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The Silkworm Girl, Sericultural EcoGothic, and the Anthropocene*

La niña gusano de seda, el ecogótico sericícola y el Antropoceno

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Abstract

The article looks at the connection between Chinese folklores and the Anthropocene, examining the tale of the silkworm girl in ancient Chinese mythologies and folklores from an EcoGothic perspective of human-nonhuman alliance (as well as its betrayal). The process of sericultural development in Asia works in tandem with the formation of the renowned "silk road," an international commercial (as well as military) route for the exchange of goods and materials from East Asia and Central Asia to Europe and the Mediterranean region. The myth of the silkworm girl encapsulates an eco-economic co-existence among human beings, animals, plants, and matter in its most rudimentary form. My discussion focuses on the two versions of the story of the silkworm girl, one from an earlier collection of folklore—*Sou shen ji* (In Search of the Supernatural: The Written Record) by Jin Dynasty historian, Bao Gan, in China—and the other one by Guan Ting Du—*Yong Cheng Ji Sian Lu* (Records of the Assembled Transcendents of the Fortified Walled City), a later collection of stories compiled in the Tang dynasty. While silkworms in ancient Chinese literature and the sericulture they embody have been associated with agricultural advancement through

Resumen

Este artículo analiza la conexión entre el folclore chino y el Antropoceno, examinando la historia de la niña gusano de seda en las mitologías y folclores chinos antiguos desde una perspectiva ecogótica de la alianza entre humanos y no humanos (así como su traición). El proceso de desarrollo sericícola en Asia va en conjunto con la formación de la famosa "ruta de la seda", una ruta comercial internacional para el intercambio de bienes desde Asia Oriental y Central hacia Europa y la región del Mediterráneo. El mito de la niña gusano de seda resume esa coexistencia ecoeconómica entre seres humanos, animales, plantas y materia en su forma más rudimentaria. Mi análisis se centra en las dos versiones de la historia de la niña gusano de seda, una de una colección de folklore —*Sou shen ji* (En busca de lo sobrenatural: el registro escrito), recopilada por un historiador de la dinastía Jin, Bao Gan, en China—, y la otra de una colección posterior compilada durante la dinastía Tang —*Yong Cheng Ji Sian Lu* (Registros de los transeúntes reunidos de la ciudad amurallada fortificada) de Guan Ting Du—. Si bien los gusanos de seda en la literatura china antigua y la sericicultura que encarnan se han asociado con el avance agrícola a través de la domesticación humana

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the human domestication and extraction of natural resources, the anthropocentric interpretations of the moral lessons conveyed in those tales about the economic value their industry and productivity symbolize is problematized by the girl-horse metamorphosis and their symbiotic relationship with mulberry trees. Their representations are further complicated by the military involvement in sericulture. This article compares diverging representations of the silkworm girl within the context of the sericultural practice, particularly the man-horse-silkworm-mulberry entanglement, to reconsider the ecological significance of Asian mythologies in the age of our Anthropocene crisis.

Keywords: *Chinese mythology* || *Chinese folk literature* || *Ecocriticism in literature* || *Sericulture* || *Insects in literature*

y la extracción de recursos naturales, las interpretaciones antropocéntricas de las lecciones morales transmitidas en esos cuentos sobre el valor económico que simbolizan su industria y productividad están problematizadas por la metamorfosis niña-caballo y su relación simbiótica con las moreras. Sus representaciones se complican con la participación militar en la sericicultura. Se compararán representaciones divergentes de la niña gusano de seda dentro del contexto de la práctica sericícola, particularmente el entrelazamiento hombre-caballo-gusano de seda-morera, a fin de reconsiderar el significado ecológico de las mitologías asiáticas en la era de nuestra crisis antropocena.

Palabras clave: *Mitología china* || *Literatura folclórica china* || *Ecocrítica en la literatura* || *Sericicultura* || *Insectos en la literatura*

Introduction

The imagery of silkworms has been ambiguously positioned between a benign provider of clothing for humans and an insidious devourer of natural resources. In the Chinese context, the silkworm is often linked with the cycle of life and generally carries positive connotations. Materially and symbolically, mulberry trees and silkworms hold significant positions as providers of raw materials, such as food sources and fabric.[1] Silkworms are both primary consumers and producers in the silk industry. Yet, they also suffer from human manipulation and domestication of natural resources in the human development into an agricultural society. Such complex economic-ecological implications are manifested in the ancient Chinese myth of the silkworm girl. There are several versions of silkworm tales in ancient China, from the discovery of silk by the wife of the Yellow Emperor, Leizu, to the mythology of the silkworm girl, in which a daughter turns into a silkworm wearing a white horse

1 In ancient China, mulberry forests are a sacred place for religious rituals and spiritual practices. See, for example, *Lu's Spring and Autumn*, written by Lu Buwei during the Warring States period, in which the leader of the Shang Dynasty, Tang, prayed for rain in a mulberry grove.

skin, revealing the ecological intimacy among humans, mulberry trees, (silk)worms, and horses in the development of sericultural materialism. This article looks at the connection between Chinese folklore and the EcoGothic, examining the tales of the silkworm girl from the perspective of the human-nonhuman alliance (as well as its betrayal). The story foregrounds the symbiotic relationship between humans (father and daughter), animals (horse and silkworm), plants (mulberry trees), and materials (horse skin and silk), particularly the human domestication and exploitation of natural resources in the development of the famous Silk Road linking East Asia, Central Asia, West Asia, Europe, and the Mediterranean in commercial exchanges, and its embodiment of the silk civilization in Asia.

The notion of metamorphosis in ancient Chinese mythology carries multiple meanings. Fong-Mao Lee (1986) states that, according to Xu Shen's *Shuowen Jiezi* from the Eastern Han Dynasty, the idea of transformation is derived from the biological change of silkworms into moths, while *metamorphosis* refers to the changes in the appearance of humans as they age. However, for later commentators such as Kong Yingda, a Confucian scholar of the Tang Dynasty, and Joseph Needham, a contemporary British historian of science, the Taoist concept of transformation refers to the process of "gradual change," while *metamorphosis* refers to the "sudden change" (Lee, 1986: 41). In Bao Gan's *Sou shen ji*, the concept of transformation is further linked with "abnormalities in Qi," a concept describing the phenomenon of abnormal changes in all things (Lee, 1986: 43). The Chinese title of the silkworm girl story, "A Woman Transforms into a Silkworm", describes the abnormal transformation of the protagonist into a silkworm in the story, reflecting sudden changes in the nonhuman world. I extend Lee's concept of transformation associated with "abnormalities" to explore the evolving storyline of the silkworm girl and examine it from the perspective of the human-nonhuman tension, investigating how the various representations of the silkworm girl align with the recent "material turn" in eco-criticism, particularly in its connection to our current Anthropocene crisis.[2]

2 Recent eco-critical theories, through various interdisciplinary explorations, have devoted their attention to the agency and materiality of the nonhuman world, as exemplified by works like Jane Bennett's *Vibrant Matter: A Political Ecology of Things* (2010), *Material Ecocriticism* (2014), edited by Serenella Iovino and Serpil Oppermann, and *Elemental Ecocriticism: Thinking with Earth, Air, Water, and Fire* (2015), edited by Jeffrey Jerome Cohen and Lowell Duckert, to name just a few.

In exploring human-nonhuman co-existence, I find two concepts, *EcoGothic* and the *Anthropocene*, particularly relevant to Lee's discussion. The emergence of EcoGothic is often associated with Simon C. Estok's discussion of ecophobia in his essay "Theorising in a Space of Ambivalent Openness: Ecocriticism and Ecophobia." In this essay, Estok (2009) emphasizes the need for eco-critics to theorize human fear of the non-human world. Tom J. Hillard further establishes the connection between fear and nature in his essay "'Deep into That Darkness Peering': An Essay on Gothic Nature" (2009). EcoGothic combines ecological and Gothic concerns, focusing on the tense but often overlooked relationships between humans and non-human species.[3] Another key concept is the relationship between sericultural imageries and the concept of the Anthropocene. The term *Anthropocene* describes the geological concept of humans becoming significant factors in the Earth's climate and environmental changes. The concept was first proposed by atmospheric scientist Paul Crutzen and Eugene F. Stoermer in 2000, suggesting that human activities have influenced the Earth to the extent that a new geological epoch should be named. Dipesh Chakrabarty's (2009) essay "The Climate of History: Four Theses" initiated further discussions about the Anthropocene, its explanation, and the significance of developing a planetary consciousness.[4] I use the term in the essay in view of William F. Ruddiman's (2003; 2017) early Anthropocene hypothesis, and Timothy Morton's philosophical definition of the origins of human agriculture. According to Morton (2016), the origin of the Anthropocene should be traced back to approximately 12 500 years ago, when agricultural techniques were first used in the fertile crescent of Mesopotamia to manage natural resources, marking the beginning of large-scale human settlement (39).

3 Recently, works related to the EcoGothic, such as *EcoGothic* edited by Andrew Smith and William Hughes in 2013, Estok's *The Ecophobia Hypothesis* (2018), Keetley and Sivils' edited volume *Ecogothic in Nineteenth-Century American Literature* (2018), the online journal *The Gothic Nature* (2019-), Elizabeth Parker's *The Forest and the EcoGothic: The Deep Dark Woods in the Popular Imagination* (2020), and Edney's edited collection *EcoGothic Gardens in the Long Nineteenth Century* (2020), as well as Edwards, Graulund, and Höglund's co-edited *Dark Scenes from Damaged Earth: The Gothic Anthropocene*, all demonstrate the close-knit relationship between Gothic literature and environmental issues. The special issue "EcoGothic Asia" (2020) I have edited recently aims to broaden the field of EcoGothic from Western literature and landscapes to Asia, to explore more diverse views on the human-nonhuman entanglement.

4 Recent publications, such as Christophe Bonneuil and Jean-Baptiste Fressoz's *The Shock of the Anthropocene: The Earth, History and Us* (2016), Eva Horn and Hannes Bergthaller's book *The Anthropocene: Key Issues for the Humanities* (2020), and Julia Adeney Thomas, Mark Williams, and Jan Zalasiewicz's *The Anthropocene: A Multidisciplinary Approach* (2020) all indicate the increasing attention paid to this term by eco-critics.

This article examines how, within the material culture of sericultural development, human-nonhuman intimacy is revealed through the ecological relation of predation and consumption. The story of the silkworm girl illustrates prototypes in Chinese myth, depicting the existence of symbiotic yet unsettling coexistence between humans and nonhumans. The discussion is mainly divided into three parts. The first part focuses on the two versions of the story of the silkworm girl, one from an earlier collection of folklore, *Sou shen ji* [In Search of the Supernatural], a compilation of stories and legends about gods, ghosts, and other supernatural phenomena by a Jin Dynasty historian, Bao Gan (around 350 AD); and the other one from Guan Ting Du's *Yong Cheng Ji Sian Lu* [Records of the Assembled Transcendents of the Fortified Walled City], a later collection of stories compiled in the Tang dynasty. The imagery of the silkworm girl evolves in literary works through mythological prototypes, expressing the early texts' keen observation of ecological phenomena and their implicit critique of anthropocentrism. The second part further examines the mythology from an EcoGothic perspective, scrutinizing how the story portrays conflicts, sacrifices, and betrayals between the human and nonhuman world through the fusion and transformation of various supernatural, posthuman, inhuman, and transhuman bodies. The final part reconsiders the ecological significance of the silkworm girl in our age of Anthropocene crisis, with a particular attention to silk material culture and its connection to the involvement of commercialism and militarism on the silk route.

The Silkworm-Girl Myth and the Formation of an Anthropocentric Cosmology

The myth of the silkworm girl in the fourteenth scroll of Bao Gan's *Sou shen ji* [In search of the supernatural] and chapters 560-562 (scroll six) of Guan Ting Du's *Yong Cheng Ji Sian Lu* have garnered attention from scholars.[5] While there have been discussions on the origins of the silkworm girl story and its relationship with sericultural practice in Asia, this article primarily examines the evolution of the ecological

5 For detailed discussions, refer to the following works: Zhong (1982); Kuhn (1984); Gu (1991); Miller (1995); You (2002); Chen et al. (2005); Lee (2010); Lin (2012); Jones (2013); Fang (2018).

relationship among humans, horses, silkworms, and mulberry trees in the two texts. These two stories, while sharing similar basic plots, exhibit significant conceptual differences in their portrayal of relationships between the human and nonhuman world.

At the beginning of the first version, the father is called to war for the nation, leaving the daughter and the horse as each other's only intimate companions: "In ancient times, there was a great man who went on a distant expedition, leaving only a daughter behind. He had a stallion, which the daughter took care of" (Gan, n.d.: para. 11).[6] In the second version, the father is kidnapped by a neighboring country, leaving behind the mother and the daughter who yearns for her father, causing the daughter to neglect her meals and sleep: "[all the people] lived together as clans without central authority, often invading and devouring each other, relying on strength to overpower the weak. […] her father had been abducted by a neighboring tribe for many years, only his horse remained. The girl missed her father terribly, neglecting food and drink" (Du, n.d.: para. 8). In the first one, the girl feels lonely and misses her father, jokingly promising marriage to the horse if he can bring her father back: "Living in seclusion, she missed her father and jokingly said to the horse, 'If you can bring my father back, I will marry you'" (Gan, n.d.: para. 11). In contrast, in the second one, it is the mother who, worried about her daughter, makes a vow to marry off her daughter to anyone who can bring back her father: "Her mother comforted her and made a vow to the people of their tribe, saying, 'Anyone who can bring back my husband will marry this girl'" (Du, n.d.: para. 8). The relationship between the daughter and the horse is not emphasized as in the latter version, nor is there any mention of the dialogue between the daughter and the horse hide after the horse's death. In the first story, the initial playful banter between the daughter and the horse suggests certain emotional intimacy, as well as a bonding relationship between the girl and the horse, and after the horse rescues her father, she blames the horse's death on itself, demonstrating the human betrayal towards the nonhuman.

These two stories also exhibit notable differences in the interaction between the horse and the father. In the former, the horse attracts the father's attention on the battlefield through neighing, causing the father to worry about the situation at home and return ("The horse […] neighed mournfully. The father said, 'This horse behaves

6 All translations from Chinese are mine.

strangely. I hope nothing has happened to my family!'" [Gan, n.d.: para. 11]). Even though the relationship between the horse and the father is at its most primitive, based on physical language, the description of their emotional connection implies a stronger sense of intimacy between them. In the second story, the horse's neighing occurs after it rescues the father from the neighboring country, prompting the father to inquire about the reason for its abnormal behavior from the mother ("After several months, her father returned riding the horse. From that day on, the horse neighed day and night, refusing to eat or drink" [Du, n.d.: para. 8]). The father fears the horse's bizarre conduct may present a threat for his family, so he hunts down the horse, intensifying the sense of alienation and even creating human-nonhuman antagonism ("The horse knelt and neighed even louder, showing signs of wanting to harm people. The father, angry, shot and killed the horse, then exposed its skin in the courtyard" [Du, n.d.: para. 8]). The horse's act of rescuing the father and its subsequent refusal to eat is interpreted as unnatural, transgressive, and aberrant, incompatible with societal values, thereby serving as justification for exclusion and suppression.

In the transition from the first version to the latter version, humans regard the nonhuman realm as exploitable resources, accompanied by a logic of supernatural retaliation from the horse surpassing common sense and materiality. In the latter story, this logic is subdued and incorporated into the ritualistic and religious symbolism of Chinese mythological prototypes ("One day, the silkworm girl descended from the sky on a colorful cloud […] She said to her parents, 'The Highest has rewarded my filial piety. I have been appointed as a celestial attendant in the Nine Palaces and will live long. There is no need to worry about me anymore.' After speaking, she disappeared into the void" [Du, n.d.: para. 8]). Nature is transformed into fertile resources bringing abundant harvests to humans, while the taboos and transgressions in both silkworm girl stories, like the skinned and dismembered body of the horse, are gradually sanitized and painted over, becoming normative narratives about preserving female virtues, patriarchal order, and family filial piety.

The Intimacy of Silkworms, Mulberry Trees, and Horses and Sericultural EcoGothic

In both silkworm girl stories, the mulberry tree represents the productivity and regeneration of nature in mythological symbolism. However, the ending of the first version presents a more startling narrative twist, revealing the hauntingly elegiac aspect of the transformation towards the end of the tale, when the historian Bao Gan (n.d.) notes that "[the villagers] named the tree 'mulberry,' which signifies loss" (para. 11). The word *sang*, meaning 'mulberry' in the Chinese language, shares a homophonic relation with the word for 'mourning.' The concluding note implies that the mythical origin of sericulture is built on a sense of loss or death, and the name of the mulberry tree bears witness to this inexplicable "loss." In the myth, the father's rescue and the restoration of family order and moral ethics are based on the victimization of the daughter and the horse, who occupy the lowest rungs of the social and ecological food chain. The bodies of the horse and the daughter inscribe the "sang," the original wound or sadness about the fractures between the human and nonhuman world.

Indeed, the story of the silkworm girl is an unsettling and disturbing one in many regards, not the least because of its melodramatic elements of treason and betrayal. It leaves its readers with a haunting sense of abjection—a sense of unease and strangeness that cannot be easily put aside or erased by the added, edited, or normalized ending at a later date, and the doctrinal message attached to it. There is something not quite right about how the yearning of the daughter for her father is fulfilled almost in a supernatural way, the desire of her equine companion brutally suppressed. The subsequent union of the girl with the horse hide is conducted in a similarly haunting manner borderline monstrosity. There is this weird telepathic response of the horse in reaction to the daughter's (or mother's) desperate request, and yet its "abnormality" or "unnaturalness" is overtaken by the father's failure to honor the vow pledged by the daughter (or mother). There is also a strange sense of the father's radicalness: his butchering of the horse as if it were a "monster" to be slain, a sentient being who is also his savior. By killing the horse, the father is also turning himself into some sort of "inhuman" monster.

In "Monster Culture (Seven Theses)," Jeffrey Jerome Cohen (2007) describes how monstrosity is socially constructed since it is an expression of desires and anxieties

that cannot be socially or culturally contained. The horse's longing to marry the girl manifests a deviance from social norms (humans cannot marry beasts) and the transgression of cultural expectations (the boundary between humans and horses being blurred and confused), and thus needs to be eradicated. What resumes after the horse's death is an eerie sense of spectrality with the horse hide present in the family yard, in its proximity to the living quarters of the family members that deceived the horse's trust and murdered it. While the horse hide eventually haunts (and hunts) the daughter by possessing her body and taking her way, these emotional tensions and undercurrents are suppressed, unnamed (perhaps un-nameable), excessive and uncontainable despite (or precisely because of) the human betrayal and killing. Calling the deaths of the girl and the horse sacrificial is an understatement. The metamorphosis of the girl-horse into this unusually big and productive silkworm, while symbolically indicating the interconnectedness between humans and the nonhuman world, remains a traumatic event under the disguise of the silkworm-mulberry union, which is presumably spiritually cleansing, psychologically therapeutic, and economically benefiting. The sound of the Chinese name of the white mulberry tree, *Sang*, bespeaks such a haunted landscape, a haunted planet, a damaged human-nonhuman relationship that remains to be repaired.

In this way, the silkworm girl tale speaks to the messy reality of human-nonhuman intimacy despite its fable-like setting and allegorical elements. The Chinese myth reflects the haphazard, precarious encounter between humans and nonhumans. It is about a family torn apart by war, and a forced union between the supernatural husband-horse and the unwitting human-wife. Thus, it goes beyond the traditional reading of a sacred spiritual as well as natural transformation, of the increase of natural productivity through human/animal sacrifice, and the biological transformation of silkworms into cocoons of silk for human use. It exposes the tension between various human and nonhuman forces, the treason of the broken vows between the girl-horse bound, the tabooed nature of human-nonhuman bestiality, and the trauma of human mastery over nature only fed by blood.

The concluding comment on the mulberry-loss homophony in the first story encourages the reading of the tale as a tragedy. Yet it is also a necessary tragedy that embodies the anthropocentric shift from an ancient Chinese cosmology of human-nature harmony into a human-centric, patriarchal, and agriculturally dominant

society, in which greater harvest comes at the expense of the sacrifice of the girl and the horse, the loss of which can only be preserved and mourned in name. The white skin of the horse and the body of the girl embody the human manipulation, appropriation, and extraction of the silkworm's bodily resources, its reproductive functions, and its cocoon-producing process. The skinning of the horse further indicates how, despite the girl's initial intimacy with the horse, the horse remains instrumental for human purposes, first as a vehicle and weapon for the battlefield, and later a source of fabric for human use.

In the silkworm girl tale, nature's abuse and its consequent retribution are downplayed, subsumed, and incorporated into the ritualistic folk tale of transformation about the fertility of nature to yield great agricultural profit for humans. The transgressive aspects of the tale are contained (like the horse hide and body of the girl), sanitized, and whitewashed later into Taoist folklore about preserving feminine virtue, patriarchal order, and familial piety. The murder of the horse and then the girl's "kidnap" maintain a superficial "poetic justice" in the story, since the death of the horse is ostensibly revenged with the death of the girl. The "an eye for an eye" plot in reality exposes the vulnerability of the two characters in a patriarchal society, in which the father's life and, by extension, the restoration of the familial order are predicated upon the defenselessness of the two victims at the bottom of the hierarchal food chain. If we take the final scene of the horse hide wrapping the girl up as a bestial rape scene, the seemingly "predatory" behavior of the horse (in both stories the horse gets excited at the sight of the girl) creates a façade for the violence exerted by the father, who, as the main beneficiary of the EcoGothic-familial drama, attempts to maintain his family reputation and is turned into the truly cold-blooded murder and persecutor of his equine-savior. The brutality of the war and tribal strife in the backgrounds of the two stories is replaced by the aggression of the family drama. While both stories begin with the absence of the father as the collateral damage of the human conflict, the trauma of the war/kidnap is displaced by the violence that the father inflicted upon the body of the horse and, by extension, the body of the daughter.

Cohen's (2007) interpretation of monsters bears resemblance to Fong-Mao Lee's views on the structural aspects of ancient Chinese fantastic legends. Lee (2010) explains two kinds of "transformation" in Chinese folktales of monsters and wonders: "the normal and the abnormal" (121). Abnormal phenomena threaten human

existence and the order of all things and highlight the "dignity of humans" upon returning to normalcy after experiencing extraordinary events (121). For Lee, transformation "allows the narrator and the reader to return to a peaceful and harmonious daily life after experiencing a profoundly dramatic situation. Then, in the tranquility, they can savor the thrilling sensation, thereby achieving a sense of relief and joy from knowing the truth" (122; translation mine). This "thrilling sensation" brought about by facing abnormal changes or monsters is demonstrated in the silkworm girl myth. The daughter's jesting and the horse's desire to marry the daughter embody the departure from patriarchal social norms, where humans are not supposed to interbreed with animals. The blurred boundary between the girl and the horse in this human-animal transgression requires eradication, both textually and socially. In the first version, the father instinctively regards the human-horse oath as a family secret and social taboo—"Do not speak of it. You might disgrace our family. Do not go in or out" (Gan, n.d.: para. 11)—and secretly shoots and kills the horse: "So he hid and shot it with a crossbow. He flayed it openly in the courtyard" (Gan, n. d.: para. 11). The father's secretive behavior suggests that he is not only concerned about maintaining the family's reputation, but also seems to fear the horse's exceptional response. In the latter version, the father's gratitude for the horse's rescue and the more complex moral judgment are added. The father analyzes the situation thus: "To have saved me from danger is a great deed. But the vow cannot be fulfilled" (Du, n.d.: para. 8). His cruelty towards the horse seems to stem from a fit of temporary anger to protect his family from the horse's abnormal actions: "The horse neighed and knelt down even more, about to harm people, and the father angrily shot and killed it" (Du, n.d.: para. 8). The later version subtly rewrites the more naked or fearful human response to the unknown of the nonhuman in the first version and the immoral actions of humans toward the nonhuman and reworks the scene of the father's ruthless killing of the horse out of fear into an uncontrollable abnormality of the horse and the father's impulsive decision to protect his family and the unexpected pursuit.

Although for Fong-Mao Lee the chilling sensation brought about by the abnormality of the silkworm myth might lead to comic relief, the silkworm story further triggers reflections on ecological trauma. In the conclusion of the first version, in particular, the homophone pairing of "sang"/"mulberry" and "mourning" might refer not just to the tragic loss of the daughter to the family, but also to the disequilibrium

between the human and the nonhuman world, foreshadowing the planetary crisis that humans will face fifteen hundred years later because of large-scale agricultural regimes and subsequent industrialization. The *sang*/*loss* pun further carries two important material cultural meanings. First, the early method of silk production in China differed from that of other Asian countries like India. In ancient India, wild silkworms transformed into moths to produce silk cocoons, while in China cocoons were boiled and silk was extracted from them, sealing the fate of the domesticated silkworm pupae, unable to metamorphose into moths during the process of silk production (Hansen, 2015: 19). The biological cycle of mulberry trees nurturing silkworms is violently interrupted by their domestication. Although the ending of the first silkworm tale indicates that the silkworms produced from the girl-horse hybridity are a new improved variety, allegorically reflecting the discoveries or improvements in sericultural technology, the narrator unexpectedly shifts the focus from the increased yield of silk to the name of the mulberry tree, contrasting the paradoxical relationship between agricultural harvest and human-nonhuman sacrifice in the evolution of sericultural techniques.

On the other hand, mulberry groves were places where humans communicated with deities to pray for rain, offspring, and a good harvest. At the same time, silk's earliest use was primarily in funerary rites and offerings. Fong Chao (2022) notes that the Chinese term "Fu sang," which refers to the mythical place where the sun resides, was an important symbol associated with mulberry groves. Ancestors regarded it as "one of the pathways to communicate between heaven and earth"; the deceased were wrapped in silk fabric after death, like cocoons, to "help the soul of the deceased ascend to heaven" (30-32). As Fong Chao explicates, the miraculous transformation of silkworms after feeding on mulberry leaves imbues mulberry trees with mythical significance. The silk fabrics made from silkworms were initially used in occasions related to "meeting ghosts and gods," such as shrouds, sacrificial clothing, silk books, and ritual silk artifacts used in funerals and ceremonies (32-34). In this way, the homophonic connection between "mulberry" and "loss" is more than a coincidence. It manifests the eco-spiritual role sericulture plays in ancient Chinese culture.

Sericultural Materialism and the Anthropocene Crisis

In both versions of the silkworm girl story, the representation of the girl-horse hybridity as an origin of sericultural materialism reveals several layers of historical violence and aggression. Both stories depict a family torn apart by war, with the father taken away either for his military duty, as in the first version, or for being kidnapped by the neighboring state amid tribal strife, as in the second version. The story exposes various conflicts and oppositions between humans and humans, humans and non-humans, the vows and betrayals between the daughter and the horse, the taboo nature of the intermingling of humans and beasts, and the oppression and separation between humans and nonhumans caused by military fight for and control of natural resources. The origin of silkworms can thus be seen as a prequel to the Anthropocenic Gothic. With the girl being taken away by the horse, the silkworm tale is a reversal of the Western fairytale of *The Beauty and the Beast*, where honesty, trust, and love grow between two characters of different species and enable the transformation of the beast back into a handsome prince. It is also the opposite of the allegory of the Anthropocene, given that the murder of the horse and the loss of the girl yields better agricultural results. Rather than perceived human-nonhuman reciprocity and kinship, the silkworm girl story accentuates its discord, unwitting sacrifice, and betrayal of the human-nonhuman trust through the convergence of the gothicized human, transhuman, posthuman, and nonhuman bodies (Del Principe, 2014: 1).

Furthermore, the silkworm story evokes human and nonhuman timescales on several different levels and suggests a human-centric cosmological worldview off-kilter. While humans in the tale might seem the dominant species, it is the horse and silkworms that provide transportation, protection, clothing, and shelter. In comparison with humans, while the life span of a silkworm (6-8 weeks) might be considerably shorter, its silk product can last for many years. Recently, scientists discovered that silk is suitable for outer space temperatures since the fabric grows stronger when it gets colder, contrary to "other polymer fibres" that "embrittle in the cold" (Department of Biology, n.d.). The metamorphosis of the girl-horse into silkworms thus implies a transformation not only in a mythical sense but also on a geological timescale that points towards the haunting presence of materiality beyond human existence.

Critics have shown how the silkworm girl story replicates the dominant patriarchal hierarchy; what seems less noticed is how, even in a mythological world like this, humans must rely on the natural world, rather than the other way around. The half-human, half-horse transformation into silkworms appears to be a happy coincidence (for humans, and perhaps mulberry trees later, due to the development of sericulture and moriculture globally), rather than a design under the control of any of the human characters in the tale. Although the father's action (or inaction) seems to dominate the story of the silkworm girl, what provides transportation (war horses), protection (the father's rescue), and clothing materials (horsehide and silk) mostly come from the nonhuman characters (the horse and silkworm). Furthermore, there is a profound ecological connection between horses and silkworms in ancient Chinese almanacs. In the end of the silkworm-girl tale, Bao Gan (n.d.) refers to *The Heavenly Officia*ls and *The Rites of Zhou* as authorities to explain the ecological interdependence among horses, mulberry trees, and silkworms:

> According to *The Heavenly Officials*, "The morning star is the star of the horse." The *Book of Silkworms* says: "During the month of the Great Fire, one should bathe the silkworm seeds." This indicates that silkworms and horses share a similar vital energy. *The Rites of Zhou* states that one should "teach people to take care of those who handle silkworms." The annotation explains: "No two things can occupy the same space; prohibiting the handling of silkworms is to prevent them from harming horses." (para. 11)

Similarly, the mulberry tree not only provides food for silkworms but also serves as a source of clothing, dyes, food, beverages, medicinal herbs, timber, utensils, and furniture for humans through its bark, leaves, roots, and mulberries (Coles, 2019: 174-216; Huo, 2002: 31-34; Sandilands, 2022: 18-19).

Additionally, mulberry leaves are often a source of winter forage for horses in agricultural societies. With the globalization of silkworm culture and the expansion of imperialism, the mulberry tree has become a common landscape tree in the Royal Gardens of England and the eastern United States (Coles, 2019: 216-18; Sandilands, 2022: 23). The sericultural industry in Southern China has further developed into the famous agricultural model of "mulberry-dike and fish-pond,"

where the waste produced by silkworms feeding on mulberry leaves serves as fish feed, and fish excrement settles at the bottom of the pond to fertilize mulberry trees and other economic crops (Coles, 2019: 113-14; Huo, 2022: 30). The coexistence of mulberry trees and fishponds in China has attracted attention from the Food and Agriculture Organization of the United Nations, which has designated the mulberry-dike and fish-pond system in Huzhou, Zhejiang, as one of the Globally Important Agricultural Heritage Systems (*Xinhua Daily Telegraph*, 2019).

The coexistence of sericulture and the Silk Road is also closely related to the employment of horses as important pack animals in commerce and military affairs. The symbiotic relationship between the sericultural industry and military expansion is discernible in the silkworm-girl story. Firstly, horses, along with camels and other pack animals, were integral parts of commodities in the development of the ancient Silk Road. For nomadic tribes in Central Asia and merchants along the Silk Road routes, horses were not only essential transportation tools for goods but also valuable commodities themselves, often showcased in artworks and given elaborate funerals after death (Liu, 2010: 17; Hansen, 2015: 201). Additionally, the domestication and improvement of equine breeds, as well as the introduction of Mongolian horses, were closely linked to the needs of agriculture, commerce, and military activities. Valerie Hansen (2015) asserts that the Chinese militarism was a major factor in promoting the Silk Road trade (82). Yingsheng Liu (2018) further pointed out that the introduction of sturdy and enduring Mongolian horses was a result of the inadequacy of the original Central Plains horses for commercial needs. These valuable equine breeds became commodities traded among various agricultural and nomadic tribes along the Silk Road (Liu, 2018). Hui-Ying Lin (2012) also claims in her exploration of the relationship between Chinese sericulture and horse breeding that, since the Qin Dynasty, horse breeding and sericulture have been crucial national affairs (18-19).

The development of Chinese silk over five thousand years, starting from the teachings of the Yellow Emperor and the revered Leizu "First Silkworm Lady", has been closely intertwined with the development of Chinese culture and is closely related to national identity. Silk has also become part of the symbol of Eastern culture, with festivals and traditions related to silkworm abundance preserved in many parts of China. However, the deep sadness expressed in the story of the silkworm girl also conveys a warning message about planetary imbalance that is hard to overlook. As Catriona

Sandilands (2022) comments on the untimely death of the silkworms and silkmoths in sericultural practice, since "the cocoons are generally boiled alive to clean and extract the finest silk thread," and also on the adult moths' inability to fly or discern "the *Morus* smell of the leaves on which it must lay its eggs" as a result of "selective breeding" (17), the human-silkworm intimacy is often characterized by cruel treatment of animal lives. Peter Coles (2019) also remarks that the globalization of the silk industry—from East Asia to Central Asia and the Mediterranean and Europe—and the development of the Silk Road are closely related to imperialism, war, and colonialism (69-84). If the process of silkworm domestication can be seen as a form of anthropogenic violence, then the manipulation of the life cycle of silkworms and the extraction of silk from cocoons as luxury items for human clothing embodies the human depletion of natural resources. The silkworm-girl tale foresees the disquieted human-nonhuman connection and the haunting specter of the Anthropocene in the making.

Conclusion

In what I would call an abject, melancholy EcoGothic (or an EcoGothic melodrama), the poignancy of the story's sad ending remains hauntingly hidden out of sight, and the folktale is caught between the tragic-comic and the comic-tragic mode, with the girl's wish coming true, the father saved, and yet both of the protagonists, the girl and the horse, are killed and then united, albeit in an uncannily transgressive manner. The naming of the white mulberry tree as "death/loss" bears witness to the imprint of the human-nonhuman symbiosis predicated upon violence against animals, human-nonhuman fracture, and anthropocentric appropriation. While, as Coles shows, the proliferation of white mulberry trees benefits from the prevailing popularity of sericulture across the globe, the silkworm girl story in Chinese mythology reveals the darker side of this sericultural success story. If the process of sericultural domestication can be seen as an emblem of the Anthropocene, with its possession, manipulation, and extraction of silk from silkworm cocoons for human use, then the folklore of the silkworm girl encapsulates the traces of such Capitalocenic monstrosity, manifesting the EcoGothic potentiality of Asian folktales in their illumination of the environmental relations of predation, consumption, and exploitation in a transcultural

context. From a contemporary standpoint, the historical significance of the Silk Road has far-reaching implications, especially inspiring initiatives such as China's Belt and Road Initiative proposed in 2013, emphasizing the interconnectedness of global economic chains and modern industrial development, aligning the ancient global civilization of sericulture with modernization and industrialization, thereby generating tangible benefits for economic and political policy implementation. In 2014, the Silk Road was listed as one of the World Cultural Heritage Sites, further highlighting the significant position of sericulture in China's cultural history and global identity. This paper hopes to shed light on how the half-horse, half-woman hybridity of the silkworm goddess and the double role of silkworms both as the producer of silks and consumer of mulberry trees speak to the EcoGothic potentiality of Asian folktales in their illumination of the environmental relations of predation, consumption, and exploitation in a transcultural context.

Bibliographical references

Chakrabarty, Dipesh. (2009). "The Climate of History. Four Theses." *Critical Inquiry*, 35(2), 197–222. https://doi.org/10.1086/596640.

Chao, Fong. (2022). *Jin cheng: Zhongguo sichou yu sichou zhi lu* [The way of Chinese silk: silk history and the Silk Road]. Huangshan Publications Inc.

Chen, Jia-Wei; Wu, Xiao-jun; Zhao, Zhao-xin. (2005). "Tui yuan shenhua: Canshen matouniang *Sou shen ji* nuhua can" [The Origin Myth: The Story of Canshen in *Sou shen ji*]. Retrieved 24 July 2024 from https://commons.ln.edu.hk/chin_proj_2/8/.

Cohen, Jeffrey Jerome. (2007). "Monster Culture (Seven Theses)." In Clive Bloom (Ed.), *Gothic Horror: A Guide for Students and Readers* (pp. 198-2016). Palgrave Macmillan.

Coles, Peter. (2019). *Mulberry*. Reaktion.

Del Principe, David. (2014). "Introduction: The EcoGothic in the Long Nineteenth Century." *Gothic Studies*, *16*(1), 1-8. https://doi.org/10.7227/GS.16.1.1.

Department of Biology. (n.d.). *A Filament Fit for Space: Silk Is Proven to Thrive in Outer Space Temperatures*. University of Oxford. https://www.biology.ox.ac.uk/article/a-filament-fit-for-space-silk-is-proven-to-thrive-in-outer-space-temperatures.

Du, Guan Ting. (n.d.). "Juǎn liù" [Scroll 6]. In *Yong Cheng Ji Sian Lu* [Records of the assembled transcendents of the fortified walled city]. Chinese Text Project. https://ctext.org/wiki.pl?if=gb&chapter=697163.

Estok, Simon C. (2009). "Theorising in a Space of Ambivalent Openness: Ecocriticism and Ecophobia." *Interdisciplinary Studies in Literature and Environment*, *16*(2), 203-225. https://doi.org/10.1093/isle/isp010.

Fang, Yun-Cih. (2018). *Daofa yu zongfa: Du Guangting Yong cheng ji xian lu nuxing lunli guan zhi kaocha* [Doaist orthodoxy and patriarchal system: gender and ethical ideas in Du Guan Ting's Yong Cheng Ji Sian Lu] (Doctoral dissertation, National Taiwan University). https://doi.org/10.6342/NTU201803527.

Gan, Bao. (n.d.). "Dì shísì juǎn" [Scroll 14]. In *Soushen Ji* [In search of the supernatural]. Chinese Text Project. https://ctext.org/wiki.pl?if=gb&chapter=549265.

Gu, Xijia. (1991). *Dongnan cansang wenhua* [Southeast sericulture]. Chinese Folk Literature and Art Publishing House.

Hansen, Valerie. (2015). *The Silk Road: A New History*. Oxford University Press.

Hillard, Tom J. (2009). "'Deep into That Darkness Peering': An Essay on Gothic Nature." *Interdisciplinary Studies in Literature and Environment*, *16*(4), 685-695.

Huo, Yongkang. (2002). "Mulberry Cultivation and Utilization in China." In M.D. Sánchez (Ed.), *Mulberry for Animal Production* (pp. 11-43) Food and Agriculture Organization of the United Nations.

Jones, Stephen. (2013). *In Search of the Folk Daoists of North China*. Ashgate Publishing.

Kuhn, Dieter. (1984). "Tracing a Chinese Legend: In Search of the Identity of the 'First Sericulturalist.'" *T'oung Pao*, Second Series, *70*(4-5), 213-245.

Lee, Fong-Mao. (1986). "Busi de tanqiu—Cong bianhua shenhua dao shenxian bianhua chuanshuo" [The pursuit of immortality—From the myth of metamorphosis to the legend of Immortals's Metamorphosis]. *Chung Wai Literary*, *15*(5), 36-57. https://doi.org/10.6637/CWLQ.1986.15(5).36-57.

Lee, Fong-Mao. (2010). *Shenhua yu bianyi—Yige "bian yu feichang" de wenhua siwei* [Myth and variation—a cultural thought about change and abnormality]. Zhonghua Book Company.

Lin, Hui-Ying. (2012). "Zhongguo cansang wenhua de nuzi dingwei—Yi lei zuxian can yu nuhua can gushi wei guancha zhongxin" [The role of women in Chinese sericulture: based on the texts of Lei-zu and Silkworm Goddess], (21), 1-42. https://toaj.stpi.narl.org.tw/index/journal/volume/article/4b1141f9909738b601909a9d76fa04b1.

Liu, Xinru. (2010). *The Silk Road in World History*. Oxford University Press.

Liu, Yingsheng. (2018, January 22). *Gudai dong xi fang jiaoliu zhong de mapi: Sichou zhi lu, yeshi liangma zhi lu* [Horses in ancient East-West exchanges: The Silk Road, also the road of good horses]. China Daily. http://world.chinadaily.com.cn/2018-01/22/content_35554674.htm.

Miller, Alan L. (1995). "The Woman Who Married a Horse: Five Ways of Looking at a Chinese Folktale." *Asian Folklore Studies*, *54*(2), 275-305. https://doi.org/10.2307/1178945.

Morton, Timothy. (2016). *Dark Ecology: For a Logic of Future Coexistence*. Columbia University Press.

Ruddiman, William F. (2003). "The Anthropogenic Greenhouse Ear Began Thousands of Years Ago." *Climatic Change*, *61*, 261-93. https://doi.org/10.1023/B:-CLIM.0000004577.17928.fa.

Ruddiman, William. (2017). "Geographic Evidence of the Early Anthropogenic Hypothesis." *Anthropocene*, *20*, 4-14. https://doi.org/10.1016/j.ancene.2017.11.003.

Sandilands, Catriona. (2022). "Mulberry Intimacies and the Sweetness of Kinship." In Susanne Lettow & Sabine Nessel (Eds.), *Ecologies of Gender: Contemporary Nature Relations and the Nonhuman Turn* (pp. 15-33). Routledge.

Xinhua Daily Telegraph. (2019, January 18). "Huzhou 'sangji yutang' de qianshi jinsheng" [Past and present of Huzhou's "Mulberry Fish Pond"]. Xinhua Daily Telegraph. http://mrdx.cn/content/20190118/Articel12002BB.htm.

You, Xiuling. (2002). "Canshen: Leizu huo matouniang?" [Silkworm God: Lei Zu or Ma Tou Niang?]. *Gudai wenming* [Journal of Ancient Civilizations], *1*, 298-309.

Zhong, Jingwen. (1982). "Matouniang chuanshuo bian" [The legend of the Horse-headed Lady]. In *Zhong Jingwen minjian wenxuelun ji* [Zhong Jingwen Folk Literature Collection] (pp. 245-51). Shanghai Literature & Art Publishing House.