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# Networks and Kinship: Formal Models of Alliance, Descent and Inheritance in a Pakistani Punjabi Village

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## Abstract

Pakistani Punjabi landlords use marriage both strategically as well as affectively. That is to say, they seek maximal political advantage and minimal household disruption with marriage arrangements. Using a set of formal networks analyses tools, this paper examines two hundred years of marriage decisions for one Punjabi landlord family. The radical shift in marriage decisions beginning from the 1920s is the result of an earlier shift in inheritance rules. The resulting change in marriage decisions has impacted not only on household dynamics, but has disrupted longstanding factional associations within the village.

## Introduction

Using two software packages, CSAC Kinship Editor and Pajek, I examine the benefits of formal representations of data sets to both reveal and model certain kinds of sociological phenomena. While the benefits of social networks analysis (SNA) have been regularly promoted by adherents (see for example Borgatti 1998, Borgatti et al. 2009, White and Johansen 2004, White, Batagelj, and Mrvar 1999), such an approach remains marginal to the discipline as a whole. Similarly, formal analyses of kinship seems to have fallen out of fashion rather dramatically in recent decades, begging the question of why one might choose to use software to understand something that is entirely emergent and contingent upon individual performance. While I have qualms with other than formal descriptions or well constructed narrative accounts of ethnographic phenomena, a lack of formal description introduces some serious problems both for comparison (which of course is not of interest to everyone) and for reliability. We must trust other scholars to some extent. It is unrealistic to expect to be able to double check every statement of fact generated in an ethnographic paper, however, it is far more comfortable trusting part of what another scholar says than having to trust *everything* they say without any form of replicable verifiability. Consequently, I suggest that formal representations of ethnographic data are vital to the long term sustainability and health of anthropology as a social science.

Fortunately, there is a plethora of concepts and tools available for representing ethnographic data in ways which are transparent and replicable and, perhaps most importantly, falsifiable. These need not be restricted to software tools, though of course, they lend themselves extremely well to such tasks. Underpinning every software tool discussed in this journal are important theoretical and methodological propositions which inform and shape the kinds of data which are produced and what one may do with such data. In this paper, I use what is arguably one of the bedrock domains of ethnographic data, marriage arrangements and land inheritance, to try and understand social change over time. The argument remains somewhat underspecified largely because the formal representations make it clear that there are important gaps in the dataset which can only be resolved through further field research. The data which are available, however, are striking for the shift in behaviors they reveal. Looking at arranged marriages and land inheritance since the beginning of the 19th century, it is clear that some important changes in practice have occurred. Exchanges of sons and daughters between two branches of a prominent landowning family ceased for a period of more than 100 years. Instead, each branch of the family adopted a separate exchange network for their children's marriage partners. While this maps onto publicly shared stories about rifts between the branches of the lineage, it also suggests complex political strategies for the retention of maximal landholdings. With more widespread adoption of Islamic inheritance rules, in which

daughters are entitled to a share of land, marriage exchanges appear to have shifted to adapt to the new social environment and again, to maximize landholdings within the lineage branches.

The use of two tools for dealing with relationship data is indicative of the differing needs of anthropologists to examine the same sorts of data in multiple ways. To eschew such tools because they cannot do *everything* one needs is both short sighted and ultimately self defeating. Anthropologists must endeavor to generate useful and reliable analyses of the sorts of problems that they encounter in the field and to that end, I argue here, as I have before (Lyon and Magliveras 2006), that a modular, or tool kit approach is the most viable way forward for the social sciences and anthropology in particular.

### **Formal Modeling**

Kinship lends itself neatly to formal modeling in ways which can be both helpful and misleading. The terminologies used to reckon kinship are themselves formal models of social relations which are used by people in flexible, and sometimes contradictory, ways. The formal aspects of kinship terminologies, particularly their algebraic properties (see Fischer and Read 2005, Read 2001a, 2001b, 2006, Read and Behrens 1990), act as a constraint on the types of relationships which are expressed, but they do not provide an adequate predictive tool for how those relationships are used or maintained (see Carsten 1997). Kinship terminologies and genealogies each pose different challenges for developing useful descriptions of the behaviors and ideas that exist within what might broadly be classed as a household domain. Social networks analysis (SNA) provides something of a bridge for understanding the interconnectedness of terminological and genealogical phenomena. Using SNA it is possible to formalize the messy stuff of transactions that take place between real people. White and Johansen put forward four propositions about networks. The first of these is most pertinent for this paper: "Networks have structural properties (local and global) that have important feedback on behavior and cognition" (2004: 8). That is, the structures of kinship, marriage and household impact on behavior and cognition in important ways, but it is not straightforward, or necessarily possible, to derive the network from knowledge about the behavior and cognition. Hence, ethnography and SNA are complementary. The types of ethnographic accounts which are regularly produced within anthropology provide much of the foundation for understanding and modeling networks, but without taking the extra steps required to produce such models, ethnography is likely to miss important information about the feedback loops of behavior, cognition and networks.

Here, I examine the relationship between behavior (marriages and inheritance) and cognition (attitudes about appropriate marriage partnerships) both through an examination of multigenerational networks and ethnographic accounts of an agricultural village in northern Punjab, Pakistan. Changes in marriage preference become more evident using a combination of formal representations of the marriage networks and this in turn, makes it possible to begin the process of trying to understand what triggered such subtle changes over the past 200 years and what might lead to future changes to both marriage preferences and inheritance.

The first representation below (Figure 1) used here to represent marriage and descent relations is produced using the CSAC Kinship Editor<sup>1</sup> (Fischer n.d.). I had entered the genealogical data in the late 1990s in order to record descent data primarily. It was in running the Step To feature of the CSAC Kinship Editor, that I first became aware of a notable shift in marriage arrangements between two branches of a large landowning family in Attock District. The Step To feature enables users to designate a start and end date and

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<sup>1</sup> See Michael D. Fischer's project web page for instructions and information about downloading the package: [http://era.anthropology.ac.uk/Era\\_Resources/Era/Kinship/index.html](http://era.anthropology.ac.uk/Era_Resources/Era/Kinship/index.html)

to run a year by year graphical step through time. I was struck by the rapid number of marriages arranged between two branches of a patrilineage which had studiously avoided exchanging marriage partners since the early 19th century. Having previously reviewed this software tool for *SSCR* and suggested that the tool kit approach adopted by *CSAC* software offered a number of advantages (Lyon and Magliveras 2006), I found, as if to prove the point, it became apparent that solely using a genealogical rendering package to try and understand emergent networks was both frustrating and inadequate. I needed a different, tool for dealing with the same dataset differently. Consequently, I turned to one of the more widespread social networks packages available, *Pajek*<sup>2</sup>, to make better sense of the relationship between individual transactions over time and emergent transformations in behaviors and attitudes.

SNA does not introduce assumptions about time, so temporal analyses must be managed carefully. In this case, the important temporal variable could be represented as generation. So I created a partition called *Generation*, which I was then able to incorporate as a distinct *Partition*<sup>3</sup> within *Pajek* (see Nooy, Mrvar, and Batagelj 2005 for a comprehensive guide to using *Pajek*). There are eight generations in this study (numbered 0-7 in the *Partition* definition). *Pajek* enables graphical clustering by *Partition* which allowed me to distinguish vertices (in this case, people) by their generation. Using average inheritance data, I was able to create a *Vector*<sup>4</sup> which defined the average size of landholding for each person at the time of his or her father's death. This resulted in a very obvious distinction between the sex of the individuals, because women historically did not inherit land at all in rural Punjab, but have relatively recently begun to inherit reduced portions in relation to their brothers in some instances. This meant that I also needed to distinguish between individual vertices on the basis of sex, which I did using another *Partition*.

Both software tools enabled me to see more clearly what was lurking in the data I had previously produced. It is not the case that these data were inaccessible, or were in some way masking the patterns, but rather that it is sometimes, perhaps always, useful to look at data in different ways. Using genealogical data may come with extra risks of being interpreted in ways which are intuitively meaningful and "natural" to the analyst, so it becomes all the more critical to ensure that researchers subject such intuitive understandings to critical reasoning.

### **Bhaloti Landlord Marriage Networks 1800-1920**

Although I have a genealogy of Maliks going back 43 generations, which dates approximately to 1200 AD, until 1800 there is no information about women or marriages contained within that. From the agreed common ancestor, Daggar Khan, until Shadi Khan (b. ~1770), it is a string of mostly isolated sons and fathers. Every few generations there are a set of brothers included. Sometimes it is clear that a younger brother inherited the land and that is the explanation for why multiple brothers are included, but in other cases, the elder brother seems to have inherited all the land, but a younger brother is included. As one might expect, I was given occasional explanations for this by some people trying to be helpful, but such explanations were dismissed as fantasy by other members of the family, particularly the elder members who might be in a better position to have actually heard stories about their ancestors. Consequently, any network view of the Malik lineage from 1200-1800 is trivial and largely uninteresting except as a curious example of the importance of agnatic reckoning for establishing one's credentials as a Malik.

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<sup>2</sup> I chose *Pajek* largely because it is free. I do not mean to imply that it is in any way better than its principle anthropological competitor, *Ucinet*, which by all accounts is very robust and powerful.

<sup>3</sup> *Partitions* store discrete, or categorical, properties of vertices.

<sup>4</sup> *Vectors* store continuous data about vertices.

Beginning with two brothers born around 1800, however, the picture begins to change. While there is still very little detail about marriage partners there was consensus on the fact that the brothers married women who were not patrilineal kin. More importantly, each of the two major branches of the Bhaloti Malik families trace their ancestry to a single one of these brothers. Those descended from the brother named Ahmed Khan, mostly live on the upper slope and the peak of the small mountain which forms the centre of Bhalot and are consequently referred to as *ooper walé Malik* (Upper People Maliks). The other branch of the Malik family trace their ancestry to Ahmed Khan's brother, Mahmud or Mohamed Khan. They live on the lower slope of the mountain and are referred to as *neeché walé Malik* (Lower People Maliks). While the cause of the fissure between these brothers and their descendants is not known, it was apparently serious enough to impose a complete ban on all intermarriage between the *ooper walé* and *neeché walé* maliks for more than a century.

Given the stated preference for like marrying like, it is surprising the extent to which Bhaloti Malik households did *not* exchange women for roughly 100 years. This clearly is not what local people think *should* have happened and it remains a cause for distress for Bhaloti Maliks despite the fact that it is now well out of living memory and even the last people for whom such memories were vivid could not provide an explanation for the rupture between the households.

### **Bhaloti Landlord Marriage Networks 1920-2010**

Beginning shortly after World War I, two Maliks set about repairing the rift between the *ooper walé* and *neeché walé* maliks by arranging a marriage between the groups. One can only imagine how intimidating it must have been for Nisha, Malik Ghulab Khan's sister, to move in to the household of her new husband and distant cousin, Malik Akbar Khan. While the two families had of course lived within a few hundred meters of one another, she had no close relatives in her new house and the animosity between the households had been such that there are reports of killings and attacks between members of the households. These two men are today considered paramounts of virtue and are held up as exemplars of nobility and courage. Nisha, Malik Ghulab's sister and Malik Akbar's wife, is only mentioned as a named individual after a good deal of information sharing regarding her brother and husband.

From that first marriage came slow steps towards healing the rift between the households. The tensions were not eliminated overnight. Malik Ghulab Khan's son shot his cousin, Malik Akbar and Nisha's son in the 1970s. Fortunately he survived the shooting, but the incident is a stark reminder that Punjabi factional violence is not merely theatrical but can, on thankfully rare occasions, display frightening levels of internecine violence. Since the 1950s the number of marriages between *ooper walé* and *neeché walé* Maliks has accelerated and up to 2007 there have now been 10 unions between individuals who trace their ancestry solely to one of the two feuding brothers from the early 19th century (see Figure 1 below). There has also been a generally more ambiguous distinction between the categories, though they remained locally salient as of 2007 for the generation born in the 1990s. It remains to be seen if this categorical distinction retains significance for those born in the 21st century.

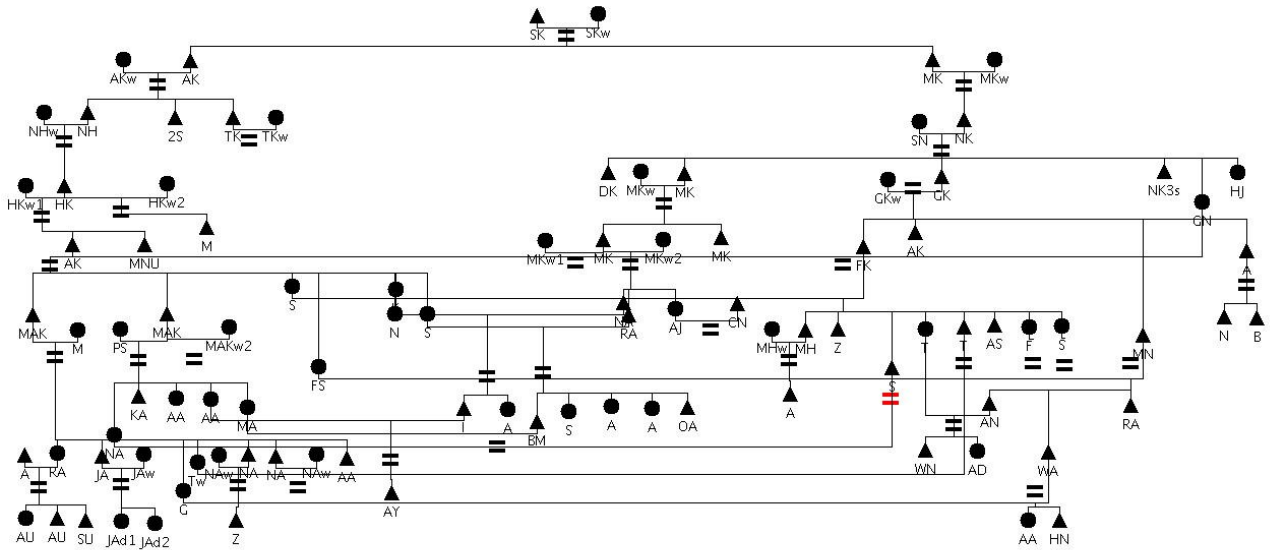


Figure 1: Genealogy showing marriage between branches of the Bhaloti Malik household.

### Patterns of Land Inheritance 1800-2010

Land is the most important source of wealth in Bhalot and indeed across rural Punjab. Even relatively poor agricultural land is ferociously guarded and protected. All accounts agree on a number of principles of land inheritance among Bhaloti Malik. Firstly, prior to the 20th century the eldest son normally inherited all the land and younger sons and all daughters were the dependents of the heir or they had to leave. In the case of daughters, this would mostly likely occur through marriage negotiations. While I lack the detail about marriage destinations for women, those individuals who claimed, and were acknowledged to be knowledgeable agree that during the 19th century *ooper walé* and *neeché walé* Malik did not marry one another. *Ooper walé* Malik apparently exchanged women either with one another or from Gujar families in other places (in particular a village in Hazara District, and closer to Bhalot the towns of Wah and Hassan Abdal). *Neeché walé* Malik also married occasionally outside but were apparently more inclined to bring in women from landless Gujar families in Bhalot (possibly the descendants of younger brother ancestors who had not inherited land and had lost the right to make loud claims of common inheritance) and exchange their own daughters with their more immediate agnatic kinsmen (excluding *ooper walé* Malik).

The different branches of the Malik family diverged in the way they partitioned land upon the death of the head of the father. The *ooper walé* Malik continued to practice male primogeniture inheritance until the death of Malik Akbar Khan in 1958, when his two sons divided his considerable land holdings equally. The *neeché walé* Malik practiced an inconsistent division of inheritance which was the subject of contestation and frequent hostilities, many of which played out repeatedly over multiple generations (see Lyon 2004 for a more detailed discussion of a dispute over a particular plot of land owned by the *neeché walé* Malik which occurred in three separate generations and remains subject to future dispute in the next generation). The pattern of land inheritance differed between the two branches of the family until the death of Malik Akbar's eldest son, Malik Afzal Khan. Malik Afzal divided his land among some of his sons (excluding those who had emigrated to the United States), thus reducing his sons overall landholdings. His brother, Malik Azam, is still alive but has no sons, so his land will be divided among his sons-in-law and his brother's sons. Such a division is not likely to be easy or polite and the stakes are considerably high given that he has possibly doubled or even tripled his landholdings since his father's death. In Table 1, I show the average amount of land in *kana* inherited by each generation on the death of the fathers. While the overall amount of land passing

between generations has actually increased, the abandonment of strict primogeniture inheritance has resulted in steadily smaller average inheritance with most generations (generation 4 to 5 being an atypical exception). Figure 2 is a graphical illustration of the generational decline in average inheritance which corresponds to a dramatic increase in the number of inheritors.

Generation	Average Land Inheritance in <i>Kanal</i>	Color on Figure 1
0	4000	Light Blue
1	2000	Yellow
2	2000	Green
3	1333	Red
4	1000	Dark Blue
5	1266	Violet
6	631	White
7	600 (n=1)	Orange

Table 1: Average amount of land inherited in each generation. 8 *kanal* = 1 acre.

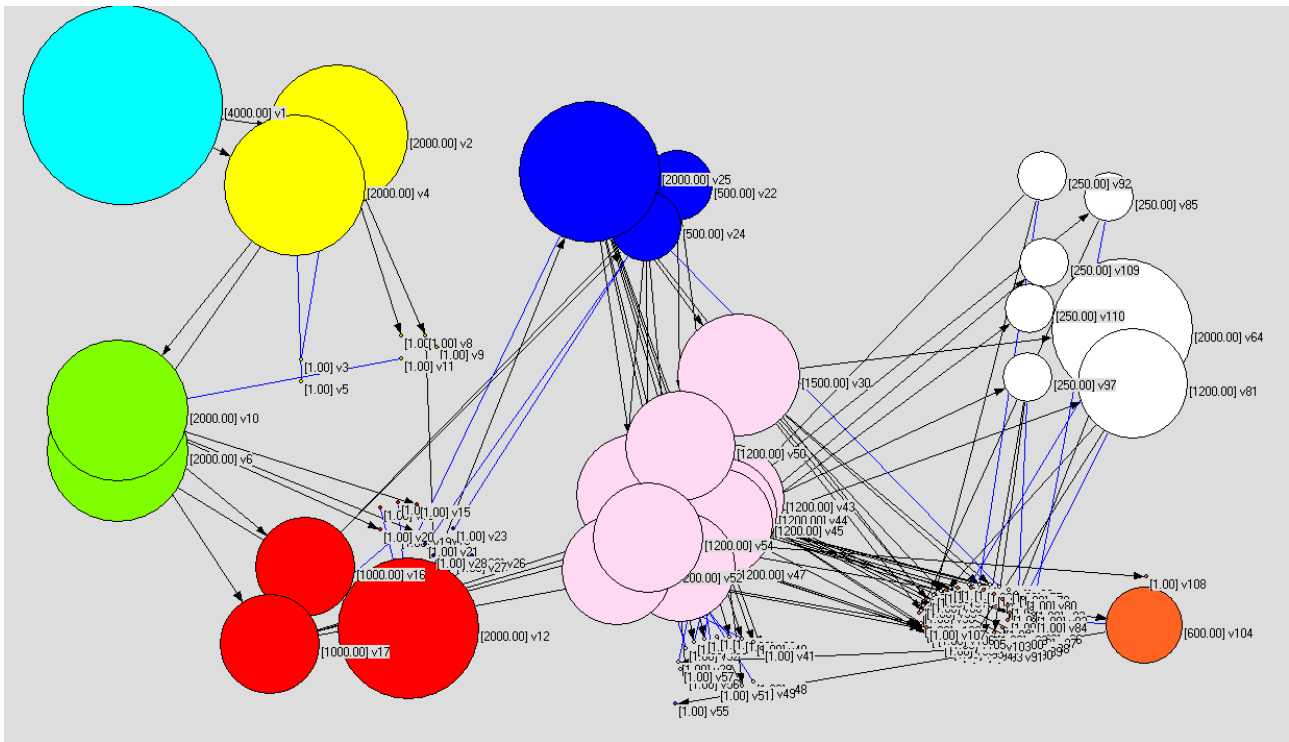


Figure 2: Size of land inherited by generation. Each circle represents an individual. The size of the circles is generated by the amount of land inherited directly from the father. Each color represents a single generation (8 generations in total).

### Political Instability and Vulnerability

The cause for the split between the households is likely to be lost forever, however, the cause for the re-merger of the households may be more easily determined. Historically, the Bhaloti Maliks have long been a minority landowning caste (or *qaum* or *zat*). Bhalot is the only village in Tehsil<sup>5</sup> Fateh Jang in which almost all of the land and political resources are owned or controlled by Gujars. The surrounding villages are divided between Awan and Khattar families. Khattar families are dominant more widely across Attock District. Khattars control the provincial and national parliamentary seats from Attock District and ran the old Union Councils<sup>6</sup>. Much of the historical tales people shared with me involved the cunning and strategic foresight of Gujar landlords in retaining and even expanding their lands through the centuries.

From 1820-1845 Ranjit Singh, the Sikh king, took control of Punjab and there are numerous stories of the dangers of this time. An older site for the village was a little less than one kilometer south of its current location. Rather than being perched on top of a mountain, the old site nestled between two mountains. At the peak of one of these mountains is the shrine of Baba Shaikh Daud, an ancestor of the Bhaloti Malik families. Apparently Ranjit Singh's armies used this route on their way further afield to attack areas of what is now Khyber-Pukhtunkhwa province and on their way out and back engaged in some marauding and raiding on the village. The two brothers, Ahmed Khan and Mahmud/Mohamed Khan would have been men in their prime during these raids and participated in the re-location of the village to a more defensible spot. It is possible that there was no real problem between the brothers but rather a recognition that they needed greater political security which even today in Pakistan is frequently effected through

<sup>5</sup> Sub District.

<sup>6</sup> The whole of provincial and local administration has now been re-configured but the balance of power does not appear to have shifted away from Khattar families in Attock District.



marriage between members of households. When I suggested that the two brothers might not have had a feud, but rather sought alliances with Gujars further afield, people liked the idea and said it was possible. But there was no doubt that following the brothers' decision to marry outside the Bhaloti families tensions were introduced which lingered well into the 20th century.

It is sadly only possible to speculate on the role that marriage negotiations may or may not have played in developing and maintaining network alliances with Gujar strongholds further afield from Bhalot, however, it is clear that the families were all extremely vulnerable throughout the 19th century and one of the mechanisms for ensuring strength was through male primogeniture inheritance. As the neeché walé Malik families began to adopt more idiosyncratic inheritance patterns their relative strength and wealth began to dwindle. The ooper walé Maliks, with their more rigid adherence of primogeniture inheritance prospered throughout this period.

As Indian nationalism grew in the 20th century, the Bhaloti Maliks found themselves once again in a relatively unpredictable and fluid political environment. While it is not possible to determine the role played by marital alliances in the 19th century, it is very easy to document the ways in which marital alliances between branches of the Malik family (and Gujar families elsewhere) contribute directly to a strengthening of the entire family's political position. Thus, without recourse to more elaborated models of inheritance, one rationale for an increase in marriages between hitherto isolated branches of the Malik family is a maximization of network connections across all political parties, powerful factions and political institutions in both the local area, the province and even nationally. In the elections held throughout the 1990s, all but one Malik households supported the Pakistan Muslim League. The divisions which came to split the party in the wake of Musharraf's regime were already present as deniable factions and Bhaloti Maliks supported what came to be known as PML-Q (Musharraf's party) but at the time was openly called Choudry Shajaat's wing of the Muslim League. This did not prevent them, however, from openly associating with and courting more distant relatives who were supporters both of the Nawaz faction of the Muslim League (what became PML-N) and the People's Party of Pakistan (PPP). Indeed, the one household of Bhaloti Maliks which did not support PML fielded a PPP candidate in the provincial elections. Had he won, the Bhaloti Maliks would have benefited regardless of the fact that the member of the provincial assembly was ostensibly a member of a rival political party. This pattern of maintaining strong connections across the political spectrum clearly characterizes many landlords and those in a minority, such as the Bhaloti Malik Gujars, seem very keen practitioners of strategic pragmatic political affiliation.

### **Islamization and Inheritance**

There is however, an additional factor influencing the decision to begin more intensive intermarriage between Bhaloti Malik branches. Along with Indian independence came a growing Muslim consciousness. While this does not seem to have permeated particularly profoundly in Punjab the middle of the 20th century, by the 1970s Pakistan had turned its gaze firmly in the direction of the Middle East and an explicit Islamic identity. Zulfikar Ali Bhutto, today largely remembered as a secular populist, introduced a host of laws designed to render Pakistan a more explicitly Islamic nation-state. He introduced a ban on alcohol and a declaration of non-Muslim status on the Ahmedi minority. This move towards closer adherence to Islamic practices escalated under General Zia ul Haq who introduced more literalist impositions of notions of Islamic jurisprudence, the Hudood Ordinances defined categorical rights according to a particular reading of Islam more commonly associated with Saudi Arabia than South Asia. While many of these laws were and are seen as damaging to women's positions, one aspect of them ironically places women in an interesting position regarding land inheritance. To be sure, rural women are not in a

position to easily inherit land from their fathers, but in all honesty, inheritance is probably not 'easy' for anyone in Pakistan. All inheritance seems to come with disputes, some more fraught with danger than others.

The popular understanding of Islamic inheritance in Bhalot and the surrounding villages is that a woman is entitled to a half share of her father's property. So if a brother receives 100 *kanal* of land, then his sister should receive 50 *kanal*. Very few women genuinely inherit this land, but it is now commonplace for men to stake their claim on plots of land on the strength of their mother's share of the inheritance. Bhaloti landlords, in addition to seeking stronger network connections through marriage, also explicitly seek to marry women whose fathers own large land in order that their own sons might be in a position to make a claim against their mother's brothers upon the death of their maternal grandfather. One of the more common strategies for increasing one's landholdings in an environment in which the outright sale of land is tantamount to betrayal of one's ancestors, is the aggressive pursuit of maternal lands. Given this tendency, it is perhaps understandable then that Bhaloti Maliks have opted to increase the frequency of marriages with members of their own patrilineal group who, despite their reservations and past animosities, are nevertheless loyal to the same pool of distant male ancestors.

### **Conclusion**

There would appear to be a growing faction of merged ooper walé and neeché walé Maliks whose children will feel political and affective ties to both branches. This is not, however, an all inclusive faction. While the ooper walé Maliks are entirely absorbed within the new faction, there are two minor households of neeché walé Maliks who are singularly resistant to reunification. One of these has only a single daughter and an elderly father, so the future is not entirely bright for the survival of that household as landowning Maliks. The other, is in a better position but the two brothers have effectively become absentee landlords entirely dependent on their sharecropper overseers to manage their lands. The overseers are prevented from claiming land by the rival Maliks, and they are not in a position to robustly defend their employers' lands from the regular incursions exercised as almost a sport. The two brothers sporadically visit the village and enter into heated arguments with their Malik relatives, but it seems unlikely that their children will be in a strong position to defend village lands. Malik landholding patterns over the past 100 years would seem to suggest that the finite resource of land is too hotly contested to be retained in absentia. Conversations with non-Malik Gujars also provided hints of possibly regular patterns of dispossession of family members over a very long time. While such claims are flatly rejected by most Maliks, there are questions about what happened to all those younger brothers which Maliks typically cannot, or will not, address.

The pattern created from the use of Kinship Editor and Pajek is revealing of shifts over time in the choice of source for marriage partners and changes in average size of land inheritance at the time of father's death. There are certainly more than one factor triggering both of these phenomena and it is useful to explore different avenues both with a view to understanding the past, as well as being able to make better predictions for the future. While no software tool can provide the answers to questions about social and cultural change and dynamics, they can enable more systematic and persuasive analyses of different types of data. Such analyses can shed light on the complex human issues with which anthropologists interact throughout the course of field research.

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