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REVIEW AND ANALYSIS OF THE CIRCUMSTANCES THAT ALLOW FOR THE
DEVELOPMENT OF MATRILINEAL SOCIETIES: A CASE STUDY OF THE
MINANGKABAU, MOSUO AND NAVAJO

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ABSTRACT

Matrilineal societies, those based on kinship with the mother or the female line, continue to endure in a changing world. This thesis uses a comparative case study of the Minangkabau in Western Sumatra, Indonesia; the Mosuo in China; and the Navajo of North America to explore the social, cultural, and economic conditions that favor matrilineality. In such societies, although complete female dominance is not practiced, women exert considerable influence and retain many family assets that are bequeathed to daughters. Here, I review and analyze scholarly literature on the subject of matrilineal societies, predominantly in Western Sumatra, to determine the characteristics and circumstances that lead to the development of matrilineal societies. The implications of these findings are far-reaching, challenging our preconceptions of the inevitability of male dominance and gender inequality. Understanding the development of matrilineal societies, the social and economic roles that women play, and how women are treated can help us to better recognize how to foster equality at home and in the workplace.

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Introduction

Throughout history, the common trend of societal development has been that of patrilineal societies. This entails that inheritance is traced through the decent of the father along the male lineage. In societies that have yet to integrate themselves into the global network, a different system has developed in the form of matrilineal societies. Contrary to popular belief, matrilineal societies do not signify a society with a complete reversal of roles. Rather, men and women share domestic roles or great respect, and privileges are granted to the women of society as inheritance is traced along the female lineage. This phenomenon can be attributed to a variety of related factors, as researchers such as Bolyanatz (1995), Cronk (1989), and Holden (2003) argue that the types of transferable goods to offspring influence a society's development, while others cite a society's main subsistence occupation and the sporadic or constant presence of men to be a driving factor in societal development. To explore how these factors influence men's and women's social roles and ownership of goods, I compare and contrast three matrilineal societies: the Minangkabau, the Mosuo, and the Navajo. I analyze types of livelihoods, economic resources, location of residence, migration of community residents, the impact of warfare, paternity and closeness of kin to draw conclusions regarding the evolution and maintenance of matrilineal social organization.

Among the Minangkabau, males and females relate more like partners for the common good than competitors ruled by egocentric self-interest. The way in which females obtain endowments to family goods and the role maternal brothers and uncles play in a daughter's life is significantly different from those of a patrilineal household. The Mosuo women of China as well as the Navajo women of North America experience similar benefits as those of Minangkabau

women, yet if one takes these two societies at face value they appear to contain several societal facets that differ from the Minangkabau, yet are still considered matriarchs. It is the goal of this study to establish a link between similar prevailing societal factors and female roles. Various facets of these three case societies have been considered and compared – analyzing types of livelihoods, economic resources, location of residence, migration of community residents, the impact of warfare, paternity and closeness of kin to effectively draw a conclusion regarding the formation and continuation of matrilineal societies.

The Minangkabau, the Mosuo and the Navajo

The Minangkabau

The Minangkabau are an indigenous ethnic group native to the highlands of Western Sumatra in Indonesia, but are also spread throughout the Malay Peninsula. They are the world's largest matrilineal society based on the bequeathment of land and property through the matrilineal line. Minangkabau society is ruled by what is known as the *adat*, a body of local customs that make up the whole structural system of society and form its value system. This system consists of ethical, legal and social expectations, yet there is the idea that the *adat* should have the flexibility to adjust according to the situation (Abdullah, 1966, p. 1). The *adat* is the practice of bequeathing inheritance to one's sororal nieces and nephews. This idea comes from the ancient times of Datuk Katumangnungan and Datuk Perpatih nan Sebatang, the two founders of the *adat*. Legend states that the pair set out to sail to Aceh, but their ship ran aground. They told their children and sororal nieces and nephews to help tow the ship, but their children refused for fear of getting run over by the ship. On the other hand, their

sororal nieces and nephews, termed *kemanakan*, obediently obeyed their elders' command, insisting that it did not matter if they got run over because they had to assist their elders. After successfully towing the ship, the pair declared that all property was to be given to the *kemanakan* as a reward for their services, the origin of the Minangkabau matrilineal system (Kato, 1978, p. 1).

According to Kato (1978), there are four characteristics that are identified as traditional to the Minangkabau system: Descent group formations are organized according to the female line, creating a matrilineal society; the matrilineal system is a corporate descent group with a ceremonial instituted male; residential patterns are duolocal, meaning that after marriage the husband moves into or near the house of his wife and stays there at night but continues to return to his mother's house in the daytime; and that authority within the lineage is in the hands of the maternal uncle, not the father (Kato, 1978, p. 3-4). In terms of inheritance and land ownership, one sub-clan possesses *harta pusaka*, wealth or a given amount of land that is inherited from the brother of the mother to his nephew, while individuals possess *harta pencarian*, self-acquired wealth that is usually inherited from father to son (Stark, 2016, p. 2).

The Minangkabau way of life is made up of a "long-established, functional organization of decision-making based on the control of land, housing, and subsistence" (Thomas, 1985, p. 45). In Western Sumatran society, women are central to decision-making processes, consultation, and cultural beliefs. A wide variety of opportunities are made available for both men and women, yet women have a central economic responsibility to provide for their children and husbands in terms of food and education. Women do so by controlling the day-to-day affairs from land usage, money earned from the land, and money

transfers from marketing and industrial activity. In the Minangkabau society, decision-making is conducted in a consensual environment termed *mupakaik*, which means “shared consultation by group members” (Thomas, 1985, p. 51).

Marriages in Minangkabau society are arranged by the descent group, especially first marriages, yet there is a high divorce rate – if a marriage does not work there is no need to continue. The husband usually visits his wife at night and leaves her house in the morning. A husband’s authority over his wife and children is limited for several reasons, the first being, as Tanner and Thomas (1985) explain, that the husband is entering a well-established organized unit. He is, in effect, an outsider to the matrilineal lineage consisting of members who are unwilling to hand over their authority to an outsider (Thomas, 1985, p. 56). This does not necessarily mean that the husband’s thoughts and opinions are ignored. On the contrary, as an outsider he can often offer impersonal advice and a broader perspective regarding familial and business matters the other family members are highly invested in, although the husband does not hold authority to implement his opinions. A successful man will be able to mediate matrilineal situations while at the same time align his wife’s lineage interest with his own (Thomas, 1985, p. 56). This defuses any feelings of exclusion or resentment during decision-making. It is likely that a husband would have worked on his family’s land when land was abundant, yet once land became scarce he would have participated in the cultivation of his own land or that of his wife (Kato, 1987, p. 6). In the event of a divorce or death of the wife, the children remain in their mother’s home. The relationship between offspring and father begins to diminish yet the father’s sublineage continues a gift-giving relationship with the children (Kato, 1978, p. 7).

When the Dutch first arrived in West Sumatra in the 1700s, their primary interest was trade goods, however the establishment of Dutch ports led to increased Western influence and penetration into the interior of Sumatra. The consolidation of Dutch control of the region led to an increase in population from 690,000 people in 1852 to 1,900,000 in 1930 (Kato, 1987, p. 9). This also led to a rapid economic advancement with the introduction of cash crops like coffee, rubber and spices. Craftsmen, traders and middlemen began to play an integral role in the new economy. The expansion of the colonial bureaucracy created salaried jobs for the indigenous people, such as schoolteachers and low government officials. As a result of the increase in population, ancestral property became scarce and insufficient to support all members of a household. Villagers found that the new wage economy presented them with a means of supporting themselves and their families that was not restricted by the regulations of ancestral property, allowing an increase in *harta pencarian* (Kato, 1987, p. 9). Wives in turn began to rely more on their husband's earnings, placing more emphasis on the nuclear family as husbands began to reside with their wives.

Although the Minangkabau experienced significant changes in regard to their population and economy, the matrilineal system of descent still persists. Ancestral property remains an important asset, although it is more likely to be divided among the nuclear family, but still inherited along the female line. Generally, immovable property such as land and houses are passed on to daughters, while self-earned property is passed on to sons. Interestingly, if a self-earned property happens to be immobile, such as land, it will likely be considered ancestral land within two or three generations of inheritance and be transferred along the female lineage (Kato, 1987, p. 12). Residences have become more

uxorilocal rather than duolocal. A husband may visit his mother's house and natal kin if they live nearby, but will spend most of his time at the house of his wife and her relatives. By this pattern of living, the maternal uncle still retains significant influence over the welfare of his sister's offspring and the inner workings of the house, but relations between husbands and their wives and children have been strengthened in recent times.

The Mosuo

Roughly 2,882 km north of West Sumatra in the Provinces of Yunnan and Sichuan reside the Mosuo, the matrilineal people of China. They have been described as the only human society that lacks fathers and husbands, in contrast to the Minangkabau in which male kin and husbands are present throughout the matrilineal society. Mosuo are still regarded as being a matrilineal society despite this difference. The Mosuo are also an example of a matrilineal society that developed despite the practice of animal husbandry and subsistence agriculture (Mattison, 2010, p. 163). The Mosuo are an agrarian society centered around growing and harvesting crops and bartering between households and villages for goods. Traditionally, Mosuo food production was based on small-scale agriculture by growing buckwheat, barley, potatoes, and garden vegetables, and the animal husbandry of pigs, poultry, goats, sheep, cattle, and horses for food and labor. Unlike other matrilineal societies, the Mosuo seem to be adapting to the modern world by involving themselves in the tourism industry that has appeared around Lugu Lake. Tourism is governed by a committee of community and government officials charged with equally distributing the profits among the Mosuo households (Mattison, 2010, p. 162).

Labor is generally divided according to sex and age, although tasks are flexible and can accommodate changes in roles. Typically men perform heavy labor like plowing fields and digging trenches, while women are responsible for subsistence work, such as cultivating and processing food. Women also contribute more regularly to the household's needs than men. Yet, the presence of men is essential to the workings of a household, and a shortage of men may cause a household to adopt males or have them cohabit in the matrilineal household. Likewise, a shortage of females can be detrimental to a household, and new females may be sought to substitute for a lack of heirs (Mattison, 2010, p. 163). Men have a relatively greater ability to increase their family status through their participation in entrepreneurial and political areas impacted by the tourism industry. As a result, men are unavailable to tend to children and other domestic activities during the daytime hours. Grandmothers are usually heads of the household and provide the most support when it comes to taking care of children, the family, and household chores. The importance of grandmothers can be seen in the structure of a traditional Mosuo home, which is constructed around the grandmother's room where the children sleep and guests are greeted at the hearth (Wu, 2013, p. 2).

Mosuo households tend to be large, ranging from six to twelve members. If households become too large, groups may undergo household fissures, or a separating of households. Fissures are traditionally looked upon as shameful and only occur as a result of internal conflict and a transition away from matriliney. Among the Mosuo, stable resource distribution from the tourism committee can also lead to household fissures when members become more self-sufficient.

Like other typical matrilineal societies, children reside in the mother's household and have access to land and resources. Fathers do not reside in the matrilineal residence as mothers' brothers and related kin take responsibility for caring and providing for the children. Currently, co-residence fathers have become increasingly common and have begun to take over the role of maternal uncle (Mattison, 2014, p. 592,).

The Mosuo commonly practice what is known as marital reproductive union, or *sese*. This practice allows for men and women to have multiple, nonexclusive and non-contractual sexual relationships. Men typically engage in "night visiting," where they visit their lover's home at night and return to their natal residence where their mother lives in the morning. Men may present their lover with gifts and resources (Mattison, 2014, p. 592). For this reason, many researchers claim that the Mosuo lack the concept of father and husband figures. Conversely, association of paternity confidence is moderate among the Mosuo, suggesting that the Mosuo recognize paternity more than other matrilineal societies. Although the Mosuo practice *sese*, some couples eventually cohabit and share responsibilities, and the daughter's family openly acknowledges her lover, who brings gifts to family dinners. A woman can take multiple lovers at the same time and have children from different relationships without being stigmatized. As such, Mosuo marriages are not marked with a ceremony until the one-month survival of their child in which the father's family acknowledges the birth with gifts (Wu, 2013, p. 2). All children belong to the mother and reside in her household with access to the family's land and resources. Husbands do not eat in their wife's household, as they are expected to eat with their natal family and visit their wife at night or share a room in their wife's house with the other unmarried men. Divorce is assumed to have occurred if the husband stops visiting (Wu, 2013, p. 2). As the

father does not reside with his wife's family, the mother's brother plays an important role in the structure of the household. Like the women, brothers take responsibility for supporting and caring for the matrilineal children. The father may volunteer his time to care for the children, but the final decisions on their upbringing resides with the mother's family.

We have to take a moment to talk about the impact reproductive success and life history has on child-rearing and investment. The life history theory states that an organism's energy will be divided over the course of its life to growth, maintenance, and reproduction. According to Mattison (2014), energy can only be expended to one category at a time, therefore organisms must make tradeoffs. The increasing cost of raising a child may lead to lower fertility to accommodate poorer parents who need to provide for children who will become reproductively successful. On the other hand, educational success might be inversely related to reproductive success and lead to a maximization of inheritance and socioeconomic resources (Mattison, 2014, p. 595). It is important to note that success can be measured by a variety of factors depending on a society's values, such as entering the labor market, gaining an education, or having many children.

Since 1979, the Mosuo experienced a decrease in fertility as a result of China's child policy, in which the Mosuo were only allowed to have two or three children. The increased cost of education and child-rearing may have also influenced the decrease in reproduction. Conversely, a higher education has been linked to better job prospects, increasing the desirability of a partner and the reproductive success of a couple. Highly educated children have better opportunities to generate wealth and increase their own reproductive success. Mattison (2014) predicted that increased paternal care would be associated with greater

educational endeavors. Evolutionary anthropologists have found that an early age at first reproduction is associated with higher fertility in traditional and modern societies. There are times when a parent's desire to secure reproductive success for their offspring may delay the age at first reproduction. In preindustrial societies, parental presence is associated with an earlier age at first reproduction, probably because parents in these societies have accumulated resources to aid in an offspring's reproductive success through inheritance and arranged marriages (Mattison, 2014, p. 596).

In regard to inheritance, Wu (2013) argues that "when a household's resources are communal, relatedness to the whole household matters more than relatedness to individuals" (p.1). For this reason, the practice of breeding communally, sharing childcare, domestic, and agricultural labor and household resources has led the Mosuo to become matrilineal (Wu, 2013, p. 2). It is clear that the more a wife's female kin breed communally, the more effort men invest in their natal family, i.e., raising their sister's children and working on the family farm (Wu, 2013, p. 3). Ninety seven percent of mothers claimed children to be from the same father and promiscuity proved to be low, although conclusive genetic data is unavailable for the Mosuo (Wu, 2013, p. 3). Wu's conclusion is that communal breeding, rather than creating paternal uncertainty, is responsible for the Mosuo matrilineal system.

The Navajo

The Navajo are Native Americans living primarily in the states of Arizona, New Mexico, Utah, and Colorado, who for decades have practiced animal husbandry and pastoralism, yet have continued a matrilineal way of life. Navajo origins tell of a being known as Changing Women, who created livestock as a reward for the Hero Twins for ridding the world of evil. She traveled

to her home, an island in the Pacific, where she created the people of Earth. The people multiplied and became too many for the island so Changing Woman set them on a long migration with sheep and horses so they may prosper (Weisiger, 2004, p. 253). One of the key factors in the determination of a society's inheritance choice is believed to be the practice of horticultural or pastoral agriculture, which will be further examined in this paper. Matrilineal residence is preferred among the Navajo as daughters continue to reside with their parents and siblings. Traditionally, the groom's parents ask the female's family for their son's bride, offering gifts such as horses, sheep, and jewelry as a show of the appreciation of the woman (Shepardson, 1982, p. 150). Husbands then join their wife's family while wives enjoy the right to use their ancestor's land, own sheep, and learn weaving and subsistence skills. There is relative equality among men and women, as most decisions are made on a wider political level, in which "authority is egalitarian with an emphasis on individual autonomy" (Shepardson, 1982, p. 151).

Pastoralism among the Navajo people occurred in the 18th century as a result of the incorporation of Spanish livestock. An increase in the size of flocks promoted transhumance (Weisiger, 2004, p. 253). It is likely that the Navajo were not initially pastoralists even after they first acquired sheep, as they hunted wild sheep and deer, butchering them right away. Navajo women had already established a reputation as prominent herders and weavers in the community. With the increase in flocks, women began to tend to small flocks as a means of feeding and clothing their family, allowing the Navajo to remain mobile yet self-sustainable. There is evidence that they were constantly threatened by neighboring tribes such as the Utes and Comanches (Weisiger, 2004, p. 260).

The Navajo have experienced a shift from the early economy of livestock rearing and small-scale subsistence agriculture to one based on wage-earning in service, industrial, and

irrigation projects (Shepardson, 1982, p. 149). In 1933, as part of President Roosevelt's New Deal, a policy of increased respect for Indian culture, self-government, protection, and economic development was enacted. This severely impacted the Navajo as a policy of livestock reduction was also instated to restore the deteriorating Navajo land. This was to be cushioned by an increase in wage work and the availability of federal money. During this time, the per capita holdings in sheep and goats declined from 20 in 1930, 14 in 1935, 8 in 1940, then 4 in 1951 (Shepardson, 1982, p. 151). This was clearly not enough for a family to make a living from livestock alone. Wage labor was dominated by males, with the exception of woman's participation in agricultural labor off the Navajo reservation by aiding their husbands in the fields. Wage labor often took men away from their home for short periods of time, resulting in women who were self-reliant, managing without their husbands as they worked for white employers and attend ceremonies (Lamphere, 1989, p. 437).

Shepardson (1982) cites the observation by Dorothea Leighton and Clyde Kluchhohn that Navajo girls appear to be more conservative than boys. By age 11 boys achieve an adult pattern of respect in their behavior toward the outer world, while girls seem to retain more values and beliefs of Menomoni culture (Shepardson, 1982, p. 153). During the period from 1950 to 1980 the Navajo experienced societal changes that stemmed from the Navajo-Hopi Long Range Rehabilitation Act, which created new jobs, improved living conditions, established health committees, and promoted twice as many women as men to engage in higher education. With the reduction of livestock, many women sought alternative ways of making a living, such as obtaining wage-earning jobs. This spurred the creation of clerical and service jobs in the Bureau of Indian Affairs, the Indian Health Service offices and at technical institutions (Lamphere, 1989, p. 433). Although women began to gain a new level of self-sufficiency in the face of change,

they were still faced with discrimination. Sheep permits were only issued to the male heads of households, regardless of who owned the sheep (Shepardson, 1982, p.160). Shepardson (1982) states that most Navajo women agreed that their status during traditional practices was higher before the reduction of livestock. Women felt that even though they were better off economically, their overall situation had not improved and their quality of life was better when they were rearing sheep (p. 162).

Traditionally, husbands are the official head of the family, but wives or groups of women exercise the right to use their own judgment as far as the welfare of sheep and goats is concerned. In any case, women are more likely to be influenced and advised by their brothers and uncles than by husbands and fathers. Within the hogan, a traditional Navajo hut of logs and earth, and the surrounding area, the authority of women is seldom challenged (Lamphere, 1989, p. 435). Women take care of all the work inside and around the hogan, where they herd sheep and help in shearing and dipping. They also tend to subsistence agriculture work while men perform heavier activities. When sheep flocks were larger, women would butcher their sheep to sell and make rugs, thus providing themselves with their own income separate from their male counterparts (Lamphere, 1989, p. 442). There is considerable flexibility in regard to the division of labor, as many Navajo men take responsibility for cooking and childcare. Women create networks to facilitate exchange and support their herding and craft production with other women in extended family residences and cooperative labor with their husbands. Networks are usually centered around sisters but also include their husbands, female relatives, and in-laws.

In terms of inheritance, goods are handed down through the matrilineal line, through the mother and her relatives, in order to keep property within the clan. Most land transfers are classified as bilateral, mother to sons, and do not involve alienating the land from lineage control

in one generation. Yet there has been a decline in the amount of cultivated land from 187 acres in 1955 to 63 acres in 1989, which has coincided with a decrease in matrilineal field inheritance (Levy, 1989, p. 373). Levy states that localized matrilineal Navajo communities were found in both open and confined rangeland prior to livestock reduction. These areas were traditionally reliant on agriculture, from which families made an intermediate amount of wealth (p. 373). In an interview with Navajos from Black Mesa and Pine Springs it was revealed that the role of matrilineally related kin was still more important than a father's related kin even with a preference for marriage into a father's clan.

Although livestock reduction and increased female participation in wage work have somewhat diminished the traditional matrilineal system that was present prior to the introduction of pastoralism, matrilinealism still persists. In the following sections, I will break down various aspects of society that factor into the development of matrilineal and patrilineal societies, beginning with one of the most important factors regarding the bequeathment of goods, the certainty or uncertainty of paternity.

Paternity Uncertainty

Paternity uncertainty refers to the probability that a child is genetically related to its father, which can contribute to differences in kin investment, as first predicted by Richard D. Alexander (Huber, 2007, p. 198). In general, a mother's mother invests a greater amount of material resources and direct care to grandchildren than do a mother's father and a father's mother. A father's father tends to invest the least amount in their grandchildren because of the biological uncertainty of relatedness. A mother and her maternal kin know for sure that a child is biologically related to their kin group, yet a father and his kin can be uncertain as to whether he actually sired the offspring, therefore investment may be dubious. There has been a positive

correlation between paternal certainty and the level of care in childbirth by a newborn's father, the father's patrilineal and matrilineal kin, and the newborn's mother's patrilineal kin. In another sense, a father can never know for certain his relatedness to his wife's offspring, but he will always be certain of his relatedness to his sister and to her offspring. Thus a husband/brother may be better off investing more in his sister's children (Fortunato, 2012, p. 4939). On average, paternity uncertainty has to be considerably high for a man to consider investing in his sister's children. High levels of paternity uncertainty can also persuade parents toward daughter investment to avoid the risk of family wealth being inherited by non-relatives when grandparents are uncertain about the paternity of a son's wife's children (Holden, 2003, p. 103). Daughter-biased investment is shown to be an adaptive mechanism as the benefits of transferring wealth to sons does not outweigh the risk of paternity uncertainty of a son's offspring (Holden, 2003, p. 99). Daughter-biased investment is more likely to be employed when resources that increase a son's reproductive success, like cattle, are absent. In some societies, direct daughter inheritance of land is practiced, such as in parts of Malawi, Zambia, and Mozambique, while in other societies inheritance is transferred from a mother's brother to his sister's son (Holden, 2003, p. 102). It is also predicted that women invest more in offspring care than men and are more discriminatory when selecting a mate because they have a lower potential of reproductive success than men. According to Darwin's theory of sexual selection, females are less eager to mate than their male counterparts, who compete among themselves for access to females (Hrdy, 2000, p. 75). Males can afford to invest less time in offspring as sperm are relatively cheap and abundant, as opposed to the long periods of ovulation and gestation experienced by females which hinder their mating availability. Males can increase their reproductive success by mating with as many partners as possible in a way females cannot. Men tend to find pregnant and postpartum wives to be less sexually attractive and the practice of polygyny developed to increase a

male's genetic reproduction. In order to ensure the survival of a mother and her offspring, a mother may engage in extra sexual activities in the hope of having many potential "fathers" lined up to provide protection and resources for the mother and child. It has been observed that even the slightest possibility of paternity will manipulate a male's attitude toward offspring, as it's of great importance that potential heirs survive to carry on a father's name and inheritance. Females in turn must be discriminatory and ensure that their offspring gains the best genes and resources from its biological father. In theory, this can lead to extra-pair copulation and paternity uncertainty if a mate cannot provide one of the two criteria, protection and provisioning, for a prosperous offspring (p 75). As Hrdy (2000) states, when a female cannot have her "first choice" of a viable mate, as in the male with the most desirable traits/genes, they may seek to mate with a variety of other males to increase their prospects of gaining the protection and resources from other males (Hrdy, 2000, p. 77) further increasing paternity uncertainty. Polyandrous mating was used as a means of keeping a mother's infant alive by eliciting protection, support, and tolerance for subsequent offspring (p. 77). These benefits must outweigh the cost a female has to pay in terms of energy, sexually transmitted diseases, and punishment by controlling mates. If a female mates with many males, none of them can be entirely certain of the paternity of the offspring, yet the possibility of paternity is sufficient enough to alter a male's behavior toward a female's offspring as a potential heir. Regardless of a male's relatedness to his mate's offspring, he will always be certain that he and his sister's offspring share 50 percent of genetic relatedness. Rather than provide resources and protection for an offspring that may not be his, a man will assume the role of maternal uncle and aid his sister in the rearing of her children where at least he knows his time and efforts will be dedicated to continuing the family genes. Offspring without a father often suffer from malnutrition, infanticide, and prolicide. Thus, the unreliability of some fathers to provide for a pregnant mother and her future offspring due to the males' desire to increase their reproductive success would be a reason for females to have a variety of

“fathers” to take care of her and her offspring (Hrdy, 2000, p. 86). Resources like land and houses are thereby inherited through the female lineage where they will be kept within the family. Just as a brother claims relatedness to his sister’s offspring, so do maternal grandparents benefit from investing in their daughter’s children, as both grandparents have a higher probability of relatedness to their daughter’s offspring than to their son’s offspring. A woman’s family is more concerned with the well-being of the mother and child, while a father’s family mostly wants to extend the size of the family. Paternal grandparents, as well as the male’s siblings, may question their relatedness to offspring and thus be less inclined to offer support to the child, although in Mosuo society paternal grandparents continue to acknowledge the birth of the child even if the father’s relationship with the child diminishes. As women grow older their rate of reproduction decreases and mortality rates associated with reproduction increase (Huber, 2007, 199). Investing in maternally related kin such as grandchildren, nieces, and nephews becomes the next best way women can increase the welfare of their offspring.

Development of Horticulturalism and Pastoralism

In order to understand the development of matrilineal societies, it is important to break down their various components and delve into their history. One such aspect that will be explored in this portion of analysis is the development of horticultural versus pastoral subsistence farming. These two forms of cultivation are inherently different, as are their techniques and production, further impacting the very core of a society’s way of life and social relations.

Patrilocal residence, in which the wife lives with the husband’s kingroup, is the most common form of residence pattern in the world, occurring in roughly seventy percent of societies (Jordan, 2009, p. 1957).

It has been established that matrilineal practices were ubiquitous throughout Asia and the Pacific, yet the question of why they developed remains to be explored. There has

been a strong correlation between the type of subsistence practices and societal patterns, matrilineal or patrilineal, that develop. The economy of the Sursurunga of New Ireland studied by Bolyanatz (1995) is heavily based on the cultivation of tubers, cacao, and copra as cash crops (p. 171). Such societies tend to be horticultural, though without agricultural equipment or large domestic livestock (Holden 2003, p. 100). Holden (2003) cites Aberle's investigation of 565 societies around the world and found that out of the 84 matrilineal societies he encountered, 47 (56%) were horticultural as opposed to 19 (23%) that were pastoralists/agro-pastoralists. Out of the 188 (30%) horticultural societies, 47 were matrilineal compared to 19 (8%) out of the 242 pastoral societies. Although Aberle states that it is unsafe to conclude that matrilineal societies lack domestic plows and are thus matrilineal, it is reasonable to assume that matrilineal systems are predominantly horticultural (Holden 2003, p. 100). The Minangkabau themselves are highly horticultural, depending on the cultivation of rice, beans, cabbage, chilies, and coffee in the fertile highlands. There is a high correlation between type of subsistence and societal development, yet why should the type of subsistence effect the development of societies? Why should the introduction of livestock threaten a matrilineal way of life if all kinsmen benefit from the production of revenue?

In order to answer such questions, we'll take the Bantu-speaking tribes of Africa as an example. Holden and Mace (2003) used a phylogenetic comparative method to test for the coevolution between cattle and matrilineity versus cattle and patrilineity. By creating a family tree of the Bantu language, researchers were able to mirror the spread of farming across central and southern Africa. The tree was created using linguistic data and maximum parsimony as well as data from the Ethnographic Atlas (Holden 2003, p. 2426). It is evident

that early Bantu-speaking populations were neither matrilineal nor patrilineal. These patterns of subsistence were only recently adapted in southwest, east, and southeastern Africa. Evidence suggests that cultures without cattle with patrilineal or mixed descent did not gain cattle directly and become patrilineal; rather these societies were first matrilineal then acquired cattle and evolved into a patrilineal society. The shift from matrilineality to patrilineality by the introduction of cattle may be due to the bequeathment of goods to offspring. It has been hypothesized that the type of property, whether movable or stationary, has an effect on matrilineal and patrilineal societal development. Movable property that can be easily transferred to offspring, such as herds, slaves, or money, seems to be a predictor for patrilineal societies where goods are transferred through the paternal lineage, while stationary goods like land are more easily obtained by transfer throughout the matrilineal lineage. As such, the idea is that movable property can be accumulated by men who can then offer a bride-price to the parents of potential brides (Ember, 1971, p.576). This rationale will be further discussed in the following segments.

Another important aspect related to horticulture is the condition of the land. Land is a resource that is commonly handed down to women in matrilineal societies, yet land can be beneficial to men as well, enabling them to grow crops to support themselves and several wives. Where land is poor quality and unproductive, it may be of equal benefit to sons and daughters, or land inheritance may be focused on daughters and their children (Holden, 2003, p. 105). According to Holden (2003), "Matilineity replaces son-based inheritance under conditions of economic development" (p. 105), which creates inequality regarding wealth, increasing a male's reproductive potential. At the same time, land scarcity and competition for resources can also increase a son's wealth and economic

resources (p. 105). Often in times of slow economic development there is an increase in inequality of wealth, which can lead to an increase in men's reproductive variance in polygynous societies. Yet in places with more economic equality, sons and daughters are more likely to have equal inheritance, possibly because women are able to better defend their inherited wealth. At the same time these societies tend to enforce monogamy, reducing male's reproductive variance (p. 105). In such cases of extreme variance in economic standing it is beneficial to parents to have the ability to adjust the investments in the offspring with the most economic prospects (Cronk, 1989, p. 414). According to Trivers and Willard, if the mother's conditions during parental investment correlate with the probable reproductive success of her offspring, natural selection should favor the ability of parents to adjust their investment in the sexes to favor the sex with the best reproductive prospects. The pair thus created the Trivers-Willard model of sex ratio manipulation and sex-biased parental investment, which states that in times of increasing economic prospects, parents are likely to favor investment in a male offspring as their reproductive success increases, while in times of increasing economic failure, parents are more likely to invest in female offspring (Cronk, 1989, p. 415).

Following this line of reasoning, the introduction of cattle and livestock into a society transforms the system of descent from matrilineal to patrilineal. It can be assumed that most societies were at some point matrilineal before pastoralism was introduced. Yet there are, as in most cases, exceptions to the rule, one being the Tuareg of Northern Africa, who are highly pastoral yet predominantly matrilineal. The Tuareg also practice monogamous marriage. It is hypothesized that the Tuareg developed matilineity as an adaptive strategy, despite their pastoral nature and high paternity uncertainty (Holden,

2003, p. 104). Another example, more fitting to the Trivers-Willard Model is the Mukogodo, a pastoral tribe in East Africa. They were the last in their area to transition to pastoralism and have been the poorest group in terms of livestock wealth among the Maa-speaking tribes, yet parents display more investment in their daughters than sons (Cronk, 1989, p. 415). The low economic status and poverty of the Mukogodo has effects upon the reproductive success of the male population, who began to intermarry with their Maa-speaking neighbors after 1900. Males typically pay more bridewealth for women from other groups than men from other groups have to pay for Mukogodo women (Cronk, 1989, p. 419). As a result, the Mukogodo have fewer wives compared to their wealthier neighbors, while Mukogodo women have better reproductive prospects and marry wealthy non-Mukogodo men.

As indicated by research done by Cronk (1989) and Holden (2003) there are few societies that do not follow the strict paradigm of how a matrilineal or patrilineal society should function. It is safe to say that a variety of often complex factors are responsible for determining a society's internal structure, further explored in this paper. The presence of livestock and types of goods available to pass through either the male or female lineage are often intertwined with other predominating facets of society, for instance the system of trade and monetary exchange in regard to goods.

Economics

It is evident that economics have contributed to the development and continuation of matrilineal societies. The economic structure of the Minangkabau is primarily based upon the cultivation of cash crops from land that has been accumulated and passed along the female lineage. In 1884 J. B. Neumann, as cited by Dendi (2005) observed that the agricultural production of the

Minangkabau consisted of the cultivation of various trees, such as coconut, coffee, mango, jackfruit, and pineapple. From the colonial era, about 1821-1945, to the modern era, 1966-2004, the Minangkabau's dependence and diversification of cash crop cultivation has increased, as well as the development and implementation of irrigation canals and fertilizers to further generate production and income (Dendi, 2005, p. 18). Neumann is quoted as stating that "all the population make their living from agriculture... With knives and axes in hand, male, female and children go into the forests, seeking for good land and cultivate it for several years..." (Dendi, 2005, p.19). More importantly, the Minangkabau of Sumatra were able to retain their land holdings throughout the evolution of farming systems in which the security of land tenure was "essential for realizing changes towards sustainable agriculture and resource management" (Dendi, 2005, p. 25), which was precipitated by investments in cash crops and sustainable land use. Agricultural diversification aided farmers in dealing with environmental degradation, persuaded many to engage in new trade, and created a more competitive market among villagers. These factors likely perpetuated the Minangkabau practice of retaining family land holdings through the matrilineal lineage in a prospering farming and trade market, helping accumulate wealth within the family. Matrilinealism was strengthened through improved economic conditions.

On the other hand, the Mosuo in China have also enjoyed an improvement in their economic conditions, yet have experienced an erosion of their matrilineal tradition. Mosuo economic dependence has shifted from subsistence agriculture and animal husbandry to the tourism industry in the Lugu Lake region with the development of shops, karaoke bars, and restaurants. Lakeside villagers are able to live entirely from the tourism industry (Mattison, 2006, p. 126) governed by a committee of community and government officials who distribute the profits equally amount households. Men no longer need to rely on the wealth and landholdings of

women in their family. As communities become wealthier, there is less need to solely invest in female heirs, allowing for parents to invest in both sexes, namely the sex who seems more capable of “attaining status and promoting family interests” (Mattisson, 2006, p. 124). This encourages patrilineal practices with the idea that a man’s status and contributions to the family are vital. Men are more likely to encounter opportunities for increasing their status as well as the status of their family through participation in sectors influenced by the tourism industry. As a result, men are introduced to foreign cultures and ideas, further facilitating the shift from matrilineal to patrilineal practices. Mattisson (2006) concludes that in their study, tourist-impact areas showed more deviation from matrilineal ideology in terms of household composition and marriage preferences, both of which seem to be associated with wealth (p. 171), although women still play an important role in determining family structures and activities.

Similarly, shifts from matrilinealism due to changes in economic occupation and shifting gender roles have also taken place among the Navajo. Lamphere collected data from six different Navajo reservations, each with a different narrative on how matrilineality has been maintained, modified or forgotten. In the community of Ramah, despite being pastoral, Navajo women maintained a level of autonomy and authority that allowed them to participate in herding and agriculture. This resulted from the fluidity of gender roles among men and women. Although certain tasks were generally assigned to each gender, men and women could switch roles when needed with little or no animosity. Women generally took care of cooking, housework, and child-rearing while men looked after the cattle and did most of the agricultural work and heavy lifting. After a stock reduction that severely limited the number of herds, males decided to seek wage labor, which was more readily available to men than women, to improve their economic standing.

Women were still able to participate in what little flock they had left to herd, as well as supplement their earnings by engaging in crafts such as rug weaving. This provided economic resources through sales, procurement of credit, or use for subsistence (Lamphere, 1989, p. 436).

Within Navajo Mountain the roles and jobs of men and women were also fluid. Cooking and housework was mainly performed by women, while heavy lifting was generally performed by men. Both sexes worked together to plant crops and tend to the flock, although it seems women cared more for the sheep while men were more involved in farming.

The reservation of Fruitland was established on a government-administrated irrigation project where 10-acre plots were allotted to each male head of household (Lamphere, 1989, p. 440). These 10-acre allotments were not large enough to support a nuclear family, so many husbands and wives engaged in wage jobs in the surrounding communities. The allotment of land greatly undermined women's traditional positions and their economic influences, which resulted in patrilocal or nuclear family residences that separated women from their kin, as well as a reliance on the wage labor of men. Many women stated that without sheep to take care of, and an increasing dependence on men, they felt bored but were still burdened with household chores. One woman stated that when they had a lot of sheep, they did not care when their husbands went away and did not send money because they could butcher sheep and sell rugs for money, exerting their independence (Lamphere, 1989, p. 442). Lamphere (1989) states that by the mid-1960s, the livestock and agriculture-based economy had declined, resulting in the growth of a wage and welfare economy while federal and tribal programs began to provide local jobs to men and women (p. 443). Unlike Ramah and Navajo Mountain, the community of Copper Canyon was highly dependent on wages and welfare, yet wage work affected women in Copper Canyon differently from those in Fruitland. Sheep herds were small enough to be managed by two or four

adults. As opposed to Ramah and Navajo Mountain, men and women equally shared the responsibility of herding and tending to the sheep. Women were also fairly isolated from their kin and were thus unable to forge close familial networks to help them with tasks (Lamphere, 1989, p. 446).

Among the residents of Kitsili, women were increasingly engaged in wage labor during the 1980s, participating in occupations such as kitchen helpers, teachers or teacher's aids, and secretaries. Their jobs tended to be more stable and localized than those of men but they were paid much less (Lamphere, 1989, p. 447). Women dominated the livestock and crafts sectors of the economy, having the ability to inherit and purchase cattle. Among married couples, handling of income varied. In the most prevalent pattern, both adults handle their cash separately. Less common, the income of the household is derived from the male's wages. Husbands hand over their wages to their wives who then control expenditures. Women tended to child-rearing, house care, and food preparation, while men hauled wood and water, but men would occasionally assume the tasks of females if other kin were not available. Data on the women of Kitsili emphasizes the role of women in the livestock economy and the variety of opportunities to build a network of female kin (Lamphere, 1989, p. 447). Unlike Ramah, there were no apparent divisions of labor in regard to farming.

The last community Lamphere mentions is Flagstaff, whose women were almost completely dependent on wage labor. In 1981, about 81.2 percent of family income was attributed to wages compared to the 6.5 percent of income from crafts and 2.1 percent from traditional livestock raising (Lamphere, 1989, p. 449). These families owned livestock to sell sheep and reinvest revenue in cattle on the land they received from their kin. Men seemed to contribute more wages to the household income than women, the majority of whom worked in the professional

sector earning relatively high wages, while the rest of Navajo women in Flagstaff entered the service and craft producing sectors, earning low incomes (Lamphere, 1989, p. 449). The role of wage earnings among women greatly changed the division of labor and household relationships between men and women. Most of these women lived in nuclear families, far from female kin who could help with child-rearing and household chores. In some situations men were unwilling to assist their wives in household duties.

Each community provides a very different perspective of how means of income generation dictates the role of women within the community in regard to their influence as well as the division of labor between the sexes. The Minangkabau have been able to maintain their subsistence agricultural way of life, one that has over the years grown and developed into a thriving competitive market. There has been little to no significant change in their matrilineal way of life. The Mosuo, on the other hand, have experienced an increase in standards of living and income due to the introduction of tourism, which has attracted many male villagers. Although men have the ability to generate their own income and support their families, it has been at the expense of the Mosuo's matrilineal practices, which are no longer required when both sexes are able to obtain wealth status. The five Navajo communities presented by Lamphere (1989) illustrate the spectrum of matrilineal influence as a result of changes in economics and wages. In communities with the traditional practice of animal husbandry where women did the majority of shepherding, such as Ramah, women retained a network of female kin and the authority associated with matrilineal societies. In communities in which men and women were nearly dependent on wages rather than pastoralism, such as Kitsili and Flagstaff, the role of the matrilineal and the establishment of kinship bonds diminish or disappear. The way in which women and their resources are

utilized significantly determines if matrilinealism will occur and if it will persist. Another component that seems to coincide with economic practices is the choice of residence, which also dictates the establishments of kinship bond

Natal Residence

One effect of matrilineal residence is the ability for kinsmen to gather in one location and construct institutions of social organization, rules of descent, ownership, and uses of property (Ember, 1971, p. 571).

One of the largest correlations explaining matrilineal residence seems to be divisions of labor, which in turn determines where a couple will reside after marriage. According to this line of reasoning, if a particular gender performs most of the labor and subsistence work, the pattern of residence should reflect one that is localized to remain near kinsmen of that sex. Where males dominate the division of labor, residence tends to be patrilocal, also known as avunculocal or virilocal. Where females tend to dominate the division of labor, residence tends to be matrilocal or uxoriocal. In cases where neither sex predominates, residence is localized to either sex, which is known as biblical, ambilocal or neolocal residence. (Ember, 1979, p. 571). Accordingly, the sex that does most of the work in the marriage should be the one to localize, so men who frequently localize are the ones who generally contribute more than women and vice versa. When both sexes contribute more or less the same amount of economic subsistence, the married pair will localize where both can contribute equally (Ember, 1979, p. 573).

As with any rule, there are exceptions, one being the Lucayan Taino of the Spanish Antilles. Lineage is believed to be traced through the female line, with females sometimes holding chief positions as well as producing and distributing certain high-status goods. However, it has been reported that the Taino follow a patrilocal residence pattern not consistent with the

residence of a matrilineal system. Although a wife moves into her husband's village, the husband resides with his mother's brother, avunculocally, in the village of his lineage (Keegan, 1989, p. 618). Matrilocality may confer a political advantage in societies that are engaged in external warfare by dividing male groups that may become aggressive factions during internal conflicts (Keegan, 1989, p. 619). The idea persists that men who move away from their natal residence find it difficult to assert the authoritative roles they once held in their natal community. In patrilocal societies, male descendants almost always live together in their natal community, while in matrilocal societies, male descendants live in communities other than their natal ones. In the event of warfare among matrilocal societies, a man would have to engage in warfare against neighboring communities in which his kin reside, while in patrilocal communities, male kin are less likely to be forced to engage in external warfare with each other (Ember, 1971, p. 584). If warfare occurs purely externally, outside the range of a community or territory, the societies are more likely to be matrilocal, preventing fighting among male kin groups. If conflicts tend to be a mix of internal and external within a community and the surrounding territories, societies will likely be patrilocal, so residents and intermarrying kin groups influence the type of structure a society will adopt. In such groups, the bonds of sibilinghood outweigh marital bonds. Sisters draw support from brothers who sometimes stand up to husbands in order to enhance a female's bargaining power and increase mating efforts (Knight, 2008, p. 62).

There are many reasons why a child may wish to remain with a mother's kin. Fathers can come and go, yet when sibling relationships persist into adulthood at the expense of a marital bond, paternity certainty will be less likely and society will lean toward matrilineal descent (Knight, 2008, p. 66). In societies where a husband's rights prevail, a wife must give up her kin bonds and yield her fertility to her husband's family, increasing paternity certainty. In societies

where a woman chooses to remain bonded to her kin, there is a decrease in her bond to her husband and an increase in paternity uncertainty (Knight, 2008, p. 73).

Warring Tribes

Through the research for this study, it became apparent that warfare has had significant influence over several facets of a society that would contribute to its matrilineal or patrilineal development. Warfare has an influence over divisions of labor, dictating which gender is assigned which role based on availability, as well as the migration of men and the choice of avunculocal or neolocal residence among married couples due to kinship bonds.

When warfare is continual and males dominate the division of labor, residence is usually patrilocal, yet when warfare is continual and females dominate the division of labor, residence tends to be matrilocal. As there seems to be a strong correlation between warfare and division of labor, it is suspected that a consistent division of labor and residents may be linked to different types of warfare (Ember, 1971, p. 578). Typically in a society, men will do most of the subsistence work as long as warfare does not interfere. Women in these situations will spend their days caring for children and tending to household duties. As warfare, and in this case substance work, are typically male activities, it would be reasonable to ascribe that constant warfare under certain conditions would interfere with subsistence work to the point that women would have to perform the men's roles. Ember defines warfare as fighting that involves two or more groups. If a normal patrilineal division of labor is disrupted by warfare that either occurs frequently all year around, occurs at least once every two years at any time, or occurs frequently only at certain times of the year, men must travel and leave home for a long duration of time. As a result, women do at least as much subsistent work as men (Ember, 1971, p. 578). Matrilocal and matrilineal patterns may develop permanently when warfare occurs externally, such as in

other territories with other societies. On the other hand, men will do more subsistence work than women if the bulk of subsistence work does not take place while fighting occurs; when warfare occurs within the confines of the community or territory which may disrupt all types of labor done by the various groups in the community; if there is a specific fighting force or army that can fight while the rest of the male population focuses on other tasks; or warfare occurs more than once a year in short durations. Needless to say, men will perform more of the subsistence work unless prevented by warfare, as drawn by Ember and Ember (1971), yet there are cases in which females perform just as much subsistence work as men even when warfare is not present. As previously stated, warfare is greatly influenced by the type of residential patterns couples choose. Inter-marriage communities are more likely to be matrilineal and thus more likely to engage in external warfare that prevents fighting among intermarried communities and scattered male kin groups, while patrilineal societies engage in both internal and external warfare as most members of a male kin group reside within their natal community. A possible explanation is that other activities besides warfare can disrupt the inner workings of division of labor. Men may leave home for long periods of time for trading expeditions or personal travel. In such cases women would be forced to make up for the lack of men.

Migrant Men

Men in the Minangkabau society have relative freedom to come and go as they please, often leaving home to become merchants, craftsmen, traders, and scholars. This idea of leaving home for a certain period of time in search of wealth, knowledge, and experience is known as *merantau*. It is thought that earlier in history, Minangkabau men were required to leave their homes in order to look for new settlements or undergo a rite of passage into adulthood. It's important that males experience social interactions with

people of dissimilar ethnic or socio-cultural backgrounds and gain an awareness of being away from home (Thomas, 1985, p. 113). With the absence of men, women rely more on themselves and their kin to perform the roles once performed by men. This also leads to a weakening of marital bonds. As men return home they feel forced to replace their wives with their sisters and the secureness of their natal residence (Keegan, 1989, p. 619). In such societies where males migrate for an indefinite amount of time and can be prevented or delayed from returning home, it is more suited that females are endowed with the right to own land, as females are less likely to move away from the natal residence and goods can be kept within the family.

Maternal Evolution

Tracing inheritance through the female line is not a wholly new concept that evolved out of the introduction of cattle and the development of pastoralism. Children who have a maternal grandmother have a higher rate of survival as older related women can assist in childcare, subsistence, and domestic work (Huber, 2007, p. 199). In a matrilineal society, women, their sisters, mothers, and grandmothers work closely together to ensure the success of children and the family. Grandmothers and grandfathers benefit from investing in their daughter's children, as both grandparents have a higher probability of relatedness to their daughter's offspring than to their son's offspring (Holden, 2003, p. 102). Caretaking assistance by nonreproductive kin, whether they are younger or older women such as mother's mothers, mothers-in-law, or aunts, can provide critical care and aid in the prenatal, delivery, and postnatal periods including child-rearing and domestic work to increase the survival of the mother and child (Hrdy, 2000, p. 83). Lightening a woman's burden may also be a way to aid in her conceiving again sooner, suggesting that higher fertility rates are also linked to the amount of kin assisting a mother

(Sears, 2008, p. 10). Such assistance is known as birth-related investment. Women are thus able to sustain a rapid pace of reproduction through co-opting family members in helping raise their children (Sears, 2008, p. 1). It is thought that help from kin may be responsible for short inter-birth intervals as human infants can be weaned even when they are still heavily dependent on adults for food and protection as long as individuals other than the mother take over some of the child-rearing responsibilities (Sears, 2008, p. 2). Women of one household tend to work together on the matrilineal family's farm. In such a setting, a woman's family is more concerned with the well-being of the mother and child, while a father's family may mostly want to extend the size of the family, even at the expense of the woman's health (Sears, 2008, p. 11). The presence of a woman's elder daughters increases the chance of survival of the younger children. Likewise, the presence of a woman's elder brother in a child's life greatly increases the child's ability to survive to adulthood. In general though, maternal grandmothers exert a large influence on the survival of children (Gibson, 2005, p. 475), as a maternal grandmother is more likely to be present in matrilocal households, as opposed to a son's household. Gibson observed the caregiving patterns of grandmothers in Ethiopia and found that when grandmothers and other kin visited another female family member, they partook in a variety of activities that alleviated the wife's household duties. Maternal grandmothers were also more likely to employ themselves in heavy domestic tasks such as collecting firewood and grinding maize (Gibson, 2005, p. 479). It has been found that the absence of a father plays very little a role in the survival of a child, possibly due to the fact that fathers take no part in lactation and thus have little opportunity to affect the survival of young children with the exception of protecting them from hostile individuals (Sears, 2008, p. 12). Fathers are more likely to play a larger role in the lives of older children by teaching them subsistence skills and arranging marriages. Another hypothesis is that

the lack of paternal support could be a result of paternal roles being substituted by other kin members (Sears, 2008, p. 12). Grandmothers and grandfathers may even be more inclined to invest time in their grandchildren if there is a loss of the father. Thus, the ethnographic evidence points to the notion that matrilineal kin are arguably more compelled to assist a female member of their kin group in raising offspring than are the members of the father's kin group.

Grandmothers and other females of post- or pre-reproductive age offer the greatest amount of domestic and caregiving support, creating a maternal support group to ensure the well-being of mother and offspring.

Conclusion

A viable theory for the development of matrilinealism among the three societies suggests that it became economically and biologically advantageous to invest in the female lineage. It is a combination of offspring relatedness, economic structure, inheritance goods, the presence of men, and a strong female support group that seems to have shaped the matrilineal society of the Minangkabau, Mosuo, and Navajo. The lack of pastoralism in favor for horticulturalism and limited disruptive warfare were supplemental factors that led to the rise of matrilinealism. Although the Mosuo in theory should be patrilineal due to the domestication of pigs, poultry, sheep, goats, horses and cattle for work and consumption, as well as practice small-scale subsistence agriculture, their extent of pastoralism does not warrant the shift to a patrilineal society. The practice of "night visiting" lovers, the opportunity for various sexual partners, and paternity uncertainty among the Minangkabau and Mosuo has led to the push toward matrilineal inheritance and a reliance upon daughters and sisters. In recent years, however, the tourism industry has given Mosuo males the ability to support themselves and their wives/offspring, allowing females the ability to rely more on their husbands. Paternity uncertainty is also less of a concern with males stating

that they have very little doubt as to the relatedness to their offspring, yet children still remain with their maternal family while fathers mostly visit their children. It seems the same theory drawn from the Minangkabau can be applied to the Mosuo. The only difference is that the practice of *sese* must have existed long before animal husbandry for matrilineity to be deeply rooted in the society. The domestication of animals is merely used to supplement subsistence agriculture and not as a replacement. While the Mosuo do not strictly partake in pastoralism, there is no doubt that the Navajo of North America are a matrilineal society that has developed under the context of pastoralism, which has been thought of as a strong indicator for a patrilineal society. At some point in the Navajo's history, the presence of sheep and goats, which led to the development of pastoralism, was not enough to combat the rise of matrilinealism. This could have been attributed to the constant threat from neighboring tribes (Weisinger, 2004, p. 263). It is also evident that economic structure has a hand in the development and continuation of matrilineal societies. Upon looking at the Minangkabau, one notices that their economic structure is primarily based on the cultivation of cash crops upon land that has been accumulated and passed along the female lineage for generations. As a result of paternity uncertainty, the female lineage inherits property and goods; males remain dependent on their mothers and sisters for their wealth and influences. Among the Minangkabau, a successful and competitive trade market flourishes thanks to the importance of subsistence agriculture in accumulating family income. In this environment, farming is the main source of income, and as land is passed through the female lineage, men have no choice but to aid their female kin. The Mosuo, on the other hand, have experienced a shift in the importance of their matriarchs as a result of economic changes. The area around Lugu Lake has witnessed the introduction of the tourist industry. This has allowed male villagers around the lake to earn income separate from farming on the land of their female kin. Men thus

have the ability to support themselves as well as their wives and children without the need of their wife's or sister's wealth. With men becoming more self-sufficient, the role of matrilinealism diminishes. The same process can be observed among several Navajo communities that are at different stages of this transition from matrilinealism to patrilinealism. In communities where traditional sheepherding and farming are main sources of the family's income, females exert more authority and female kin groups are strong. In communities where wage labor of both men and women have replaced sheepherding, matrilinealism is virtually nonexistent.

It is evident that matrilineal societies are complex and ever evolving, from the early *adat* traditions of the Minangkabau to the modern touristic industry that treads on the Mosuo way of the life and the diminishing land and sheep holdings of the Navajo. These three societies will no doubt experience the burden of change as modernization and globalization further encroach on their matrilineal way of life. Yet, as long as it remains beneficial to invest in the female lineage in all facets of society, matrilinealism will continue to thrive.

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