<sup>100</sup> I have documented my journey in two anthologies of poems. The concept of "Selfhood's Tower" is described in: Gilchrist, S. (2003): "*Selfhood's Tower*": Poetry Anthology: <http://www.tgdr.co.uk/documents/302V-Selfhood'sTower.pdf>

<sup>101</sup> Gilchrist, S. (2017): "*What does it mean to be Transgender?*": <http://www.tgdr.co.uk/documents/242P-TransgenderIdentities.pdf>

## 17:0: Conflict and Psychoanalysis

In an approach which requires creation of self-esteem and understanding, self-declaration of gender identity is a key element. Psychoanalysis was founded by Sigmund Freud (1856-1939). Freud believed that people could be cured by making conscious their unconscious thoughts and motivations, thus gaining insight into what had been hidden from view. The aim of psychoanalytical therapy was understood by Freud to release repressed emotions and experiences, so that the unconscious becomes conscious. This analysis described in this account instead identifies interactions between a precognitive preconscious or unconscious core gender identity, and the conscious sense of identity that the gender allegiance later creates<sup>102</sup>. It has been shown that social learning theories and cognitive behavioural therapies do not directly address these issues, in part because they presume that it is the cognitively based processes which determine learning and behaviour at all times of life, or because they do not deal directly with the past. In psychoanalysis the therapist listens and then tries to interpret the patient's vocalised thoughts. The interpretation depends greatly on what the driving forces are understood to be. If the motive is presumed to be sexual desire, then the therapist would be expecting to discover reasons for arrested development or sexual perversions. If on the other hand the therapist is seeking to uncover the security that comes from knowing and accepting the underlying senses of personality and identity that have been created by the unconscious neurophysiological development processes, then the maximum human potentials for happiness, achievement and individuality should then be released. I have never sought or undergone psychoanalytical therapy but I note the potential that exists.

## 18:0: Context

Although this analysis, as it is presented in this document, is in a form which seeks to explain the origins of transgender conditions, the work stems from an original study on how personality and identity develops in situations of tribal conflicts where physical violence exists. Much of this research work on tribal identity makes use of the work of René Girard who showed how the contagion of early development enabled elementary tribal identities first to develop, and how though the later cognitive processes..... which still continue to be influenced by the innate qualities of possessive imitation, rivalry and empathy, identities are affirmed and reinforced. Although Girard's work largely predated the neuroscientific work pioneered by Dawkins, Gallese and others, it supports it and reinforces it. This earlier work by Girard, Dawkins, Gallese and others was mostly a product of the last century, but in standard psychiatry and psychology it still continues to be ignored. A particular difficulty may have been because of the failure to find an effective way of linking the contagious and innate neuroscience of early development to the later developing cognitive processes which standard psychiatry and psychology continues to employ.

Instead of seeking an explanation for gender incongruence (or dysphoria), this investigation uses gender dysphoria as a case study to map the transition between these two processes with the aim of providing an explanation for how, not just gender, but the development of personality and identity as a whole occurs. Gender identity is therefore recognised as just one of many core elements of

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<sup>102</sup> For Freud, a person's development is determined by often forgotten events in early childhood, rather than by inherited traits alone, human behaviour and cognition are largely determined by instinctual drives that are rooted in the unconscious, attempts to bring those drives into awareness triggers resistance in the form of defence mechanisms, particularly repression, conflicts between conscious and unconscious material can result in mental disturbances such as neurosis, neurotic traits, anxiety and depression, unconscious material can be found in dreams and unintentional acts, including mannerisms and slips of the tongue. Liberation from the effects of the unconscious is achieved by bringing this material into the conscious mind through therapeutic intervention. During psychoanalytic sessions, which typically last 50 minutes and ideally take place 4–5 times a week, the patient may lie on a couch, with the analyst often sitting just behind and out of sight. The patient expresses his or her thoughts, including free associations, fantasies and dreams, from which the analyst infers the unconscious conflicts causing the patient's symptoms and character problems. Unlike some other talking treatments, Cognitive Behavioural Therapy deals with current problems, rather than focusing on issues from the past. It looks for practical ways to improve the state of mind on a daily basis

personality which is formed in the same manner as the other core elements of personality and identity. It has also been demonstrated in this investigation that all of the physiological, neurological and psychological aspects of brain development act together to form a finely tuned system in which the maximum amount of individuality, possessiveness, intelligence and inquisitiveness, together with the minimum degree of energy expenditure is created. The strength and contagion of the innate neurophysiological forces ensure that many variations will occur. I also argue that through these processes the richness, inventiveness and curiosity of humanity is affirmed and endorsed.

The primary object of this analysis was to seek to link the innate and contagious processes of early development using the neurophysiological work pioneered by Gallese, Girard, Dawkins and others to the social learning theories pioneered by Piaget and to the psychodynamic theories of Freud. Because of its early origins it is suitable to use gender dysphoria as a case study to link these two elements, it should be noted that the development of normally expected gender identities cannot be used for this purpose, since the earlier conflicts are not exposed<sup>103</sup>. Through the use of gender dysphoria to examine these processes, a continuous pattern of development can be identified, extending from infancy to adult life. This ability to use the development of atypical gender identities as a case study has also enabled other aspects of development to be considered.

“*Quorum Sensing*” mechanisms are widely found in biology<sup>104</sup>. Their relevance to the development of personality and self-identity has been mooted but not fully progressed. *Quorum Sensing* can best be described by an analogy, imagine a crowd of people milling randomly around. Suddenly someone shouts out “*look at this*” and the crowd rushes to that point. However they will not rush to that point if they do not hear what is said. Therefore quorum sensing will not occur until that level of communication and the necessary neural interconnections have been achieved. The fragmented nature of development does not suggest that the core global concepts associated with personality and identity can be formed using these mechanisms before the neural transformation period occurs.

Arguments which deny the later involvement of quorum sensing mechanisms come from the early work carried out at the Johns Hopkins University by Money, Stoller and others. Using the predictions of Freud and the social learning theories these investigators presumed that gender identity remained malleable at least up to and beyond the age of three years. Instead of this, their studies showed that the core gender identity has become fixed at an earlier age. Notably these results led Stoller to propose modifications to Freudian psychodynamics, which would bring the age at which the core gender identity would become fixed to between the age of one or two years<sup>105</sup>. In addition

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<sup>103</sup> In these traditional studies it is shown that, for young children, their initial concepts about gender are quite flexible. They do not begin to notice and to adopt gender-stereotyped behaviour until the age of two or three. A few years later, their concept of gender becomes quite rigid. Before the age of five, children do not seem to think that gender has any permanence. A pre-school child might ask his female teacher whether she was a boy or girl when she was little, or a little boy might say that he wants to grow up to be a mummy. Toddlers think that changing clothes will also change gender. It is not until children understand that boys have penises and girls have vaginas that they know that changing clothes does not change gender. Research suggests that children’s concept of gender develops gradually between the ages of three and five. Once children begin to think about gender as a stable trait, they also start to incorporate gender into their own identity. From around that time they become motivated to relate to other members of their group, and to seek out gender-related information, often becoming very strict about adhering to gender stereotypes. When they are between seven and ten years of age children become more relaxed about maintaining these gender stereotypes. This is therefore a process of self-discovery and self-awareness. These require cognitive abilities to be present. Traditional development theories presume that these processes act on a blank canvas, and that gender identity is entirely created through the behaviour predicted by the social learning and psychodynamic development theories. This analysis instead shows that the elementary core gender identities are created by pre-cognitive processes and that the conscious allegiance to a gender identity is the result of a struggle between these subconscious and conscious conflicting demands. Differing elements may dominate at different times. Therefore these processes are only overlays on what has already been formed. For a summary of these traditional viewpoints, see: Bue, Vanessa Lo. (2016): “When do children develop their gender identity”. Rutgers University Newark: [Accessed 11 July 2016]: <http://theconversation.com/when-do-children-develop-their-gender-identity-56480>

<sup>104</sup> See section 5.1: “Quorum Sensing and Delayed Imitation” in Gilchrist, S. (2013): “*Personality Development and LGB&T People: A New Approach*”: <http://www.tgdr.co.uk/documents/201P-PersonalityDevelopmentAndLGBTPeople.pdf>

<sup>105</sup> Early medical involvement in the management and treatment of transgender and intersex people was made on the assumption that the standard description of the development of gender identity, as is described above, applied. Social learning theories were used and it was presumed that a blank canvas was available before these gender associations could be learned. The experience of treating gender variant people showed that this was not the case, and gender identification was firmly fixed at a much earlier age. Furthermore they came

to this, the failure of the attempts to use the traditional theories to explain gender variant conditions was marked by the notorious case of the Reimer twins, where one was surgically reassigned at an early age because of a circumcision accident, and the trauma and later suicide that occurred.<sup>106</sup>

The convergence between these two processes therefore leads me to argue that the quorum sensing mechanism only becomes effective at the time of the neural transformation period. For the same reasons I also argue that that this is the specific time when the core senses of identity are formed. The momentum of the earlier development forces has already influenced the direction in which this occurs. As a consequence of this a proportion of people having gender and sexually variant identities will be found. It is also argued that the development processes during and subsequent to the neurophysiological transformation period lock these concepts in place, so that a constancy of personality is created: and that the processes involving, Hebbian learning, peak periods of neural plasticity, and domestication of the brain is involved. The consequence is a tuning of the brain to the environment, together with a reduction of energy consumption and the greater efficiency of neural processing that occurs. Of course these projections can only remain hypotheses without the experiential evidence to back them up. Therefore the real test comes from how well they reflect the development of personality and identity in infants and how effectively they match the experiential evidence on the ways in which the development of atypical gender identity occurs.

## 19:0: Impact

This lack of neural co-ordination up to about the first three years of life led Freud, Piaget and others to presume that development in this early period is focussed on the growth of motor functions and some basic responses. Even though this is seen as a time of seething neural activity there was believed to be little co-ordination taking place. In section 16:0 of this document I show that the reason for ignoring these earlier developments lies in the limitations of the traditional social learning and psychodynamic theories. These theories rely on the presumption that all learning and development must take place through cognitively led processes at all times of life. Instead of children very actively contributing to their own development during this period, as the neurophysiological processes indicate, these social learning and psychodynamic theories presume a much more limited and passive response. That is almost totally contradicted when the neurophysiological and innate processes of early development are considered. These instead indicate that: *“the need to possess and imitate is built into physiology and the foremost challenge to be explained is not about how learning develops but about but how the observer can inhibit this imitative process so that he or she does not respond by actually engaging in the same process or act”*. For Freud, Piaget and others the development of gender identity is presumed to begin from around the age of three years, primarily as a reactive process on a blank canvas. In this study, which takes account of these neurophysiological processes, this period is instead characterised as a period of intense and rapid development, during which the core senses of gender identity and personality are formed, and have already become locked in place.

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to the conclusion that it was impossible for the core gender identity to be changed any later than three years of age. This still did not fit the actual circumstances and one investigator (Stoller) tried to adapt Freud's theory of psychodynamics by presuming that the desired state was female, and not male in order to bring this threshold down to an age of between one and two years. However he still tried to apply the psychodynamic and social learning theories on this basis. This persistence had disastrous consequences. Stoller and Money continued to treat and report the results of their gender and sexually variant people on the presumptions that social learning theories applied, after their own results had challenged the conclusions that were made. That led to the discrediting of their work. Work on intersex children, who were reassigned/assigned to a particular gender soon after birth also showed that considerable trauma could occur. This has led to the current practice of deferring surgery on intersex children until they could decide for themselves, the gender identity that is correct. For more information on this see section 5 of Gilchrist, S. (2013): *“Personality Development and LGB&T People: A New Approach”*: <http://www.tgdr.co.uk/documents/201P-PersonalityDevelopmentAndLGBTPeople.pdf>

<sup>106</sup>Gaetano, Phil. (2017) *“David Reimer and John Money Gender Reassignment Controversy: The John/Joan Case”*: <https://hpsrepository.asu.edu/handle/10776/13009>

## 20:0: Awareness

If these driving forces are as strong as have been described, one of the questions to be asked is “*Why does an understanding of their strength and intensity not widely exist?*” A first answer may be to note that an understanding an awareness of the existence of these early and innate development processes could not occur until neuroscience developed the capacity to explain them. I note that children do not have the ability to be aware of any incongruence in their gender identities until about the age of four years. Consciousness cannot synthesise these earlier battles, so that they remain clashes of the unconscious mind. For some the conflicts that exist may continue to be confined to their unconscious minds until some trauma, which may be associated with puberty occurs; otherwise no conscious awareness is found.

Even though children may be able to recognise the underlying discomfort, there are very strong motivations to suppress it from conscious thought. The conflict can be expressed as one between the need to be true to what the unconscious believes, or the need to be true to what others expect. Therefore the struggle between these two elements straddles the conscious and unconscious mind. Many children do go through periods of believing they belong to the wrong gender, but for most this is cognitively resolved. For others it is not and for those who seek to suppress these subconscious elements only truces can be found. Often their conflict can seem to erupt from nowhere into conscious awareness when some trauma, which may not be associated with gender issues occurs<sup>107</sup>

A second factor is to note that any form of gender or sexually variant behaviour for any purpose disrupts the “*good order*” of any society where gender discrimination; or even just gender complementarity is socially and legally enforced. In this analysis I have shown that gender and sexually variant conditions are driven by a search for identity not reward. As a consequence a moral duality must exist whereby those who seek to aspire to the highest values of society while living in ways which are true to their own identities should be highly regarded, while those who do not can be severely condemned for their acts. People disrupt gender for many reasons. The abuse of power in gender unequal societies gives permission for the abuses of sex: often without penalties and in these circumstances the prevalence of sexual abuse can be rife. That was particularly true in first century Roman society where all sexual acts were viewed through the prism of subjection and domination, most notably in same-sex acts of sex. Early Christianity fought with all its might against both types of abuse and by condemning and later criminalising all types of gender and sexually variant behaviour regardless of purpose as abusive acts of sex, all awareness of this moral duality was lost and the existing experiential evidence was suppressed.

Although Freud, Bentham and others over the centuries have noted the existence of this moral duality, this total Christian condemnation gave psychiatry and psychology little incentive to look more deeply into reasons why the moral duality should exist. That situation has changed over the last fifty or so years, with the legalisation of homosexuality, the advancement of gender equality, and the developments in neuroscience, so that those people who are willing to look, can see for themselves the moral ranges and dualities that can be found in gender and sexually variant behaviour that does, and always did, exist.

## 21:0: Social Interactions

Before these advances in neuroscience and the development of gender equality in society, people could continue to adopt traditional teaching of the Church without question, and presume that male

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<sup>107</sup> These characteristics, together with a discussion of their bipolar and specific natures, are fully laid out in the paper: Gilchrist, S. (2015): “*Personality Development and Gender: Why We Should Re-think the Process*”

to female transsexuals are predatory men who seek to exert power and domination over women, who manipulate femininity to their own desires and advantage by adopting a female role. When these presumptions are accepted, the primary identity marker that must be used for all forms of legal and social interactions is biological sex. However in this investigation I have shown that all of the physiological, neurological and psychological aspects of brain development act together to form a finely tuned system in which the maximum amount of individuality, possessiveness, intelligence and inquisitiveness, together with the minimum degree of energy expenditure are generated. Typical or atypical gender identities can therefore develop and, from a statistical point of view alone it is expected that a proportion of people who have gender or sexually variant identities must be created without the requirement for any external cause. This break with biology means that the primary identity marker cannot be biological sex: it must be gender identity instead. When gender identity accords with that expected by biological sex there is little difference, but the enforcement of a biological definition means that legitimacy of transgender identities is denied<sup>108</sup>

The effect of the 2004 United Kingdom Gender Recognition Act was to legally change this primary social identification marker to gender identity from biological sex, and that has also happened in many other countries. The Government's recent rejoinder that *'trans women are women and trans men are men'* was a reaffirmation of the 2004 Act and the 2010 Equality Act, which the Church of England follows with only limited exceptions<sup>109</sup> The Church of England Document GS 1178, *"An Update on 'Welcoming Transgender People'* states: *"The House of Bishops welcomes and encourages the unconditional affirmation of trans people, equally with all people, within the Church, the body of Christ, and rejoices in the diversity of that one body, into which all Christians have been baptized by one Spirit"*. If that welcome is officially endorsed by the Church of England, it is certainly objected to by some conservative groups within the Church of England itself, and among many other Christian Groups. Transgender people cross the boundaries between male and female and the adoption of gender identity as the marker for social interaction is a measure of how fully gender equality has been achieved. However the enforcement of a dogma or doctrine in Churches, countries and religious institutions which enforce gender complementarity in their institutions still carries considerable weight. The mantra that male to female transsexuals are predatory men who seek to exert power and domination over women, who manipulate femininity to their own desires and advantage by adopting a female role is also pursued by some of the more radical feminist groups. In such societies, instead of gender identity, the primary marker for social interaction will be biological sex. It is these differences in attitudes which are leading to schisms in society and in religious groups.

## 22:0: Diagnoses and Management

A further element relates to the medical diagnoses of gender and sexually variant conditions. In this analysis I show that the core sense of gender identity is created before gender socialisation occurs. However in the standard explanations gender identity develops as an outcome of the socialisation that has already taken place. As a consequence two types of conflicts or manifestations are created. The first is driven by the search for identity and the second is driven by the search for reward. The management and treatment methods for identity driven conflicts are those applied to personality disorder or variation, however those required for reward driven conflicts relate to perversion or disruption instead. The management methods and behaviours encountered in these identity driven and reward driven interactions are almost opposite in character to one and other and great harm can be created by the misdiagnoses which are made. These results confirm the current

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<sup>108</sup> Gilchrist, S. (2017): *"Secular Scapegoating and the Christian Church"*: <http://www.tgdr.co.uk/documents/239P-SecularScapegoatingSummary.pdf>

<sup>109</sup> Gilchrist, Susan and Beardsley, Tina: (2019): *"A briefing paper on the House of Bishops' Pastoral Guidance on using the Affirmation of Baptismal Faith with transgender people"*: paper produced by Christina Beardsley & Susan Gilchrist on behalf of the General Synod Human Sexuality Group, February 2019: [www.inclusive-church.org/news/reading-list-transgender-people-and-christianity](http://www.inclusive-church.org/news/reading-list-transgender-people-and-christianity)

scientific consensus is supported on a worldwide basis by all of the major professional medical institutions, including the World Professional Association for Transgender Health (WPATH), whose guidelines for treatment and management are endorsed by virtually all of these major professional bodies<sup>110</sup>. They consider the core elements of both gender and sexual identities to be features which arise very early in development, which do not respond to the predations of others and cannot be changed in later life. In the WPATH and the ICD<sup>111</sup> guidelines, gender dysphoria is reclassified as gender incongruence, but where gender incongruence causes social trauma the management methods appropriate to personality disorder must be used.

### **23:0: Identity Markers and Christian Traditions**

The study described in this paper forms part of a wider investigation. The first part is this exclusive scientifically based study into the early development of personality and identity. The second part is an independent theologically, socially and historically based investigation into the development of gender and sexually variant behaviour as it is commonly understood by the Christian Church<sup>112</sup>. I show that there are fundamental contradictions between the results of this research and the presumptions which theology makes. There are two major areas where contradiction occurs. The first is the religious assertion that gender identity is a God-given creation which must always be in line with biological sex. The second is the medical misdiagnosis that is created. The theological interpretations consider all gender and sexually variant behaviour to reward driven activities in which personal gratification and disordered and depraved behaviour invariably occurs. In this science based investigation it is demonstrated that these gender and sexually variant conditions are instead driven by the search for identity and not behavioural reward. Behaviour is not the motive. Therefore there must be as wide a range of moral attitudes and behaviour among the gender and sexually variant peoples as in the community at large. As a consequence a moral duality must exist whereby those transgender people who seek to express their own identities in ways which conform to the highest moral values of society should be highly regarded, while those who do not should be very severely condemned for their acts. On both of these issues the evidence of that moral duality is denied in the traditional teaching that the Christian Church presents.

Traditional Christian teaching is quite clear on this when it condemns all homosexual acts as intrinsically disordered behaviour of grave depravity which is always in pursuit of inappropriate sex. The same arguments are also extended to transgender people. This doctrine makes no distinction between acts which represent the outpourings of love and faithfulness, or power and domination, or lusts for immoral sex. In my separate research studies I show that a paradigm shift has taken place in Christian teaching, where the condemnations of acts, which were first condemned on the grounds of their purpose and intention, have been turned into condemnation of the acts<sup>113</sup>. The need to combat the gross abuses of power and sexual abuses in society has meant that all awareness of the moral dualities inherent to gender and sexually variant behaviour has been lost. This means that the universal condemnation of gender and sexually variant behaviour arises from changes in the theology of the Church<sup>114</sup>. Any departure from this doctrine is claimed to be because of the failure of each individual to live up to the teaching that this doctrine enacts<sup>115</sup>. It is argued in this teaching that for all legal, religious and social purposes the primary identity marker to be used must be biological sex.

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<sup>110</sup> The guidelines can be downloaded from this website: <https://www.wpath.org/publications/soc>

<sup>111</sup> World Health Organisation (2018): International Classification of Diseases ICD-11 <https://www.who.int/classifications/icd/en/>

<sup>112</sup> For the full range of papers see: <http://www.tgdr.co.uk/articles/bibliography.htm>

<sup>113</sup> For the full range of papers on these issues see: <http://www.tgdr.co.uk/articles/bibliography.htm>

<sup>114</sup> Theological studies references. For the full range of papers see: <http://www.tgdr.co.uk/articles/bibliography.htm>

<sup>115</sup> That is most clearly expressed in Article 2357 of the Catechism of the Roman Catholic Church

## 24:0: Identity Markers and Feminist Views

Although gender equality is socially and legally aspired to, few would consider today that we live in a truly equal society. The rates of sexual and physical abuse by men against women are very much higher than the reverse, and figures regularly show that one in four women have been the victims of sexual or physical abuse. That is an intolerable situation and its significance and impact should never be avoided or diminished in any way. Although men and women may be equally aggressive, it is shown that they tend to express their aggression in different ways. Work on the “*domestication of the brain*” suggests that this is not just a matter of social adjustment and the presence of these differences before gender socialisation occurs, also marks this out as an evolutionary trait. The strength of the “*me too*” movement<sup>116</sup>, with the high prevalence and the often justified condemnations of male violence against women, is a dominant feature in current society. Given these differences the primary question that must be put is to ask if gender identity should be the primary marker that is used for legal identification and as the base for judging the moralities of all social interactions, or should it be biological sex?

To answer that question it is necessary to return to the fundamental disagreement about the origins of transgender conditions which I described in section 7:0 of this document. It is noted that two completely different views about how atypical gender identities are created are currently held. For those who accept that male to female transsexuals have a history of living in a role they cannot identify with; then the primary marker for all social and legal identification should be gender identity. For those believe that the drive is one of power over women, it should be biological sex. However there is no consensus and considerable disagreement and arguments exist.

It is notable that many people in the more radical sections of the feminist movement deny the legitimacy of transgender identities. One should expect a true feminist agenda to seek equality for all, but paradoxically the need to assert and reverse the gender binary between men and women is essential if the momentum of the more radical feminist campaigns for gender recognition is to be sustained. This whole area has become a political minefield where the validity of transgender experience and the freedom of self-identification are being condemned because transgender people are being alleged to erase the validity of lesbian relationships. Groups such as these are identified as Trans-Exclusive Radical Feminists (TERFs) and cause considerable anger in the transgender community. As far as these feminists are concerned transgender people are perceived to weaken their campaigns against the oppression of women, since the mantra that male to female transsexuals are really men who masquerade as women, has to continually be reinforced.

Amongst many women, including feminists the opposite view is encountered. When people meet others who are transgender they often find that the great majority of them are people who are seeking to be true to their own identities in the gender they know they possess. It is of note that a recent poll showed that a large majority of women were in favour of granting transgender women full women’s rights. It is also reassuring to note the strength of the condemnation by other LGBT people of anti-transgender lesbian activists who sought to disrupt the 2018 London Pride Parade. The growing public profile of gender variant people means that other people in society are becoming increasingly able to make their own judgements on these matters. Among many women and feminists there is now wide support for transgender people, with no sense of threat to their own feminism and the expression of feminist views

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<sup>116</sup> The “Me Too Movement”, is a movement against sexual harassment and sexual assault. The movement began to spread virally in October 2017 in an attempt to demonstrate the widespread prevalence of sexual assault and harassment, especially in the workplace. It followed sexual-abuse allegations against Harvey Weinstein. Tarana Burke, an American social activist and community organizer, began using the phrase “Me Too” as early as 2006, and the phrase was later popularized by American actress Alyssa Milano, on Twitter in 2017. Milano encouraged victims of sexual harassment to tweet about it and “give people a sense of the magnitude of the problem”. (Wikipedia)

Although radical feminists are in the minority, there is wide disagreement over these issues and much of it centres round the biological determinisms of gender and sex. For as long as there is disagreement and uncertainty about the origins and nature of transgender conditions, these arguments will go round and round<sup>117</sup>. Many more radical feminists refuse to accept transgender women as women because of their past identification with the male privileges they are presumed to have enjoyed. In place of identifying transgender women as men who seek to take advantage of women I have shown in this analysis that their previous experiences are ones of lifetimes of being forced to live in gender roles which they cannot identify with, with all of the anguish, distress, rejection, persecution and high suicide rates that are involved. From the results of my research described in this article I conclude that the correct identity marker for social and legal interaction must be gender identity and not biological sex. I examine these issues in detail in a separate paper which is written as a discussion between three transgender people, each of whom take different positions in relation to arguments within the feminist movement. I show that close alignment of the arguments presented within this transgender group and those within the feminist movements occurs<sup>118</sup>. Transgender women and natal women do indeed have different histories and backgrounds, but I believe that their matching and the complementary elements in their experiences enrich rather than condemn any feminist cause. Instead of treating feminists and transgender people as enemies I invite all those who are involved in these issues to accept each other as allies in the same cause.

## 25:0: Transgender Children

How transgender children are treated is one of the most contentious issues in the present dispute and it is an area where it is essential that the correct medical diagnoses are made. Nobody would wish anybody, let alone children to have to undergo the trauma and distress that having to deal with gender incongruence creates. Therefore groups like Transgender Trend are entirely correct to express their concern in this matter.<sup>119</sup> However finding the correct approach depends upon establishing the correct understanding of these conditions and we already know that two contradictory explanations are offered. In this analysis I show that the core sense of gender identity is created before gender socialisation occurs. However in the standard explanations gender identity develops as an outcome of the socialisation that has already taken place. As a consequence two types of conflicts or manifestations are created. The first is driven by the search for identity and the second is driven by the search for reward. The management and treatment methods for identity driven conflicts are those applied to personality disorder or variation, however those required for reward driven conflicts relate to perversion or disruption instead. Finding the correct medical diagnoses is crucial. It is not surprising that Transgender Trend take an approach which ignores the impact of the innate neurophysiological forces of early development. However what is not acceptable is for Transgender Trend to claim that it presents an objective view of all current research, when what is presented aims to pursue its own objectives to the exclusion of others, also what is not included is either dismissed as rubbish, unreliable research, the work of activists or simply left out. As someone who has sought to give transgender people the maximum freedom of choice it might be assumed that I would be in sympathy with Transgender Trend's aims, but I totally condemn their approach. I also believe that they do a great disservice to transgender children. These are very real concerns and they ought to be properly addressed. My own view on how transgender children should be treated is given in the paper: Gilchrist, S. (2018): *"The Safeguarding*

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<sup>117</sup> McConnell, Lee. (2018): "Sex, Gender and the Trans Debate"; University of Bristol Law School Blog: A window into the legal research carried out at the Law School: Posted on December 18, 2018 <https://legalresearch.blogs.bris.ac.uk/2018/12/sex-gender-and-the-trans-debate/>

<sup>118</sup> Gilchrist, S. (2019): "Divisions: Self-Declaration and Gender Variant People": <http://www.tgdr.co.uk/documents/243P-DivisionsSelfDeclaration.pdf>.

<sup>119</sup> Transgender Trend <https://www.transgendertrend.com/>

of *Transgender Children*<sup>120</sup>. However these are all arguments which have degenerated into toxic disputes. In my paper: Gilchrist, S. (2019): "*Divisions: Self-Declaration and Gender Variant People*"<sup>121</sup> I examine how transgender people are being misrepresented in feminist and Christian arguments. In a further paper Gilchrist, S. (2019): "*Interpreting Science and Challenges to Gender Identity Research*"<sup>122</sup>, I consider how research is being undermined through the use of a selective approach.

## **26:0: Identity Markers: Power and Society**

People disrupt the gender conventions for society from many reasons, often for power and sexual advantage: and those who do so need only claim that they are transgender to claim the legal protections that are afforded to transgender people under the United Kingdom 2010 Equality act. By ignoring the actions of the innate neurophysiologically driven forces which dominate early development the traditional psychodynamic, psychoanalytical and social learning theories attribute the development of gender identity to reward driven encounters which are associated with biological sex. For many people who are not otherwise involved it seems natural that gender identity should be synonymous with biological sex.

The results of this research and the considerable experiential evidence which is currently available not support this view. Furthermore the criminalisation and condemnation of all such behaviour has prevented any evidence for the moral duality inherent to gender and sexually variant behaviour being observed or expressed. It is the conflicting understandings of the origins and nature of these conditions, together with the disagreements over whether biological sex or gender identity should be used as the primary marker for social and legal identification, which are responsible for the toxic arguments and disagreements that now exist.

## **27:0: Gender Complementarity, Abuse and Respect**

People cross-dress and disrupt gender for many reasons. In this account it is shown that the different patterns of male and female aggression are not just a matter of social conditioning, they are also an inbuilt and evolutionary trait. There are indeed predatory men who seek to exert power and domination over women, who may also manipulate femininity to their own desires and advantage by adopting a female role. The challenge for any woman when she meets such an individual is one of knowing which is correct. These are areas where major abuses could occur, where the concerns must be fully recognised, where the appropriate caution is needed and where carefully measured approaches must be enforced.

Challenging Christian doctrines demands a further criterion, for this requires that the views of the founder must always be correct. If any changes in interpretation are needed they must be because of misunderstanding by the followers rather than mistakes by the leader himself. One of the most obvious areas of relevance comes from the enforcement of gender complementarity by various branches of the Christian Church. It is perhaps notable that Jesus does not condemn gender complementarity in the Bible. However the social and legal enforcement of it is condemned by Jesus many times. That approach is contradicted by Peter and Paul in the Epistles and Letters, where the social and legal enforcement of gender complementarity was needed for survival and to gain respect for Christians and the Church. This constitutes a change in the theology of the Church.

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<sup>120</sup> Gilchrist, S. (2018): "*The Safeguarding of Transgender Children*": <http://www.tgdr.co.uk/documents/241P-SafeguardingTransgenderChildrenDoc.pdf>

<sup>121</sup> Gilchrist, S. (2019): "*Divisions: Self-Declaration and Gender Variant People*": <http://www.tgdr.co.uk/documents/243P-DivisionsSelfDeclaration.pdf>

<sup>122</sup> Gilchrist, S. (2019): "*Interpreting Science and Challenges to Gender Identity Research*" <http://www.tgdr.co.uk/documents/243P-InterpretationsSelfDeclaration.pdf>

The need to examine the developments of Christian Theology is therefore also a major but separate part of this investigation. It is noted that while Peter seemed to content simply to carry the traditions of Judaism into Christianity<sup>123</sup>, Paul sought to express the full equality of men and women, both in role and status within the Christian Community while conforming to the demands of Roman society outside it<sup>124</sup>. However as well as migrating into the strongly patristic and gender divided Roman World, Christianity at the same time migrated into the Persian and Zoroastrian world where gender equality was practiced. Zoroastrian religion did not discriminate between men and women. Leaving aside the differences with regard to religious observances and role responsibilities, both the sexes are treated equally in the religious literature. If a full understanding of how Christianity has developed that must include a consideration of the Apostolic Church of the East, including the Thomasine texts<sup>125</sup>.

## 28:0: Experience and Research

It is generally considered that the early formation of gender and sexual identities are not well understood. That is why an extended study of these early processes is essential. However a great deal of experiential evidence already exists. This is expressed in the current scientific consensus, which is supported on a worldwide basis by all of the major professional medical institutions who are involved in these areas. This includes the World Professional Association for Transgender Health (WPATH), whose guidelines are endorsed by virtually all of these major professional bodies<sup>126</sup>, the experiential evidence and also by my own research<sup>127</sup>. This consensus considers the core elements of both gender and sexual identities to be features which arise very early in development, which do not respond to the predations of others and cannot be changed in later life. They are shown to form before behavioural separation occurs. This early development means that behaviour is not the focus, nor is it the adoption of any gender stereotyped roles. However it should be noted that these unconscious foundations do not presume binary outcomes (male or female) and the conscious expression of gender may vary greatly throughout life. As well as the conclusions of my research, the existence of this moral duality also demands that the primary marker for legal and social interaction must be set to gender identity and not biological sex. In this analysis I show that the major failing in developing an understanding of the origins and nature of these conditions is that the existence and the impact of the innate neurophysiologically driven development processes which dominate early development are dismissed or ignored. That leaves a yawning gap in present understanding, which I have sought to fill through my own research. This demonstrates that the development of gender identity is not through the pursuit of masculinity or femininity, as the traditional theories predict. Instead it is from the different interactions between aggression, competition, co-operation and empathy that are formed. In place of conflicts which arise from the pursuit of rewards, it demonstrates that the conflicts which transgender people face are concerned with identity instead. It affirms that for legal purposes transgender women must be regarded as women. It confirms not only the experiences of many transgender people, but also the conclusions of the professional medical institutions, the scientific consensus and the mass of experiential evidence which shows that transgender women relate as themselves and to others in society in ways which correspond to those which any woman who was forced to live as a man might expect. This includes attitudes to aggression and sex; where equivalent outlooks are found. It further supports the latest Memorandum of Understanding issued jointly by all the major medical and

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<sup>123</sup> Gilchrist, S. (2015): "Deuteronomy 22:5 and its Impact on Gender and Sexual Variation in the Christian Church": <http://www.tgdr.co.uk/documents/022B-Deuteronomy22-5.pdf>

<sup>124</sup> Gilchrist, S. (2016): "Sex and Gender Variation in the Christian Church: Is it Not Time to Consider the Science?": <http://www.tgdr.co.uk/documents/226P-ConsiderScience.pdf>

<sup>125</sup> Gilchrist, S. (2019): "The Gospel of Thomas and its Impact on Gender and Sexual Variation in the Christian Church": <http://www.tgdr.co.uk/documents/027B-ThomasAnalysis.pdf>

<sup>126</sup> The guidelines can be downloaded from this website: <https://www.wpath.org/publications/soc>

<sup>127</sup> That is described in this account. Which you can see a summary at: <http://www.tgdr.co.uk/articles/index.htm> . The full personal bibliography is available at: <http://www.tgdr.co.uk/articles/bibliography.htm>

psychological professional institutions in the United Kingdom<sup>128</sup>. This condemns both “Gay Cures” and “Reparative Therapy” as being totally inappropriate for their harmful and destructive effect. These are processes which attempt to change the sexual orientation and the gender identity of any individual by restoring a sexual orientation or gender identity which corresponds with that associated with the biological sex that is presumed to exist. Not only do these processes fail to achieve this, they attack and destroy the sexual or gender identity on which that person’s sense of selfhood is built and they leave a vacuum in its place. Radical feminists and transgender people who dismiss this core sense of gender identity as merely being a collection of feelings, or who alarm people by citing only the difficulties of self-declaration; create the same damage. They also support the secular scapegoating of transgender people by society and they contribute to the high rates of suicide and attempted suicide, together with the harm and distress which many feel. The tensions that have been created are leading to the disparagement of individuals, the selective use of science, the rejection of truthfulness and to personal abuse and attacks. There are particular issues as far as transgender children are concerned<sup>129</sup>. We will never resolve these differences until every one of us can accept that people on all sides of these arguments are acting passionately, genuinely and forcefully for what they believe are in the best interests of transgender children and adults themselves. It is my hope that I have been able to address these issues in this account.

## 29:0: Conclusions

It is shown in this study that a major limitation on traditional psychodynamic, psychoanalytic and social learning theories occurs during studies on early personality and identity development, including gender identity, because they presume that learning is driven by cognitive processes at all times of life and the innate neurophysiological forces which dominate early development are ignored. Although sexual differentiation of the brain begins well before birth, gender based differentiation can only start after it; since this depends on the ability to separate the self from the other and that cannot happen in the womb. By taking account of the innate neurophysiologically based forces of early development, this study is able to identify a continuing path of development which starts at birth and continues into adult life. I also map how the transition takes place.

In this investigation I demonstrate that all of the physiological, neurological and psychological aspects of brain development act together to form a finely tuned system in which the maximum amount of individuality, possessiveness, intelligence and inquisitiveness, together with the minimum degree of energy expenditure is generated. Typical or atypical gender identities can therefore develop and, from a statistical point of view alone it is expected that a proportion of people who have gender or sexually variant identities must be created without the requirement for any external cause. Experience with intersex children, and those who have been incorrectly assigned, show that the elementary processes of gender identification begin not more than a few hours after birth.

It is shown that a major and rapid transformation in neural capabilities takes place around a median age of two years. This is matched by a similarly large increase in cognitive abilities. At this time the core concepts of personality and identity, including gender identity are shown to form from previously fragmented thought. These only define the place of the child in society. The identification with a gender role only begins from around the age of three years when strongly exclusive identities can begin to be formed. This is also matched by a process which physically tunes the brain to the environment. As a consequence a constancy of personality is created. It is also when the major physical gender based brain differentiation is considered to occur. Children do not have the ability to be aware of any incongruence in the gender identity that exists until about the age of four years. By this age any incongruence in the gender identity that has previously been formed has been locked

<sup>128</sup> This memorandum can be found at: <https://www.psychotherapy.org.uk/wp-content/uploads/2017/10/UKCP-Memorandum-of-Understanding-on-Conversion-Therapy-in-the-UK.pdf>

<sup>129</sup> Transgender Trend website <https://www.transgendertrend.com/>

in place. For some the conflicts that exist may continue to be confined to their unconscious minds until some trauma, which may be associated with puberty, occurs. Although the expression of "*Being born into the wrong body*" is not technically correct, it eloquently describes how many transgender people feel about the ways in which they live their lives.

In this analysis I show that the development of gender identity is based on behavioural differences which apply from the moment of birth. The overlap in behaviour and the contagion of early development means that some male newly born babies will behave and interact more like female babies and vice versa. This early difference is then reinforced by the momentum of the development process, and that pattern continues into adult life. I conclude that the development of a gender identity arises as a consequence of these behavioural differences. It is not the cause. This means that for every person the development of their own gender identity and allegiance, atypical or not, proceeds in the same way. A consequence is that transsexuals develop a gender allegiance which is contrary to their biological sex, but this is at least as firmly held as those for whom their gender identity and allegiance follow a normal path, indeed it may be argued that the gender allegiance and identity which is felt by transsexuals should be even stronger because it has had to be fought for at all times. The failures or the inability to identify with male behaviour patterns and the male attitudes to aggression and competition also means that social attitudes and behaviour should correspond with the gender identity that is actually possessed. The development of gender identity is not through the pursuit of masculinity or femininity as the traditional theories predict. Male to female transsexuals are therefore men who interact with society in emotions and attitudes in the same way as women. However it is notable that transgender people may not be men who want to be women and vice versa. The underlying forces which drive this compulsion is the desire to be true to themselves. The real test for this is to consider how well people who have undergone gender reassignment integrate into society. Those who publically declare that they are transsexual are outliers in their approach since the great majority merge invisibly into society, and live ordinary unremarkable lives.

These conclusions therefore support the viewpoint taken by the great majority of professional institutions in the Western world which regard gender and sexually variant identities and behaviour as being naturally expected variations of the human condition, which are intrinsic to the personality created, that arise very early in development, and which cannot be changed by the individual concerned, by predation or recruitment, or by the actions of others in subsequent life. It also affirms why gender identity must be taken as the primary marker for social and legal interaction, and not biological sex.

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