

*Animal Archetypes of the Human Female: The Biological and Social Dichotomy
through Stages of Development*

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Abstract

This paper will discuss the developmental cycle of women (infancy/childhood to adulthood to old age) and how animal archetypes appear in their psyche as a result of social and biological influence. The discussion of archetypes typically occurs within the field of psychotherapy without strong empirical evidence. In general, there have been few efforts to bridge psychotherapy and experimental psychology. In examining the biological basis of archetypes, this paper will attempt to create such a bridge between these two disciplines. The exposure to archetypal and animal characters during sensitive periods of language acquisition may influence symbol assignment and memory from an early age. Female needs to satisfy unfulfilled social or maternal urges in adult stages of development are possibly impacted by the presence of animals both in the physical and psychic world. The ongoing overlap of archetypal images acting against subliminal backdrop of rapid biological development may have a long lasting or even permanent effect on subconscious action, reasoning, and memory. The emotional importance of animal bonds throughout life could impact behaviors such as altruism, empathy, and maternal care. Similar patterns associated to early development may appear as defense mechanisms later in life with issues surrounding memory loss and trauma.

Introduction

The Greek philosopher Plato (427-347 BCE) was among the first to assert the idea that humans have access to non-material images through sensation. This was one component of what is called the Theory of Forms. He surmised that access to these forms is the purest kind of reality and is a connection to true knowledge.

Carl Jung (1959) a student and contemporary of Sigmund Freud (1920) specifically identified several of these forms. He too believed them to be ancient, archaic states of being present in the unconscious mind. He called these manifestations archetypes. These images appear in symbols, ritual, and themes throughout human life. His theory states that archetypes are innate and universally found throughout the world. He also declared them to be limitless in how they manifest. His protégé Barbara Hannah (1954) drew parallels between Jung's archetypes and animals that consistently appear in the psyche of humans. She lectured on the significance of the cat, dog and horse, but later went on to write about other animals seen universally.

Like Jung, Hannah believed animals live closer to their unconscious lives. The instinctual reactions of animals are spontaneous and effortless. Specializations of sensory systems are tuned toward immediate survival so responses seem to be autonomic. Humans do not utilize the majority of their senses toward daily survival but instead toward experience and preference. The one area humans have developed apart from animals is a very complex symbol system utilized for memory and language. The complexity of fully developed language requires not only symbolic assignment for every thought, word, or action, but also an understanding of place, time and hypothetical reasoning.

Hannah surmised that animals hold superiority over humans because they do not employ all of these associative processes to survive. Her supposition might imply that humans must have past experience or, at the least, a hypothetical understanding of a situation, in order to make sense of the world.

This supports the popular notion “living in the moment” is far superior to living in the past. The former is a more primal animalistic mode of conduct.

Another student of Jung and a companion of Hannah, Marie-Louise von Franz (1962), examined the presence of animal archetypes in fairy tales. She too recognized the ways that humans consistently tell stories that include representations of psychic archetypal images.

Several schools of thought were born from the work of pioneering analysts who recognized ways human beings cognitively process and cope with their experiences. The archetypal presence in psychotherapy generally has two differing approaches. The first takes a spiritual self-actualizing view. This model revolves around beliefs in a higher power, the collective unconscious, and the soul (Jung 1959).

The second approach holds that while the archetypal presence is innate and universal, it stems from biological functions. Social evolution (Darwin 1861) may play a role in the presence of symbolic archetypes in developmental stages of human beings. This second approach is the focus of this paper. The following section examines biological theories that may have an influence on archetypal appearance and meaning.

The Biology of Archetypes and Language Processes

Herbert Spencer (1860) developed a theory of evolution that not only encompasses biological processes, but systems progression including mind, economics, and society. Introducing the term “survival of the fittest” in his book *Principles of Biology* (1864), Spencer made comparisons between the progress of society and the developmental advancement of other living creatures. He proposed that the social processes human beings employ operate in the same way living organisms evolve. One theory this approach fosters is natural selection through fitness. In other words, the strongest survive. This is best supported in the way modern economic systems operate. Businesses that make the most money have the most power and control the economic climate. Spencer

was one of the first to suggest the way we think is a biological evolutionary process. This process includes ways symbols and archetypes have evolved in the human psyche as part of the progressive development of our species.

Charles Darwin's book, *On the Origin of Species* (1861) was one of the inspirations Spencer used to draw his own conclusions. It was Darwin who suggested that humans have evolved toward their behaviors as part of natural selection. In his later book *The Descent of Man* (1871), Darwin develops his theory further by acknowledging altruistic values such as sympathy are processes of natural selection and groups that demonstrate sympathy have the highest rates of survival. It is plausible that sympathy and other altruistic behaviors are associative processes not unlike those seen in symbol assignment. In order to have concern for another, there must be an understanding of being in the same situation. Being able to cognitively grasp hypothetical possibilities based upon past experience is a component of this process. This is a developmental stage of memory and language.

David Crystal (1970) theorized five stages of language development in children ultimately resulting in the fifth stage when the child is able to answer questions, understand placement and time, use proper intonation, and explain meaning. At this fifth level the child is able to talk about hypothetical and conditional situations. Because personal experience has much greater meaning than observational experience in both individual and social interactions, the presence of archetypes may be considered mediums necessary for transference to occur in order to create personal projective meaning. By hypothetically putting oneself in the situation of another, even an imaginary other, there is greater understanding of risk, danger, failure and success. All of these are necessary toward the biological evolutionary success of a species.

Archetypal representation could be thought of as a process of natural selection because identification with an image and sympathy are closely related. One of the most compelling statements by Darwin (1871) in this regard concerns human altruism.

Darwin wrote, "...this virtue, one of the noblest with which man is endowed, seems to arise incidentally from our sympathies becoming more tender and more widely diffused, until they are extended to all sentient beings. As soon as this virtue is honored and practiced by some few men, it spreads through instruction and example to the young, and eventually becomes incorporated in public opinion (Charles Darwin; *The Descent of Man*, 1871).

In this excerpt, Darwin used the words "honored and practiced...through instruction and example." This suggests conveyance of information through language or storytelling followed by imitation. It is reasonable to assume sympathy, like empathy, is a key component to finding meaning in the stories of others. Both language and storytelling and the development of archetypes require associative symbolic assignment. Noam Chomsky's theories of innate Language Acquisition Devices (1965) and Universal Grammar (1968) assert that language and memory association are biological functions. Chomsky's research supports the principle that human beings are predisposed with the ability to speak and that certain aspects of language are universal to all humans. We speak in order to convey information to others in our social groups. This ability to understand language or symbol association is necessary for human advancement. Without this ability it could be argued, our species would not thrive and survival would be less likely.

While the survival of the fittest and natural selection are widely accepted, Petr Kropotkin (1902) put forward a theory that may also have relevance to archetypal meaning in social evolution. Kropotkin did not deny humans are competitive and suggested it can be beneficial for a species to be combative especially toward oppressive institutions. But based on his observations of indigenous people that were not competitive but instead cooperative, he suggested groups that help one another thrive better as a whole. Like Darwin, the suggestion of sympathy as a superior survival mechanism was implied. Relating to and helping support the entire group suggests better fitness throughout an entire genus as opposed to individual fitness. Humans use

language and symbolic meaning as a primary mechanism of group cooperation.

Kropotkin wrote, "In the animal world we have seen that the vast majority of species live in societies, and that they find in association the best arms for the struggle for life: understood, of course, in its wide Darwinian sense – not as a struggle for the sheer means of existence, but as a struggle against all natural conditions unfavorable to the species. The animal species, in which individual struggle has been reduced to its narrowest limits, and the practice of mutual aid has attained the greatest development, are invariably the most numerous, the most prosperous, and the most open to further progress. The mutual protection, which is obtained in this case, the possibility of attaining old age and of accumulating experience, the higher intellectual development, and the further growth of sociable habits, secure the maintenance of the species, its extension, and its further progressive evolution. The unsociable species, on the contrary, are doomed to decay (Peter Kropotkin, Mutual Aid: A Factor of Evolution 1902).

When considering language and symbolic meaning as part of the developmental evolution of the human species, it is impossible to ignore the necessity of "The Other" either as individual, group, or imaginary presence. Any and all of these are needed for proximate language to be fully utilized. The archetype may act as surrogate and fill the role as "other" when an individual is in isolation either physically or emotionally. Because animals do not utilize language or pass verbal judgment, their accepting nature may allow humans to assign anthropomorphic qualities. Animals can be allocated symbolic meaning in both the psychic and physical world. As living feeling beings, they are ideal representations of archetypes in human development.

Both self-interest and social cooperation are observed in non-human and human species development. Sometimes both can be seen in operation under varying circumstances within the same con-specific groups (Dawkins 2006). It could be suggested that the theories of fitness and social cooperation are not mutually exclusive but instead are both features of species progress dependent upon situational circumstances of abundance and scarcity. Natural selection through survival of the fittest is most evident in organisms when resources seem to be limited and not utilized toward fully supporting all individual needs. In

contrast, when there is abundance and no threat to all the members of a group, cooperation with the whole is more likely. Equal access to what is needed to reach full potential fosters group cooperation and long-term species survival is more likely. Inclusive Fitness Theory (Hamilton 1964) reveals that cooperation can be favored by natural selection through mutually beneficial cooperation or altruistic cooperation (De Mazancourt & Schwartz 2010). In human evolutionary development, altruistic responses to symbolic meanings presented by others could be indicative of movement toward successful advancement as a whole species.

In humans the need for self-actualization is achieved through the processes of creativity, belonging, and self-worth. Much of what is viewed as self-actualization, (Goldstein 1939; Maslow 1954) springs from artistic expression, communication, and meaning assignment. Reaching ones fullest potential is only achieved through growth-motivations as opposed to deprivation-motivation. While deprivation does produce drive, the end results are not long lasting. As part of this process humans gain self-worth through the ability to express themselves to others. Maslow (1965) also suggested it is common to seek the familiar over the unfamiliar as part of actualization and comfort. This may further explain a common universal theme seen in symbolic meaning attached to archetypes. Because animals are so familiar from the beginning of human development it is probable they are easily attached to symbolic and archetypal meaning, especially during pivotal stages of development (Flynn 2000). Maslow (1971) also suggested that reaching full human potential is generally done in what he called a good society. A good society would suggest one that has effective forms of communication that support not only individual, but also group development.

Psychoanalyst Robert Langs (1997; 2004) furthers Freud's premises surrounding the human psyche and death. Langs attempts to bridge the biological drives toward survival to the deep innate anxieties the human animal

has about non-existence. He surmises that the appearance of archetypes is related to these fears. The prevalence of anxieties related to death in stages of human development is reflective of the instinctive aspects of species survival and fitness. Avoidance of what we fear and apprehension associated with danger is a survival mechanism seen in most species. Because humans are able to comprehend past, present and future, as well as hypothesize an awareness of eventual non-existence, deep emotional anxiety may manifest. Death and loss may both present similar ideologies in the psyche as those seen in species experiencing scarcity. The appearance of archetypes is typical of progression through difficult transition stages. These stages of transition are representative of losing what is familiar (Maslow 1965). Loss of the familiar is not unlike experiencing a death.

Because of the cognitive understanding humans have about symbolic associations, it could be argued humans invent symbolic representations that can endure much longer than the span of their own lives. The need to self-actualize might be further explained by the human compulsion to create art, write books, or do other forms of expression that include archetypal meaning. Humans may also do this communally. Because language and meaning are abstract, we may subconsciously create representations of our losses including moments in time and past events. Examples of these enduring symbolic markers include photo albums, genealogy, memorials, keepsakes, and headstones.

Archetypes may also have an enduring presence because it is common to become attached to objects and people that are present in times of crisis (Erikson 1994). This suggests archetypal personification attachment following anxiety producing situations, times of loss, and death. As coping mechanisms, they may also help alleviate feelings of isolation. Children and female survivors of abuse often express strong emotional attachment to animals for similar reasons (Levinson 1964; Katcher 1981).

The remainder of this paper examines the appearance of animal themes in three stages of development of human females. These include early

development/adolescence, motherhood, and later stages of adulthood. Possibilities concerning both social and biological mechanisms of archetypal origins will be examined. Because archetypes seem to consistently emerge as structures of story and have associative significance in the human psyche it seems probable they are rooted in evolutionary survival processes. Their appearance in times of crisis or triumph is not unlike those seen in the most non-human animal responses to danger or anxiety producing situations. Archetypal associations may be present to aid the human animal in mentally coping with life transition. Symbol association, memory and archetypal development are components of language acquisition. These autonomic thought responses occur on both a conscious and unconscious level in much the same way respiration, circulation, temperature regulation, and digestion automatically happen without conscious will.

Childhood Development and the Appearance of Archetypes

Object Relation Theory is rooted in experiences connected to early development (Klein 1930). It describes the ways in which adults respond to situations and relate with others through experiences connected to early development. The images of people and events are transferred to objects in the mind that can be used to help predict behaviors in social interactions. These images are carried forward throughout life. Archetypal development could be considered one of these processes.

Each developmental stage of the human life is characterized by basic repeating themes or images that have been influenced by sociological meaning. Because the genders have differing biological needs and social attitudes, subconscious dilemmas arise. Human females have had to quickly adapt to changing attitudes regarding roles in education, career, marriage, and sexual orientation (Barnett & Baruch 1985). These social issues are juxtaposed against the unconscious biological drives of growth and development, sexuality, reproduction, aging and hierarchical roles in groups. Early development and

repeated exposure to sensory influences during sensitive periods is likely to have a long-lasting impact (Fox, Levitt, & Nelson 2010).

Western children are exposed to animal characters in literature, films, television, music, clothing, toys, and adornment from the earliest stages of life (Parker, Freer & Adams 2013). Girls in particular have been consistently paired with horses and cats (Hansen 2013; Maurer 2010; Nikolajeva 2009). While horses commonly appear as supporting characters to prince or princess protagonists, there may be the possibility these influences have a stronger impact on developmental stages of the entire life cycle. The frequent appearance of animal images during sensitive periods of feminine development are likely to create underpinnings of symbolic meaning both in the conscious and unconscious mind. The meaning assigned to animal motifs in myth, fairy tales, toys, and media may develop beyond simple symbol assignment and evolve into significantly deeper engrained archetypal meaning. The result may influence values that effect choices, behavior, and life direction.

Ongoing exposure and dependency on social influences beginning at birth and continuing into puberty may play a large role in the way the psyche directs action and drives motivation throughout life. The child identifies with what she sees based on the backdrop of her own experience. Identification to abstract ideals associated with an animal like the horse such as independence, freedom, and escape may overlay a child's cognitive development and influence what she thinks about herself in relation to this association. An example of this could be pairing the image of the running colt with her desire for independence. Repeated exposure to the same image is likely to eventually lead to assignment of symbolic meaning especially during critical periods of development. She can relate to and empathize with the animal even if the entire relationship is completely based on her own subjective situation and thinking. This is a component of the human capacity toward altruistic relationships that has been suggested as necessary for species survival. By identifying with another, both the expression of compassion and predicting behaviors of other living organisms can be employed. Because of

the ongoing bombardment of sensory input experienced daily, it seems likely much of this linking would occur without conscious awareness.

Language Acquisition and Chaining Meaning to Symbols

From the time humans develop an awareness of their surroundings, they seem to strive toward developing ways to communicate. Theories have been presented regarding small windows of time in early childhood when acquisition of socially driven language skills is finitely possible (Kuhl 2010). In spite of the level of social development, all organisms seem to continue to strive to express themselves even if the expression is solely about their experience independent of their social group. Autistic children may not interact in ways that show particular interest in the others experience or internal state, but they certainly convey their own state of being even if in socially unacceptable ways (Bondy & Frost 2002).

Humans have the seemingly unique ability to represent concepts with words. Beyond this ability to interact with objects, humans create semantic memories about the conceptual knowledge they have with the world. They can convey knowledge of abstract form and cognitive association through language. Research indicates the ability to reason, plan and remember is dependent upon semantic memory (Binder & Desai 2011).

Early research indicated meaning and semantic memory were stored in the anterior temporal lobe, separate from the sensorimotor systems. More recent research suggests conceptual knowledge and organization of information related to emotion and mental state processing occurs in multiple brain structures, including some of the sensorimotor structures. This implies action and experience are tied to mechanisms of memory. The interface between symbolic meaning and language emerge to some extent in semantic networks (Schendan 2012). Darwin (1871) suggested that through example and practice this dynamic is part of species development as well. The significance of language is seen in social symbols that link abstract ideals to concrete objects and forms. An example of this linking is the concept of justice paired with scales or medicine

paired with the caduceus. It seems probable this chaining of abstract principles to tangible objects or even imaginary representations begins at a very young age. This progression is likely rooted in human language development. This same process is likely to continue into adulthood with changes in biological urges such as reproduction, hierarchy in social groups, and feelings of acceptance. While sensorimotor processes are involved in semantic memory and symbol assignment, it does not appear to be necessary for children to form these connections solely through their own personal physical experience but can acquire them through observation, imagination, or storytelling. This is supported by research of young children distinguishing between real life and cartoon characters (Martarelli & Mast 2012). It would seem the brain can process any idea that has symbolic content into memory, even if it is imaginary. Archetypal characterizations are often based on fantasy imagery and yet they endure.

Piaget (1945; 1962) suggested a correlation between pretend play and language development. This conclusion is based on the observation that both language and pretending require an understanding of symbolic meaning (Nicolopoulou 2010). This is further supported with the observation that children with language delays are less able to engage in symbolic play (Lillard, Pinkham & Smith 2010). Because the tendency to pretend appears universally and without parental modeling, it is thought to be a biological process. Empathetic understanding of other living creatures fostered through the activity of pretending, help cultivates the development of altruism in later development. Having an awareness of the feelings and behaviors of another may help foster tolerance and concern. There is evidence that many people involved in antisocial behaviors including mass murder did not engage in pretend play as children.

Piaget surmised that childhood pretend was the inability to accommodate cognitive structures of the world and believed mature cognitive function does not need to twist reality. He also believed children invented and assigned symbolic meaning to their play. With what we have learned about pretend play, it could be argued that twisting reality is a process of learning instead of a measure of

development. It would seem to be linked to the ability to hypothesize. The inability to imagine things beyond the immediate may limit development not only in empathetic relationships but also in creativity, reasoning, and inventiveness. By restraining play as adults, humans may be inhibiting their understanding of more advanced ideas gained in later development. This may account for the importance of entertainment and consumerism in human culture. It may also be connected to the residual meaning assigned to archetypal images carrying into adulthood.

Storytelling as Survival Mechanism

Humans have been called the storytelling animal (Gottschall 2012). Our species appears to be the only creature that requires memory of arbitrary events and the ability to articulate to others information about things that occurred in the past. This storytelling feature appears to have an important influence on social standing. This may be one of the reasons humans have need for complex language. Once language is acquired, storytelling follows. Autobiographical stories are largely based on memory. Parents typically engage in two different styles of memory talk with their children. These include telling a story about what the child remembers doing themselves or answering questions about the event (Nelson 1993). In either case, the information is based in the past.

The need to describe past events can also be explained as a biological mechanism for survival and a feature for cultural advancement. The impact of archetypal images may play a role in influencing subjective values individuals have about themselves concerning identity including gender roles (Wohlwend 2009). Girls are often as likely to identify with the prince as they are with princess. Because humans spend a great deal of time recalling past events and replaying information in their private thoughts, this self-talk could be shaping the choices made throughout developmental stages of life.

Like Santa Claus, Disney is an iconic feature of multiple generations in the Western and Eastern World (Hynes, 2010). The Disney princesses have been a

large part of the feminine mythos in the United States. The Snow White character was fashioned on the social values placed on women. She is representative of the Maiden archetype portrayed as a pretty, young victim. Her main objective toward her socially directed desire for happiness is conditional on the acquisition of a defending protector, a wealthy provider, and a husband. She provides the hero with a motive for success. Being cared for, pampered, and admired are tantamount toward reaching her goal. All the while she dutifully acts out her role as pretty mother, housekeeper, and helpless damsel. She also demonstrates her skills in animal husbandry with forest wildlife. For these reasons she is loved. It is assumed that if her prince succeeds in being heroic, she will be happy. The threat or loss of these things equates to a miserable failed oppressive life. Some of the ways in which Snow White might obtain the prize of her desires include possessing young prepubescent virginal beauty, cleverness, and magic.

Although the Disney team made use of different fairytales over the years, the basic formula for telling women's stories through animated features changed very little from *Snow White* (1937) to *Cinderella* (1950) to *Sleeping Beauty* (1959). All of these themes and even the looks of the princesses are similar. Beauty is often equated with long hair, long legs, and a youthful free spirit. These attributes are all features commonly used to describe horses, which are ever present on the sidelines of these fairy tales. Like the horse, the heroines in myth are typically required to demonstrate their wisdom through trial followed by an epiphany. The magical element of stories is often demonstrated through the girls' association, understanding, and communication with animals. The helping animal in princess myths is often the horse.

Another feature of the mythic story is the element of magic. The princess often possesses the uncanny ability to see life and nature in a deeper way. Her understanding of the forest and wild things goes beyond the mundane world. Because of her animal whispering ability, the girl receives the help she needs to overcome the challenges placed before her (England, Descartes, & Collier-Meek 2011).

Archetypes and Object Attachment

Little empirical research has been conducted in the field of Anthrozoology concerning the psychological meaning of animals in the context of archetypal significance in human cognition. While extensive research is being conducted concerning animals and their impact on human physiological and mental states, there is little regarding the specific denotation assigned to these animals in human artistic symbolism, or mythic story association beyond indigenous tribal meaning. While the human female appears to have many attachments to different species of animals, there traditionally appears to be a seemingly deeper universal female connection to *Equus* (Hansen 2013; Maurer 2010; Nikolajeva 2009). This may be a result of popular influences through entertainment that flood the female psyche. Heroine stories rooted in connective elements are easily embraced on anecdotal level through associations to the horse.

The significance of these associations can be demonstrated through object attachment. While unable to experience the magical elements of story, the human animal often gives significance to totemic representations. Children often demonstrate this phenomenon through their attachment to stuffed animals, blankets and certain toys. It is also common to have emotional attachment to pets. Assigning horses or other animals to recollections of milestones or events is not unlike giving significance to a song or odor that evokes specific memories associated with an earlier time in development. Since girls are so often inundated with images of horses it follows there could be totemic associations to these animals that have significant meaning later in life. Studies indicate attachment to both living animals and stuffed animals is especially significant for girls who have survived trauma and abuse (Barlow, Rose & et al. 2012).

Sexuality, Beauty, Independence

Beauty has played an important role in the social and biological success of women. The fashion industry and popular entertainment instill manipulated values into social norms about beauty (Puts 2010). Playing and identifying with

dolls and toy animals that have characteristics that are socially accepted as beautiful including long hair, long slender legs, and large eyes might play a role in the way girls view themselves.

The desire for a good marriage as a theme for Disney princesses speaks of the social need for acceptance, status, and fulfillment beyond the lower rungs of Maslow's hierarchy of needs. Being rescued from an oppressive situation is comparative of having value and being loved. It might be a component of social self-actualization. In the majority of these situations, the rescuing prince does not arrive on foot, but is carried, counseled, and often mocked by a horse. This dynamic is illustrated in the Disney film "Tangled" (2010).

The Disney princesses have been forced to adopt different values as feminist attitudes have come into play over the last three decades. Princesses are now skillful in the use of weaponry, matching wits with males, and seem much less interested in marriage as a feature of their success. Independence has become the primary theme of importance for little girls. While relationships still matter, the dynamics are often different in that the male is now an emotional supporter and admirer of her strengths. She is portrayed as being superior in wit and ability to the male (e.g. sometimes she reads), and she often winds up rescuing him. Themes of escape from parental control are still prevalent. The relationship she has with horses and other animals has remained consistent. This dynamic is demonstrated in the bond between Merida and her horse Angus in the film "Brave" (2012).

Socially Driven Animal Connections Resulting in Negative Impact

While the horse represents the feminine ideal, the cat is just the opposite, representing the threatening, dangerous, and enticing dimension of the woman. Social influences on female development and attitudes about female sexuality can also be seen in language usage and fashion. The words and phrases used in reference to women regarding their sexuality are often connected to animals such as the cat. These are often derogatory and insulting, consistently convey

an attitude of mistrust. Some examples of words used to describe women include cougar, saber tooth, puma, pussycat, or tiger. She might engage in a *catfight* with another girl over a relationship, strut her stuff as a model on a *catwalk*, or act *catty* when she is in a bad mood. If she hesitates, she is pussy-footing around. As a prostitute she will conduct her trade in a *cathouse*. Often she will endure *catcalls* as she walks down the street or hear other men refer to each other as a part of her genitalia when they are afraid. If she is unpleasant, pretty, or disliked she might be referred to as a dog in heat. A woman who finds pleasure in the company of cats is a crazy cat lady (López Rodríguez 2009).

The popularity of Japanese Manga and Cat-Girl Neko Cosplay games has further impacted the social attitudes about women and sexuality (Sharp 2011). The image of the sex kitten dressed in animal skins has been a common image in the media for many generations. The exotic connotation linking women sexually to animals suggests she is something on the verge of being wild (Harper 2009). Continuing the themes found in childhood fantasy and fairy tale, the Snow White archetype is to be hunted and conquered.

The Archetypal Mother and Her Animal Substitute

In the expanding field of Anthrozoology, the question arises concerning the ways in which women project symbolic meaning onto animals in their roles as mothers and caretakers. It has been suggested there is evidence of a stronger bond between animals and women but this may simply be due to women acting as caretaker in the home for the entire family unit, including pets. In the human psyche the role of mother is driven by innate biological functions of the female. Her cognitive interpretation of the meaning she gives these relationships may be influenced by her physiological urge to reproduce.

Over the last decade more and more women are choosing to not have children and instead focus on education, career, or other goals. Artifacts that are missing from the unconscious genetic programs may require some form of surrogate replacement. Anthropomorphism could be an aspect of the surrogate

bonds formed between humans and animals. This may result with the replacement or adoption of an animal into the role, which would typically be filled by a spouse, parent, or child (Tipper 2011). It is also an aspect of the human capacity toward altruistic projections.

This animal human relationship is given further meaning as it represents a primary and necessary component of biological development in the life of the human. The archetypal image of the mother has consistently appeared throughout human history. But while a mothering relationship may be fulfilled with the installment of a surrogate animal, the interactions between humans and that of animals and humans is very different. The individuation of human beings is more evident in strictly human relationships. The propensity toward conflict and misunderstanding has a much higher probability between humans, than between domestic animals and humans. Animals dependent upon the care of humans typically do not place the same values upon relationship and are constant in their responses. This constancy lends itself toward a dependability often missing in human relationships.

There is also evidence that women who undergo trials of stress, abuse, or oppression often have pets that endured the same victimization. Strong identifying alliance bonds are formed. Abuse victims often report the relationships shared with companion animals is deeper and more meaningful than human bonds and impacts their emotional state for the rest of their lives (Labrecque & Walsh 2011).

The interaction between humans and animals carries further than simply relational but includes sensational and experiential elements of intimate relationship including touch and vocalization. These seemingly minor but necessary components of relationship are rewarded in the pleasure centers of the brain and are exploitable by the animal as well (Massen, Sterck, & de Vos, 2010; McCall & Singer 2012).

Animals also fill the archetypal roles and the artifacts associated with those archetypes, which would typically be filled by humans. A woman, who is

biologically programmed to become a mother but chooses to not take on the role of motherhood, may replace the child with a pet. A woman, who places her career ahead of her biological drive to be part of a family unit, may replace her spouse with a pet (McBride 2011). A woman forced into survival roles who desires support seeks it out in a pet. Later these relationships are given further meaning by having symbolic overlay. An animal can represent a singular concept she wishes to emulate such as strength, love, courage, and beauty. The archetypal personification moves outside of the internal and is projected onto another living being.

The Animal Archetype and Maternal Instincts

A vocalization study on domestic cats was recently conducted at the University of Sussex (McComb 2009). Based on decibel and frequency readouts, it was discovered the low-pitched purr of a cat is very similar in frequency to the cry of a healthy human infant. It has been suggested because of evolutionary changes due to domestication, cats have been able to tap into the biological human parenting urges as a method for soliciting food and care. This has further been supported in studies of domestication in foxes (Gogoleva et al. 2011). The vocalizations of animals with dependency on humans, is different and believed to be specifically geared toward drawing human attention. This is bound to have an impact on the human female especially if she is the primary caregiver. Because the archetypal role of mother is so fundamental in human females, the influence of this sort of interaction may have a significant impact on the female psyche, especially if there are no children in the home.

In 2009 studies were conducted at the University of Vienna's Konrad Lorenz Research Station and Department of Behavioral Biology on human/cat relationships (Wedl 2009). The focus was on the social dynamics (or dyads) between 40 cats and their owners. The study included both genders. It was found that women tend to interact and have a stronger influence over cats than men. Findings revealed females are more active toward their cats and cats

made more approaches and withdrawals toward women in the study group than toward men. This research continued with studies of temporal patterns between humans and animals. The findings suggested that basic temporal structures are similar in human–cat dyads and other complex dyadic relationships including those found between humans (Wedl 2011).

Other studies concerning gender relationships with animals support the suggestion women have different attitudes toward animals than men. Close emotional bonds occur not only between women and cats but many sorts of companion animals. Research examining the ways domestic animals respond to humans is often similar to responses seen in human infants. The connection women have with animals and their archetypes may be related to the biological drive in females toward motherhood (Herzog & Golden 2009; Topál & Gácsi 2012; Marshall-Pescini et al. 2013).

Archetypal Mother and the Touch Factor

Haptic communication is a nonverbal method utilized by both humans and animals through touch. This sensory ability is the first to form in the human fetus and without it survival is unlikely (Field & Hernandez-Reif 2012). Humans and other species rely on this form of communication for interpersonal relationships as well as for sensing the world around them.

Touch activates the release of oxytocin with many long-term positive effects between mothers and their babies. Maternal behaviors and other social behaviors have been induced through the administration of oxytocin to animals (Olmert 2009). The bonds between companion animals and humans are extremely tactile and the hormones released during these interactions may be satisfying needs in humans including those associated with motherhood (Uvnäs-Moberg 2012).

Cats are excessively tactile creatures, constantly interacting and showing affection by pushing against each other, cleaning faces, and sleeping in groups. Their need to touch extends to their human companions as well. Because the

need for touch is so prevalent in some species, it may be possible there is a correlation between female humans and cats due to the similarity in tactile interactions between mother and infant.

Interpersonal communication patterns of humans tend to support the theory that female humans are more likely to engage in nonverbal forms of communication, which may be why cats are more drawn to women than men. This is not to suggest men are not as attached to their pets as women but instead that there is a difference in the ways they interact. This may be because females have typically been the primary caregivers and driven by both social and biological archetypal mothering behaviors. This historical pattern may be changing with changing trends and role reversals in family structure.

The Archetypal Crone and Animals:

The archetypal image of the crone or witch is one of the primary characters in the psychic mythos. Like the other female aspects in archetypal imagery, she too has a connection to animals. Often depicted as powerful, isolated, and living on the boundaries of society, she is misunderstood and feared. Crone/Witch archetypes in literature, media, and myth often shift appearance changing from beautiful queen to terrifying hag. This archetype also shape-shifts from human- form to the form of an animal (Emmer Granqvist 2011).

Like the archetypal witch, older women who live in isolation are often viewed as misfits of society, especially if their only companions are animals. One of the shadow aspects of this archetype is her need to have power over “The Other.” The Hoarding Research Project at Boston University’s School of Social Work reported 75 percent or more of animal hoarders are women who are middle age or older, usually unmarried and often socially isolated from family and friends (Bratiotis, Schmalisch, & Steketee 2011).

Like the archetypal Witch, animal hoarders often share the same squalid living conditions as their pets while demonstrating an inability or unwillingness to attend to such mutual basic needs as safety, sanitation, nutrition, and hygiene.

This self-abusive behavior is co-morbidly shared with the animals. The image of a female animal hoarder is not unlike the image of the unpredictable Crone/Witch archetype. She lives on the fringes and is not to be trusted. She is considered dangerous. This attitude has been demonstrated by historical attitudes toward hoarders as socially deviant instead of mentally ill.

There are currently few published studies focusing specifically on women and the possible reasons they become hoarders. It is notable that the initial onset of hoarding behaviors commonly occurs in young people in early teens and twenties (Storch, et al 2011). The onset of hoarding symptoms is believed to occur in childhood or adolescence with a chronic and progressive course throughout the lifespan. Hoarding usually begins early in life, though onset can vary greatly. The disorder has been observed in those as young as 3-years old, though is more prevalent in older age groups. It often occurs following a significant life event or loss.

Children who exhibit hoarding behaviors are often diagnosed with other learning disorders (Testa, Pantelis, & Fontenelle 2011). This is also a feature of adult hoarding. Older people who hoard seem to have difficulties processing information. In particular, these issues may appear as ADHD, memory loss, categorization difficulties, and struggles with decision-making (Blom, Rianne, & et al. 2011).

Retaining objects and the use of these items as markers to help keep memories is like the process humans utilize in creating archetypes and other symbolic associations. These mechanisms are similar to those described in theories of language development and symbol assignment in children. It has been suggested the reluctance by hoarders to give up objects may be related to a fear of forgetting events. Stress and trauma are common in people who hoard and may be associated with periods of worsening symptoms.

Anna Freud (1946) theorized that human beings project onto those they share intimate relationships with including spouses, siblings, parents, and children. This dynamic extends to pets as well. Women with histories of abuse

may be projecting their subconscious desire to harm themselves or their victimizer by targeting an archetypal animal that represents either themselves, characteristics of themselves, or their abuser (Melson 2001). The archetypal witch is usually destroyed in fairytales and media depictions.

The cat has been the social and sexual archetypal symbol representing the female for centuries. Cultural myths and fairytales about the shape-shifting witch inform how her soul will become a cat when she dies. Cats are also the animals most commonly reported in hoarding (Steketee, Gibson, Frost, Alabiso, Arluke, & Patronek, 2011).

Like the processes seen in early stages of development, an abuse survivor struggling to heal from a history of violence may recreate the event in order to control the outcome. Described as a defense mechanism, this projective process is similar to child development in learning stages of play or pretend. The reenactment serves as an attempt to process the experience as well as to make it known to another in a nonverbal way (Van der Kolk, 1989). This may be the polar opposite of what Darwin (1871) noted regarding sympathy and altruism. Like the appearance of the archetypal image of the Witch, pretend may also serve a destructive purpose.

Conclusion

Jungian analyst James Hillman wrote extensively about the archetypal appearance of animals in the human psyche. He discusses “The Acorn Theory” in his book *The Soul's Code: In Search of Character and Calling* (1996). He surmised that each life is formed from specific images that are directed by destiny. His theory is based on Plato's myth of Er, which is found in *The Republic*. The premise is that each soul selects a particular image or pattern prior to birth to be lived out on earth. A soul companion or *daemon* that guides each person towards fulfillment guards the construct of this design. Therefore the daemon is the carrier of destiny.

While humans have a large amount of control over the direction of their lives, many things are beyond their control. Through processing the world around us and seeking coping mechanisms, the human brain assigns symbolic meaning to what it deems important in the world. These archetypes (daemons) accompany the psyche through the various stages of development, learning, memory, and language acquisition. They manifest most often in times of loss, transition, and trauma. Because these processes of development are often experienced in isolation, it may be necessary for human psyche to create companions to accompany us through painful existential experience. We are social creatures and do not thrive alone.

Through archetypal relationships the character of women is shaped and reinforced by the presence of animals. The ability to witness one's own strengths and vulnerabilities through the eyes of another is a gift toward bettering our species. Women have bonded with horse, cat, and other animals in beauty and form, in companionship and rescue, in motherhood and caretaking, in freedom and oppression, in fear and pain and finally in destruction, death and resurrection. The expanding field of Anthrozoology may eventually bridge the gap between the disciplines of experimental psychology and psychotherapy. The theories of human evolution, development and cerebral processing are greatly expanding with the growing understanding of human/animal bonds and universal symbolic meaning assigned to archetypes.

References

- Badcock, C. R. (1995). *PsychoDarwinism: the new synthesis of Darwin & Freud*. London: Flamingo.
- Barlow, M. R., Hutchinson, C. A., Newton, K., Grover, T., & Ward, L. (2012). Childhood Neglect, Attachment to Companion Animals, and Stuffed Animals as Attachment Objects in Women and Men. *Anthrozoos: A Multidisciplinary Journal of The Interactions of People & Animals*, 25(1), 111-119. E. (2011). *Beyond nature-nurture: Essays in honor of Elizabeth Bates*. Taylor & Francis.
- Berwick, R. C., Friederici, A. D., Chomsky, N., & Bolhuis, J. J. (2013). Evolution, brain, and the nature of language. *Trends in cognitive sciences*, 17(2), 89-98.
- Binder, J. R., & Desai, R. H. (2011). The neurobiology of semantic memory. *Trends in cognitive sciences*, 15(11), 527-536.
- Blom, R. M., Samuels, J. F., Grados, M. A., Chen, Y., Bienvenu, O. J., Riddle, M. A., & Nestadt, G. (2011). Cognitive functioning in compulsive hoarding. *Journal of anxiety disorders*, 25(8), 1139-1144.
- Bondy, A., & Frost, L. (2002). *A Picture's Worth: PECS and Other Visual Communication Strategies in Autism*. *Topics in Autism*. Woodbine House, 6510 Bells Mill Rd., Bethesda, MD 20817
- Bone, J. (2010). Metamorphosis: play, spirituality and the animal. *Contemporary Issues in Early Childhood*, 11(4), 402-414.
- Bratitotis, C., Schmalisch, C. S., & Steketee, G. (2011). *The Hoarding Handbook: A Guide for Human Service Professionals: A Guide for Human Service Professionals*. Oxford University Press, USA.
- Brown, S. E., & Katcher, A. H. (2001). Pet attachment and dissociation. *Society and Animals*, 9(1), 25-41.
- Chomsky, N. (1965). *Aspects of the Theory of Syntax* (Vol. 119). The MIT press.
- Chomsky, N. (1968). LANGUAGE AND THE MIND.
- Crystal, D. (1970). Prosodic systems and language acquisition. *Prosodic feature analysis*, 77-90.

- Darwin, C., Darwin, C., Biologiste, N., Darwin, C., & Biologist, N. (1861). *On the Origin of Species by Means of Natural Selections: Or the Preservation of Favoured Races in the Struggle for Life*. Murray.
- Darwin, C. (2003). The Descent of Man. 1871. *The Origin of Species and the Descent of Man*, 912-13.
- Dawkins, R. (2006). *The selfish gene* (No. 199). OUP Oxford.
- De Mazancourt, C., & Schwartz, M. W. (2010). A resource ratio theory of cooperation. *Ecology letters*, 13(3), 349-359.
- Emmer Granqvist, L. (2011). *The Animal Within: A Psychoanalytical Perspective on Shape-Shifting* (Doctoral dissertation, Stockholm).
- England, D. E., Descartes, L., & Collier-Meek, M. A. (2011). Gender role portrayal and the Disney Princesses. *Sex roles*, 64(7-8), 555-567
- Erikson, E. H. (1994). *Identity: Youth and crisis* (Vol. 7). WW Norton & Company
- Fehr, E. (2011). Altruistic Punishment in Humans. Macmillan Magazines Ltd. Retrieved 20 July 2011.
- Field, T., & Hernandez-Reif, M. (2012). Touch and Pain Perception in infants. *Evolution, Early Experience and Human Development: From Research to Practice and Policy*, 262.
- Flynn, C. P. (2000). Woman's Best Friend Pet Abuse and the Role of Companion Animals in the Lives of Battered Women. *Violence Against Women*, 6(2), 162-177.
- Fox, S. E., Levitt, P., & Nelson III, C. A. (2010). How the timing and quality of early experiences influence the development of brain architecture. *Child development*, 81(1), 28-40.
- Franz, M. L. V. (1987). *An introduction to the interpretation of fairy tales*. New York.
- The feminine in fairy tales*. Boston: Shambhala;[New York], 1993.
- The cat: A tale of feminine redemption*. Inner City Books, 1999.
- Freud, A. (1946). The ego and the mechanisms of defence.

- Freud, S. (1920). *Introduction to Psychoanalysis*, PREFACE BY G. STANLEY HALL PRESIDENT, 1920
- Gogoleva, S. S., Volodin, I. A., Volodina, E. V., Kharlamova, A. V., & Trut, L. N. (2011). Explosive vocal activity for attracting human attention is related to domestication in silver fox. *Behavioural processes*, 86(2), 216-221
- Goldstein, K. (1995). *The Organism: A Holistic Approach to Biology Derived from Pathological Data in Man*. 1934. New York: Zone Books, 1995.
- Gottschall, J. (2012). *The storytelling animal: How stories make us human*. Houghton Mifflin Harcourt.
- Hamilton, W. D. (1964). The genetical evolution of social behaviour. I. *Journal of theoretical biology*, 7(1), 1-16.
- Hannah, B., Frantz, D. L., & Wintrode, A. (1992). *Barbara Hannah: The Cat, Dog, and Horse Lectures, and "The Beyond"*. Chiron.
- Hannah, B. (2006). *The Archetypal Symbolism of Animals: Lectures Given at the CG Jung Institute, Zurich, 1954-1958 (Vol. 2)*. Chiron.
- Hansen, N. (2013). Behind the Horse-Crazy Girl: Learning to Live Across Species.
- Harper, C. (2009). Imagine being peeled... the sublime ecstasy of fur in fashioning well-being....
- Herzog, H. A., & Golden, L. L. (2009). Moral emotions and social activism: the case of animal rights. *Journal of Social Issues*, 65(3), 485-498.
- Hillman, J. (1996). *The soul's code* (p. 8). New York: Random House.
- Hillman, J. (2012). *Kinds of power*. Crown Business.
- Hoffmann, H., Kessler, H., Eppel, T., Rukavina, S., & Traue, H. C. (2010). Expression intensity, gender and facial emotion recognition: Women recognize only subtle facial emotions better than men. *Acta psychologica*, 135(3), 278-283.
- Hynes, A. (2010). Raising Princesses? Gender socialisation in early childhood and the Disney Princess franchise. *Practice*, 2.

- Jung, C. G. (1917, 1928), *Two Essays on Analytical Psychology*, Collected Works 7 (2 ed.), London: Routledge (published 1966)
- Jung, C. G. (1928). Contributions to analytical psychology.
- Jung, C. G. (1948). The phenomenology of the spirit in fairytales. *The Archetypes and the Collective Unconscious*, 9(Part 1), 207-254.
- Jung, C. G. (1953). *Collected Works: Symbols of transformation*. Pantheon Books.
- Jung, C. G. (1954). Answer to Job (trans. RFC Hull). *Collected Works of CG Jung*, 11.
- Jung, Carl. (1959). *Archetypes and the Collective Unconscious*.
- Jung, C. G. (1961). Memories, dreams, reflections. *New York: Vintage*.
- Jung, C. G. (2012). *Nietzsche Zarathustra, Notes of the Seminar given in 1934-1939. Two Volumes* (Vol. 99). Princeton University Press.
- Katcher, A. H. (1981). Interactions between people and their pets: Form and function.
- Klein, M. (1930). The importance of symbol-formation in the development of the ego. *International Journal of Psycho-Analysis*, 11(Part I).
- Kuhl, P. K. (2010). Brain mechanisms in early language acquisition. *Neuron*, 67(5), 713-727.
- Labrecque, J., & Walsh, C. A. (2011). Homeless women's voices on incorporating companion animals into shelter services. *Anthrozoos: A Multidisciplinary Journal of the Interactions of People & Animals*, 24(1), 79-95.
- Langs, R. (1997). *Death Anxiety and Clinical Practice*. London: Karnac Books.
- Langs, R. (2004). Death anxiety and the emotion processing mind, *Psychoanalytic Psychology*, vol. 21, no. 1, 31-53.
- Levinson, B. M., & Mallon, G. P. (1969). *Pet-oriented child psychotherapy*. Springfield, Illinois: Thomas.

- Lillard, A., Pinkham, A. M., & Smith, E. (2010). Pretend play and cognitive development. *The Wiley-Blackwell Handbook of Childhood Cognitive Development, 22*, 285.
- López Rodríguez, I. (2009). Of women, bitches, chickens and vixens: animal metaphors for women in English and Spanish. *Cultura, Lenguaje y Representación/Culture, Language and Representation, 7(7)*, 77-100.
- Marshall-Pescini, S., Colombo, E., Passalacqua, C., Merola, I., & Prato-Previde, E. (2013). Gaze alternation in dogs and toddlers in an unsolvable task: evidence of an audience effect. *Animal cognition, 1-11*.
- Martarelli, C. S., & Mast, F. W. (2012). Is It Real or is It Fiction? Children's Bias toward Reality. *Journal of Cognition and Development*, (just- accepted).
- Maslow, A. H. (1950). Self-actualizing people: a study of psychological health. *Personality*.
- Maslow, A. (1965). Self-actualization and beyond.
- Maslow, A. H., & Lowry, R. (1968). Toward a psychology of being.
- Maslow, A. H., Frager, R., & Fadiman, J. (1970). *Motivation and personality* (Vol. 2). New York: Harper & Row.
- Maslow, A. H. (1971). *The farther reaches of human nature*. Maurice Bassett.
- Massen, J. J., Sterck, E. H., & de Vos, H. (2010). Close social associations in animals and humans: functions and mechanisms of friendship. *Behaviour, 147(11)*, 1379-1412.
- Maurer, M., Delfour, F., Wolff, M., & Adrien, J. L. (2010). Dogs, cats and horses: Their different representations in the minds of typical and clinical populations of children. *Anthrozoos: a Multidisciplinary Journal of the Interactions of People & Animals, 23(4)*, 383-395.
- McBride, D. (2011). *THESIS TITLE: The Human-Animal Bond Between Domestically Abused Women and their Companion Animals: Do Pets Affect a Woman's Decision Making?* (Doctoral dissertation, California State University).

- McCall, C., & Singer, T. (2012). The animal and human neuroendocrinology of social cognition, motivation and behavior. *Nature neuroscience*, *15*(5), 681-688.
- McComb, K., Taylor, A. M., Wilson, C., & Charlton, B. D. (2009). The cry embedded within the purr. *Current Biology*, *19*(13), R507-R508.
- Melson, G. (2001). *Why the wild things are: animals in the lives of children*. Harvard University Press, 159-187.
- Nelson, K. (2009). Narrative practices and folk psychology: A perspective from developmental psychology. *Journal of Consciousness Studies*, *16*(6-8), 6-8.
- Nicolopoulou, A. (2010). Play, cognitive development, and the social world: Piaget, Vygotsky, and beyond. *Human Development*, *36*(1), 1-23.
- Nikolajeva, M. (2009). Devils, Demons, Familiars, Friends: Toward a Semiotics of Literary Cats. *Marvels & Tales*, *23*(2), 248-267.
- Olmert, M. (2009). *Made for each other: the biology of the human-animal bond*. Da Capo Press, 195-218.
- Parker, J., Freer, K., & Adams, K. (2013). Characters, social interactions, emotions and self-representation in 7-8 and 9-11 year olds' dream reports: A mixed methods study. *International Journal of Dream Research*, *6*(1), 13-21.
- Piaget, J. (2000). "Commentary on Vygotsky". *New Ideas in Psychology* *18*: 241-59.
- Plato, C. H. B. (2012). *The Republic*. Cricket House Books LLC.
- Platek, B. (2008). Instinct as Guide: Animals in Women's Dreams. *Psychological Perspectives*, *51*(1), 108-118.
- Puts, D. A. (2010). Beauty and the beast: Mechanisms of sexual selection in humans. *Evolution and Human Behavior*, *31*(3), 157-175
- Sanfey, et al., Alan G. (2011). The Neural Basis of economic Decision Making in the Ultimatum Game. *Science*. Retrieved 20 July 2011.
- Schendan, H. E. (2012). Implicit memory. *Encyclopedia of Human Behavior*.

- Shamdasani, S., & Beebe, J. (2010). Jung Becomes Jung: A Dialogue on Liber Novus (The Red Book). *Psychological Perspectives*, 53(4), 410-436.
- Sharp, L. (2011). Maid Meets Mammal: The Animalized Body of the Cosplay Maid Character in Japan. *Intertexts*, 15(1), 60-78.
- Steketee, G., Gibson, A., Frost, R. O., Alabiso, J., Arluke, A., & Patronek, G. (2011). Characteristics and Antecedents of People Who Hoard Animals: An Exploratory Comparative Interview Study. *Review of General Psychology*, 15(2), 114.
- Spencer, H. (1860). The Social Organism. *The Westminster Review*. Reprinted in Spencer's (1892) *Essays: Scientific, Political and Speculative*. London and New York.
- Storch, E. A., Rahman, O., Park, J. M., Reid, J., Murphy, T. K., & Lewin, A. B. (2011). Compulsive hoarding in children. *Journal of clinical psychology*, 67(5), 507-516.
- Taylor, P. D. (1992). Altruism in viscous populations—an inclusive fitness model. *Evolutionary ecology*, 6(4), 352-356.
- Testa, R., Pantelis, C., & Fontenelle, L. F. (2011). Hoarding Behaviors in Children With Learning Disabilities. *Journal of child neurology*, 26(5), 574-579.
- Tinbergen, N. (1963). On Aims and Methods in Ethology, *Zeitschrift für Tierpsychologie*, 20: 410–433.
- Tipper, B. (2011). 'A dog who I know quite well': everyday relationships between children and animals. *Children's Geographies*, 9(2), 145-16
- Topál, J., & Gácsi, M. (2012). Lessons we should learn from our unique relationship with dogs: An ethological approach. *Crossing Boundaries: Investigating Human-Animal Relationships*, 14, 163.
- Uvnäs-Moberg, K. (2012). Short-Term and Long-Term Effects of Oxytocin Released by Suckling and of Skin-to-Skin Contact in Mothers and Infants. *Evolution, Early Experience and Human Development: From Research to Practice and Policy*, 299.
- Van der Kolk, B. A. (1989). The compulsion to repeat the trauma. *Psychiatric Clinics of North America*, 12(2), 389-411.

Wedl, M., Bauer, B., Gracey, D., Grabmayer, C., Spielauer, E., Day, J., & Kotrschal, K. (2011). Factors influencing the temporal patterns of dyadic behaviours and interactions between domestic cats and their owners. *Behavioural processes*, 86(1), 58-67.