Witchcraft and HCI: Morality, Modernity, and Postcolonial Computing in Rural Bangladesh

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ABSTRACT

While Human-Computer Interaction (HCI) research on health and well-being is increasingly becoming more aware and inclusive of its social and political dimensions, spiritual practices are still largely overlooked there. For a large number of people around the world, especially in the global south, witchcraft, sorcery, and other occult practices are the primary means of achieving health, wealth, satisfaction, and happiness. Building on an eight-month long ethnography in six villages in Jessore, Bangladesh, this paper explores the knowledge, materials, and politics involved in the local witchcraft practices there. By drawing from a rich body of anthropological work on witchcraft, this paper discusses how those findings contribute to the broader issues in HCI around morality, modernity, and postcolonial computing. This paper concludes by recommending ways for smooth integration of traditional occult practices with HCI through design and policy. We argue for occult practices as an under-appreciated site for HCI to learn how to combat ideological hegemony.

CCS CONCEPTS

• **Human-centered computing → Ethnographic studies;**

KEYWORDS

witchcraft; rural; postcolonial; faith; wellbeing; ICTD

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1 INTRODUCTION

HCI research in health and well-being is predominantly built on modern, scientific, and rational knowledge in medicine, psychology, and cognitive science, which articulates our body, mind, disease, and cure through scientific terminologies. This stream of HCI research has produced a plethora of tools and technologies in the last couple of decades that have not only revolutionized various formal health practices, but have now also started quantifying, measuring, tracking, and assessing our well-being in a pervasive manner [22, 23, 56, 73, 79]. Besides our physical health, HCI researchers are also studying and designing for our social and emotional well-beings through modern scientific knowledge and techniques [26, 61].

However, modern scientific approaches are not universally practiced and appreciated. In today's world, while the majority of the western world appreciates the modern scientific understanding of health and well-being, many other places in the world have different other perspectives. Traditional healing, witchcraft, sorcery, and occult practices are still prevalent in many places in Asia, Africa, and Latin America. Millions of people in those places depend on these 'faith-based' practices for their health and well-being. For example, in South Africa, there are as many as 200,000 indigenous traditional healers (*'Sangoma'*) who serve 60% of the population (compared to 25,000 Western-trained doctors) [99, 100]. The Huancabamba province of Peru is renowned for its ancient tradition of mystical healing and 'Shamanism' that serve more than a hundred people everyday [48, 87]. Trying to introduce modern scientific medical practices in such places is often futile, and culturally and ethically inappropriate [45]. The adoption and use of modern healthcare (through computing or not) is often challenged, limited, or even blocked by various traditional beliefs [6, 64, 75, 76].

This particular issue is also connected to the colonial history of medicinal science [11]. Across the history of colonization and cultural imperialism, traditional medical practices

were ignored, sidelined, or suppressed [37, 76, 90], which contributed to the development, expansion, and proliferation of many European medical practices through scientific knowledge and later formed a hegemony in medicine in the postcolonial world [54]. With the burgeoning growth in computing in last two decades, mobile phones and other computing devices have now become available in many postcolonial sites around the world ,and many HCI and 'global health' researchers are taking this opportunity to extend the modern healthcare and well-being services to the rural and traditional communities using computing devices [29, 30, 55, 81, 82]. This brings back various postcolonial debates around modernity and tradition, efficiency and identity, and science and spirituality. Both this historical background and the practical challenges imply that HCI requires a thorough conceptualization of and a deep engagement with traditional health and wellbeing practices that the discipline is currently lacking of.

To this end, we present the witchcraft-mediated wellbeing practices in rural Jessore, Bangladesh, and discusses their connections with HCI. Building on a eight-month ethnographic study at six villages in Jessore, this paper makes a three-fold contribution to HCI. First, it presents an in-depth ethnographic description of various witchcrafts in Jessore and associated people, knowledge, materials, and practices. Second, drawing from a rich body of literature in Anthropology, this paper explains why and how the lessons from witchcraft practices go beyond simple health and well-being objectives, and are tied to the bigger politics with the modernity in HCI. Finally, we discuss how HCI design and theory research can benefit from studying witchcraft as a site for studying and designing for alternative power and modernity.

2 BACKGROUND AND RELATED WORK

While a precise definition of witchcraft is hard to produce because of its large variety of beliefs, practices, and social acceptance, in this paper, we broadly define witchcraft as the practice of magical skills and abilities exercised by solitary practitioners and groups. With this definition, we bring various occult practices including sorcery, shamanism, exorcism, and traditional healing, under a broad umbrella of 'witchcraft'[1]. The concept of witchcraft and beliefs in its existence have persisted throughout the recorded history. A rich body of scholarly work in anthropology, sociology, and religious studies has illuminated various material, social, spiritual, and political aspects of witchcraft (see [37, 76, 99], for example). While encompassing the whole body of witchcraft literature goes beyond the scope of this paper, we highlight a set of historical and anthropological findings, and theoretical frameworks to situate our contributions.

[1]Witchcraft has multiple and conflicting definitions in literature

HCI, Spirituality, and Indigenous Knowledge

In 2001, Muller et al. opened up the discussion on spirituality in HCI, and invited the community to think about this [68]. However, HCI has not yet been fully engaged with the spiritual facets of human life. Most studies that have attempted to address this issue, have confined themselves within the study and design efforts to support religious or ritual practices [19, 20, 24, 106, 107]. Gorman has summarized these design initiatives by documenting the various ways design can be associated with faith-based practices, ranging from material embodiment to providing solidarity [43]. Besides these, a few studies have also explored the potential of online meditation [47], remote participation in religious practices [97, 105], and technology-mediated smart homes for religious festivals [103]. Similarly, a few studies have also focused on studying spiritual practices over various new media, and the impact of religiosity on technology usage [10, 21]. At the same time, scholars have also reported the challenges in techno-spirituality, which incorporates the chances of being harassed online by religious contents and misuse of virtual space for real-life ideological conflicts, among others [13]. In a broader inter-cultural context, Wyche et al. have discussed the differences between the United States and Kenya in terms of secularism and religion [104]. These and similar works demonstrate how HCI's association with spirituality has mostly been conducted through the exploration of institutionalized religions and spirituality that are widely prevalent in modern communities. However, witchcraft and similar faith-based practices that are mostly practiced in rural areas have not received enough attention.

In addition to its spiritual aspects and faith-based functions, witchcraft also stands as an important site for valuable indigenous knowledge. Munyaradzi Mawere, based on his study on witchcraft practices in Zimbabwe, has emphasized the indigenous nature of witchcraft practices [62]. He has argued that any classification, categorization, and evaluation of witchcraft practices using a framework rooted in a foreign and colonial knowledge will both be wrong and an injustice to the local communities. To avoid such colonial intrusion, Mawere has invited researchers to focus on developing a situated meaning of witchcraft within it's own historical and cultural context through the cultural products available in that community. The hermeneutics of witchcraft thus depart it from western knowledge system, and problematize its association with modern science and technology. However, Shirungu has called for such association by demonstrating how the traditional healing practices for HIV in Namibia could be beneficial through scientific verification [91]. To this end, Bidwell and her colleagues have done extensive work to connect indigenous African knowledge to design computing technologies. For instance, Mwewa

and Bidwell have proposed a indigenous knowledge and narrative based design, core to which exists a situated mechanism of meaning-making through cultural resources of oral communication - proverbs, myths, and rituals through local logic [70]. Bidwell et al. have also extended this line of work by designing mobile audio-visual technologies that can capture and reproduce cultural interpretations of situated interactions, studying their impact on empowering rural individuals [16, 17]. While these studies demonstrate a general framework for incorporating indigenous knowledge into HCI design, little work has been done to connect witchcraft to the larger agendas of HCI including morality and modernity. We build on this existing body of work and attempt to fill this gap.

Witchcraft, Morality, and Modernity

We first turn to witchcraft's historical development along with its animosity towards religions, states, and colonial powers. Some scholars find the root of witchcraft in ancient polytheist Paganism, and thus explain its rivalry with monotheist religions like Christianity [78]. As European kingdoms came close to the Church, witches became the enemy of the state [58]. Witches were often blamed for any misfortune, and were even killed in witch-hunt sprees [66]. During the age of colonialism, anti-witch sentiment was diffused in colonized sites. In many postcolonial spaces, witch hunts, scapegoating, and killing or shunning of suspected bad witches still exists [74]. Many people still blame witchcraft for tragic healthcare consequences, including HIV/AIDS [53], and Ebola virus [71], tuberculosis, leprosy, epilepsy, and the common severe bacterial Buruli ulcer [5]. However, such colonial agonies towards witchcraft has not entirely diminished the traditional faith in witchcraft in many of postcoloinal sites, especially in their rural areas. Furthermore, many regions in the global south have nurtured their own versions of witchcraft that have not been significantly affected by colonization [57].

Next, we turn to the functioning of witchcraft that connects health and well-being to morality. Issues with health and wellbeing are is considered to be a consequence of an evil act. Evans-Pritchard's celebrated work on witchcraft in Azande (in North Central Africa) reveals how witchcraft helps tribal communities retain their moral infrastructure [37] by blaming a 'sorcerer' for every misfortune that occurs. Thus, every harm turns into a guilt, and every guilt is sucked by the sorcerers. Even if a member of the community commits a crime, it is assumed that they were 'forced' to by an evil spirit sent by a sorcerer. The task of the witch is then to find that sorcerer (or the person who hired them) and to drive away the evil spirit. Thus witchcraft makes immorality an 'alien' and punishable act. Furthermore, Peter Geschiere, based on his ethnography in Cameroon, has also shown how witchcraft explains wealth and power as the output of a painful and immoral sacrifice [41]. This makes the community members disinterested in material success, and limiting greed and jealousy.

Witchcraft not only retains the moral structure of a community, but also shapes their political infrastructure. From early Europe to today's Africa and India, we see evidence of people consulting with witches either to harm their enemies or protect themselves from harm [39]. The witches not only 'send' harm via an evil spirit, but also use their social power, reputation, knowledge, and intimidation to materialize that harm. For example, Nyamnjoh has found in Cameroon that political leaders, media, economic power holders and elites are involved in the deployment of occult powers to gain and maintain their status [72]. Besides the internal politics within a community, witches often fight against the rival tribes or rival communities, too. One notable example of this is the fight of the African witches against colonizers and modernist developmental initiatives. Shaw has found that the agency of local postcolonial subjects in Sierra Leone was shaped by the nondiscursive memories of human commodification during the colonial eras by the local witches [90]. Similarly, Fisiy et al. have described the practicing form of witchcraft in Cameroon as an active resistance against the modernization and development programs in the country and have questioned if the law is an appropriate instrument to regulate culturally-grounded beliefs [40]. These stories bring to the fore the question: how can witchcraft, a situated traditional practice, often resist, combat, and even topple large, strong, modern, and global powers?

Although witchcraft is often considered an outdated and ancient practice in popular discourse, scholars have argued the opposite. This allows us to explore the definition of modernity and how it is connected to witchcraft. Modernity is marked by a set of values, processes, technologies, and the time period when scientific revolution, industrialization, and capitalism rapidly expanded across the West [15]. The core of these values are rooted in a set of scientific knowledge [101] that is extended to explain the world [42]. Soon after the Enlightenment, this scientific version of modernity became synonymous with 'development' in Europe, and started to spread [42]. Within this framework, there can only exist one version of modernity: one where Europe is put at the center of the world, and modernity is defined by western science, capitalism, and industrialization. However, this model of 'single' modernity cannot explain many failures of modernist advancements in local and global politics and economics. If modernity is all powerful and advanced, how can it fail on a regular basis by powers that are neither *scientific* nor *rational*? Eisentaldt answered this question by redefining modernity and making room for multiplicity

in it. His definition comprises three main characteristics of modernity - (i) providing universal definitions, (ii) moving from center to periphery, and (iii) constantly updating itself [36]. According to him, any entity, regardless of its scientific or rational basis, possessing these qualities is intrinsically modern. Many scholars have used his definition to explain how witchcraft is an inherently modern practice and is able to combat western and colonizing modern forces. Witch's narratives explain the world, their knowledge and power flow from the center (themselves) to others, and they continuously update their knowledge and technologies to combat the changing world around them. This paper demonstrates how this 'alternative modernity' [38] is constructed and how that is important for HCI .

3 METHODS

This paper draws on an eight-month-long ethnography in six villages in the district of Jessore, Bangladesh, namely Kandarpur, Satighata, Shyamnagar, Vaina, Kazipur, and Ramnagar. The ethnographer and first author of this paper, was born and brought up in the urban region of Jessore and was familiar with many local cultural practices. We chose these six villages as the fieldsites because witchcraft practices were widely prevalent there. The ethnography was divided into two phases. In the first four months, we studied the health and well-being problems, and local practices across the fieldsites. Our primary introduction to the fieldsites was facilitated by one of the largest NGOs active in that region called Rural Reconstruction Foundation (RRF), a non-profit, non-political, and non-sectarian global development organization [85]. The RRF-workers introduced us to a few families in each of those six villages. The primary occupation of most of those families was farming, while a couple of families earned their livelihood in fishing, pottery, and small businesses with average monthly income of BDT. [2]6500. We developed a close relationship with those families by making frequent visits, engaging in long conversations, helping with their household activities, and joining their afternoon hangouts. Soon we met more families in those villages through those families. In those four months, we studied 30 families who have more than 100 members in total. This round of fieldwork consisted of semi-structured interviews of 50 villagers, 10 group discussions, 15 biographies, 35 observational fieldnotes of their daily work accompanied by contextual inquiries, and photography. The women were 18-64yrs (median 35). Nine of them studied until 10th standard at the high school.

In the second phase, over the next four months, we focused on the witchcraft practiced by the local witches. Six witches (35-50 yrs old; 4 Muslim, 2 Hindu) were introduced to the us by the families we studied. One of them graduated from college, 3 from high school, 1 from elementary school. We visited the houses of these witches where they see their clients, stayed with each of them for at least one whole day, observed their work, learned about their life, work, tools and techniques, education, families, businesses, future plans, occupational challenges, and other concerns. We also observed a total of 25 witchcraft therapies at the houses of these six witches. This round of fieldwork also involved conducting in-depth interviews of the witches, making their biographies, taking observational field notes, and conducting contextual inquiries. Besides these families and witches, we also talked to the local shopkeepers, NGO-workers, school teachers, Islamic leaders, political leaders, day laborers and the like.

It should be mentioned that this study was conducted in a culturally embedded way. All the interviews (both with the local villagers and the witches) were conducted at their home while invested in their household activities. The group discussions were held in the daily afternoon gathering of the neighbours in a common yard of the village and were mostly unstructured. The ethnographer often engaged herself in helping the villagers in cooking or cleaning, and often in singing, dancing, and playing with them. All the interviews were handwritten, except two with two of the witches which were audio-recorded. Photography was not allowed in the therapy sessions. Participation in this ethnographic study was completely voluntary and unpaid. However, the ethnographer often bought foods and snacks for the villagers and witches, and helped in taking care of their children as an expression of courtesy. These two rounds of fieldwork produced more than 200 pages of field notes, 80 interviews, and 300 photographs. The whole qualitative data was then translated into English, and analyzed using open coding and thematic analysis [18, 98]. This study was approved by the ethics review committee of the authors' institutions.

4 POSTDEVELOPMENTAL RURAL JESSORE

Jessore, the main land-port of Bangladesh, has gone through various phases of development initiatives during the British empire, pre-liberation, and post-liberation periods. For example, English rulers declared it a district in 1781 and constructed roads, highways, and various administrative centers. However, this infrastructural growth faded out when Bangladesh became a part of Pakistan, because Jessore had a higher density of the Hindu population (around 15%) compared to other parts of the country. Today, 103 government-enlisted NGOs and other organizations are active in this region with hundreds of economic and structural development initiatives. Nevertheless, these infrastructural developments are often disconnected, and mostly centered around the city.

[2]1 USD is equivalent to approximately BDT. 85

For example, the villages where we conducted our study are located within a radius of 10 to 15 kilometers from the center of town. However, transportation is limited due to scattered and infrequent bus services. Most of the time, the villagers use local transportation such as *'Easybike'*, *'Mohendro'*, and *'Nosimon'*. Since these services are limited inside the villages, traveling from the rural residential areas is challenging and frustrating.

The residents of rural Jessore are low-income population with average monthly income of BDT. 5,000. More than 65% of the local population is engaged in farming, along with another 22% who run small-scale industries including looms [33], handmade dresses, embroidery and tailoring, *'Nakshi-Katha'*(Embroidered quilt with traditional significance), handmade baskets, pottery etc. in association with laborers from the neighborhood. However, many of the villagers indicated that their incomes are in-commensurable to their workload. The average income is already higher than that of previous decades but is still insufficient to run the household. As a result, economic frustration is increasing and more than 80,000 people have migrated out of the district in last few years [80]. The number of landless peasants and *Vitaheen*(people who lost their ancestral residences) is growing along with the frequent occurrences of assassination, kidnapping, drug trafficking, gambling, and so called *Black Business*, a local name for illegal export-import business through the barbed wire fence separating the border. The villagers shared their growing concern that the economic crisis and increasing illegal activity are resulting in massive social frustration in rural regions.

5 WELL-BEING AND WITCHCRAFT

Over the course of our fieldwork, we explored the villagers' dependency on witchcraft for their well-being. We found that they consult the witches for various troubles which broadly include legal problems, natural disasters, family and financial crises, and health problems. Furthermore, mental health patients are almost always treated by witches in these villages. We found several reasons that influence the villagers to choose witchcraft over other means of support.

First, the villagers mentioned that, for hundreds of years, their ancestors held witchcraft in high regard for spiritual well-being. We heard of frightening stories and local myths where various strange and extra-human entities known as *Jinn*, *Voot*, evil spirits etc. attempt to harm mankind by taking control over their minds. Fears of supernatural entities were found to be widespread among the villagers and connected to their respective religious faiths. A number of villagers shared similar warnings from elders that had been passed down for generations. They mentioned that these entities are often blamed for misfortunes, troubles, and accidents. Witches are believed to be superior to normal human beings in sensing and analyzing these contexts, and considered to be the only people capable of helping. During the second phase of the ethnography, we experienced a number of showcases of witch-analysis power, for instance, witch3 handled a case of a woman whose twin sons had died from drowning in a pond. The witch said,

> *"It is obvious that the kids cannot swim. What took them there? Something must had its eyes on both the heirs of the family and led them to the water."(witch3)*

Second, some villagers shared their concerns regarding the limitations of medical practices for challenging spiritual situations. They believe that doctors or counselors cure the physical and physiological problems on a surface level but fail to deal with their underlying causes. Witches, on the other hand, are more trusted than *'Educated Professionals'*, because they gain deeper understanding of the context using a spiritual lens, emphasizing prevention in addition to treatment. For example, a woman was consulting witch2 about her child's autism, because years of medical treatment had not been as effective as she expected. The witch explained to her,

> *"The doctors will give your kid higher dose of drugs every time, because neither do they know about your exorcism of Jinn, nor they will deal with that, clear?"(witch2)*

Third, the villagers we studied were low-income people. Going to the hospital for treatment is a luxury for them, requiring money for transportation, medicine, payments for the middle-men to schedule doctors' appointments, diagnosis and tests. Furthermore, one also loses a working day. Similarly, a visit to any western-educated counselor also causes economic stress. In contrast, the witches live within the village and do not cost excessive time, energy and finances for transportation. Rather the fees of witches are usually within their capacity. The long-time alliance with the local witches often saves clients' embarrassment from explaining the context or family history while seeking help. Also, it is easy for the villagers to keep their visit to the witch secret since they live nearby. These reasons all play a role in the rural mass's preference for witchcraft.

6 WITCHCRAFT PRACTICES IN RURAL JESSORE

Our study has documented a detailed account of the witches, their therapy, and various other dimensions of their practice. In the following subsections, we detail witch-identity and training, and various stages of their therapy.

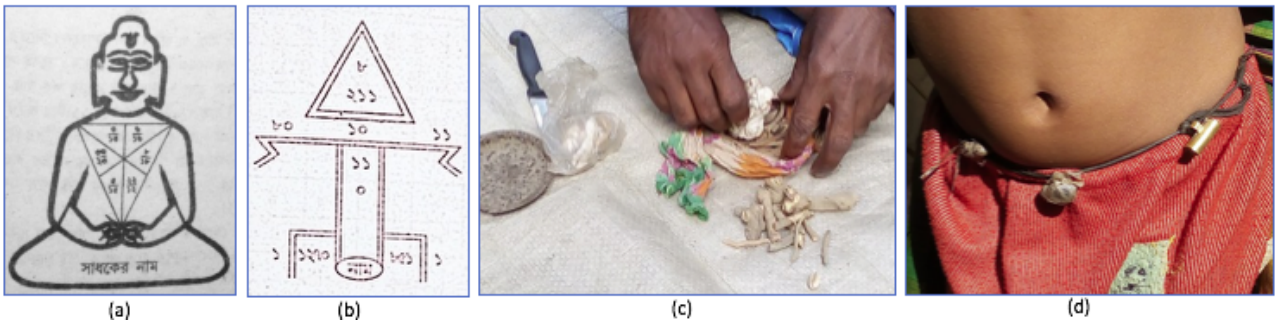

Figure 1: (a) *Jantra* for the *Tantra* of witchcraft training, (b) *Jantra* for the *Tantra* to rule wife with written *Mantra* in codes, (c) *Jantra* in making for *Tantra* to cure disease of the client, (d) A child wearing three *Tabizs* with *Jantra* inside.

Witches

The witches of rural Jessore are generally indistinguishable from the other villagers. They live in the same neighborhoods, eat similar foods, and use the same marketplaces. Their households are also simple; three of the witches had brick-walls with concrete ceilings, while the other three had mud-walls with palm-leaves on the roofs. They dress similar to the masses, yet, they would put on *'Tabiz'* or *'Maduli'* (Amulets), sometimes *'Tulsimalo'*(Necklace made of basil plant), and signs of *'Tika'*(Vermilion on forehead symbolizing purity). On Saturday and Tuesday, they meet their clients in the backyard for therapy and consultation. They usually receive 10 to 50 clients and make on average BDT. 1,000 to 5,000 from visiting fees per week. However, witchcraft is a 'side-business' for most of the witches since they are mainly invested in household activities or agriculture.

Witchcraft usually follows strong ancestral chains. Witches want their descendents to continue holding onto spiritual power. However, not every descendant of a witch becomes one. Again, one with no witch-parent and/or *Tula-Rashi*(Libra) can receive training and practice witchcraft. Other qualifications for witchcraft training recruitment include possession by *'Jinn'*, the holy spirit of *'Kali'* (Hindu goddess who fights evil forces) etc. Usually, the trainees receive their training at the graveyard of their parents (if witch), or at secret training institutions across the country.

The training is known as *'Amol'* or *'Tapashya'*, in Muslim and Hindu context, respectively. There are multiple training protocols depending on the major field in which a prospective witch wants to specialize. Our witches informed us that the length of their training varied from three months to two years. The training takes place under the supervision of a *'Guru'* (Traditional mentors). The *Guru*s monitor and limit their food intake, frequency of bathing, attire, mobility, etc. The training includes *'Jop'* (recitation to summon extra-human entities), fasting, sacrifice (usually chicken, goat, lamb etc.), spending sleepless nights sitting on a grave of an unmarried female, etc. However, the details of training are dictated by specific religions and *Guru*s. Trained witches must follow up with the holy spirit regularly.

Witchcraft Therapy

Witchcraft therapy follows a complex procedure. The subsections that follow will shed light on investigation, analysis, trust building, and prescriptions as stages of witchcraft therapy.

Investigation. Witch therapy starts with investigation. Regardless of their clients' problems (e.g. health, economic, familial or legal), they often use informal conversation to gain deep insight into their particular problem. For instance, during our conversation with witch1, one woman who had lost her golden necklace for a few weeks came and claimed that it was nowhere in her house. As the conversation progressed, the witch directed the discussion towards the woman's family, household, and recent encounters with visitors (e.g., a recent marriage ceremony). At one point, the witch said,

> *"I think your sister-in-law has taken it. My understanding is that this loss will lead the suspicion to the elder bride and then deteriorate the relationship which will benefit the sister-in-law the most."(witch1)*

Once the woman left, the witch explained to me that the woman often came to her for various reasons and the witch already knew a lot about her family from their previous conversations because the woman had been informing and updating the witch on family tensions over the course of several years. The witch explained that such information extracted from conversations often led her to understand the breadth and depth of the internal social and family lives, economics, concerns and tensions of her clients, and aided her investigation.

Explanations and Predictions. Explanations usually involve the narration of the incidents where supernatural powers

actually played a role. Usually these explanations are helpful for the clients to analyze their situation and lead them toward decision making. Witches are the advocates of their clients regardless of who caused the trouble. Over the fieldwork, we have seen witches explaining the clients as the victims and blaming someone or something else for the troubles, even when the clients are the active trouble-makers. For example, we witnessed a case where the witch convinced her client that how something extra-human(*'Bod-batash'*) had entered her a few years ago, so she became greedy and plotted a scheme to break up her daughter's marriage. The witch also explained the economic crisis of the family, and the client's greed of her daughter's dowry from the groom as products of the *Bod-batash*. Often these explanations were contextual, religion specific, aligned with social norms and presented in a way that clients find themselves to be the victim.

Drawing upon their own investigations and explanations, the witches make predictions to locate lost people or objects, identify thieves, detect unseen troubles, etc. For example, we witnessed a session where the witch engaged the *Jinn* in *'Varon'* process to tell where the missing daughter of the client could be found. From our fieldnotes,

> *"...(S)he was sitting on the chair and the client was standing in front of her. An iron sickle was submerged under the water in a tin bowl. The witch was silently reciting something which I could not hear clearly, her head was down. Suddenly she stopped, grabbed the sickle and started making lines on the ground around the client's feet. It was in a pace that I felt she would cut the client. At that point, the whisper went louder and I heard, "...I see barbed wire... dark room... uniform...." Then she spoke up aloud, "Ask the police to look for your daughter in the houses near the border."" - (Jan14,2017, Satighata)*

However, a witch mentioned that picking symptoms, analyzing, and processing the information provided by supernatural entities and subsequently deriving predictions are skills that take several years of experience to develop.

Performance or 'Keramoti'. The third stage of witchcraft therapy is locally known as *Keramoti*. It involves demonstrations of various eye-catching performances by witches for which they are often applauded by onlookers. These performances include detection of family-conspiracies, planchets, fortune telling, storytelling of incarnation, talking in a Jinn's voice, etc. We experienced such a *Keramoti* performed by witch5 the first time we visited her. From our notes,

> *"Her whole body was shaking. The hands were moving periodically and horizontally like pendulums. Her shoulder was shaking up and down- like spikes, she was screaming unusually. I was suspecting she was having a hysteria attack. The mother-in-law standing aside confirmed me that the Jinn is coming and suggested to cover my hair with a scarf. In a while, she came down and asked my name - in a male voice. After having greetings, the male-voiced-witch explained why he chose this woman to be his host and how he and his brother Jinn has changed the fate of the family." - (Aug 10,2018, Ramnagar)*

These performances play a role in their advertisements as we found villagers comparing between witches based on their *Keramoti* in several discussion sessions.

Treatments. The next stage of witchcraft is Treatment in which the witches make suggestions to the clients including recitation, wearing artifacts, execution of various functions, etc. There are two major tracks of witchcraft prescriptions: (i) *'Allahr Kalam'* and (ii) *'Kali Mantra'*. These tracks are independent, yet have some similarities in their procedures. Usually, the witches know both the tracks and they pick one on a case-by-case basis. Also, Hindu and Muslim clients receive treatment from both of the tracks regardless of their own religions. In this subsection, we shed some light on each.

(i) Allahr Kalam: Allahr Kalam adopts most of its craft and treatment methods from the Islamic scriptures- *Holy Quran* and *Hadith*. We met four witches whose primary method is *Allahr Kalam*, who showed us their collections of Islamic books. This method is safe, harmless, yet slower. The therapy that comprise this method often include prayer, *Jhar-phuk*(blowing air after reciting something), holding *Tabiz*s, restriction in movements, visiting holy places, etc. The witches informed us that both Hindu and Muslim families are consumers of this track.

(ii) Kali Mantra: The *'Kali Mantra'* is known as more effective and faster than the above-mentioned method. It adopts its craft and treatment methods from the Hindu scriptures- *Veda* and *Bhagabat Geeta*. It involves worshipping in Hindu-graveyards, stealing bones and vermilion from dead bodies, sending *'Baan'*(a harmful virtual weapon), etc. The number of clients seeking help from *'Kali Mantra'* is higher, as witch4 mentioned that,

> *"People are impatient nowadays. They will not wait until something good or desired happen to them. They will not let you do it on your own choice of method and work peacefully. They*

> *want immediate action and reaction. They will push you to use the faster method, regardless of the religion, being ignorant of the consequences."(witch4)*

Regardless which of the tracks the witches follow to treat the clients, the usual solutions are (a) *Dua/Mantra (Recitation)*, (b) *Tabiz/ Jantra (Wearables, especially pendants)* and *(c)Kria/ Tantra (Group of Activities)*. We will explain each in further depth here.

(a) Dua/ Mantra (Recitation): Dua (in the context of *'Allahr Kalam'*) and Mantra (in the *'Kali Mantra'* context) are statements or excerpts from the *Holy Quran*, *Hadith*; and *Veda*, *Bhagabat Geeta*, respectively. The witches often suggest to recite these for some specific number of times in a day for a period of weeks or months. The counting of the recitation has to be performed using a special thread of beads known as *Tasbih* or *Rudrakshi*. Usually, this form of treatment demands meditation while the clients are expected to devote themselves entirely toward the recitation. *Dua* or *Mantra* is usually suggested by the witches to solve minor problems like the treatment of domestic animals, praying for larger sales for the shop they run, cooking the squash well, etc.

*(b) Tabiz/ Jantra (Amulets): Tabiz*s, also known as *Madulis*, or *Jantra*s are similar wearable amulets holding slightly different religious contexts. These are usually pendants worn on the neck, arms or waist using black thread (see Figure 1(d)). These pendants are often suggested for comparatively more serious troubles including bad wind, the bad gaze of the evil spirits, fear of unusual and supernatural phenomena, recovery and prevention from diseases caused by evil entities, etc. Clients are expected to continue wearing them for years once they have started.

(c) Kria/ Tantra (Group of Activities): There is another treatment known as *Kria* or *Tantra* in which the witches provide statements to recite, a form of Amulets known as *Jantra* and activities along with other necessary ingredients (see Figure 1(a,b,c)). These activities generally include mixing salts or sand with food or water, nailing a specific tree, adding spices to foods, hiding *Jantra* in specific locations(underneath the kitchen floor, pillow for instance), stealing and burning something personal (piece of hair or used sanitary napkins, for instance), etc. Usually the salt, sand, nails, spices etc. are considered to possess power once the witch has performed *Jhar-phuk*on them. These activities are supposed to solve more critical complexities- like aged females' matchmaking; divorce cases, co-wives and cheating husbands; conflicting in-laws; acute diseases, etc.

For the therapy and preparation of medicine, the witches use natural and locally available ingredients. These items include: nails, hairs and skulls from human bodies; blood and bones of domestic and wild animals; various oils and herbs, graveyard-mud, Zamzam-water [102] and among other items. We have also witnessed them using digital and paper copies of photos for diagnosis and treatment. The impact of these mechanisms is dependent on new-moon, full-moon, and the tides.

Integration. The witches also run separate specializations alongside their main practice- including *Homeopathy* [83], *Ayurveda*[89], *Allopathy*[51], etc. All the witches, except one, mentioned that they are trained in basic medical support such as checking the patients' pulse, blood pressure, blood sugar etc. and often refer their clients to hospitals or doctors for serious issues. They mentioned handling a number of cases where the medical patients received treatment from both the hospital and the witches simultaneously. Five of the witches mentioned that they often prescribe medication and restrictions in food habits, mobility, and interaction to treat health problems. However, all the witches mentioned that most of their therapeutics were licensed and certified by the local governments.

7 WITCHCRAFT AND MORALITY

Witches play a very important role in upholding the moral values of a community. This section discusses how the witches position themselves against norms, how they balance in moral and ethical dilemmas, and how they respond to immoral practices of their clients.

Moral Resistance

Witches are usually vocal advocates of moral practices in society. They often advise people to follow the rules and norms of their own religions that benefit the communal harmony. At the same time, they scold clients for violating laws and ethical boundaries. We observed a session where a woman was consulting the witch about her husband's second marriage, and we found the witch taking the position of judge and scolding the woman,

> *"If you are not happy now that your husband is hanging around the other wife, why did you hold the greed and married him off to that lady for money? You should have not. Now he has a child there, do you think it is easy to get his mind back?" (witch4)*

At the same time, the witch was also an advocate of the victim seeking help. In the same case mentioned above, once the woman had left, the witch discussed the case with us and portrayed her as the victim in the situation. She expressed her sympathy for her. Witches are in a position to establish moral standards and serve as a cornerstone of moral support. These actions are often challenging requiring the ability to balance between multiple moral directions, especially when

they are compounded by religion. However, we found all the witches with whom we talked to are experts in that regard.

Moral Balance

The witches usually do not demand salary or payment. Rather, they demand the maintenance of the *Jinn* by whom they are possessed, and aid to their respective local religious institutions and agents. These exchanges are normally presented as donations rather than transactions. Clients commonly attempt to negotiate, but often reverse course once the conversation comes to the topic of the maintenance of the holy spirit. The cash payments from the clients go to the witches with the promise to donate to religious institutions in order to satisfy the holy spirits. The clients also bring the first few harvests from their vegetable garden, live chickens, ducks, and fishes raised at home. as a form of sacrifice. On the other hand, witches often suggest their clients sacrifice a living creature, preferably domestic animals, on various occasions. For instance, pregnancy, success in business, recovery from sickness, etc. would require some bigger and more expensive sacrifice than a chicken or a squash. These sacrifices satisfy the holy spirits and bring faster results.

There are two important aspects of this moral balancing act. First, the witches demonstrate to the villagers that they need to sacrifice something in order to obtain something desired. This helps the villagers moderate their greed. Second, a part of the donation money goes to the religious institutions, who also have moral influence over the villagers. By pleasing religious institutions, witches ease clients to make decisions that may go against religious rules.

Immoral practices

Even though the our witches mentioned that they do not perform any spells that would cause harm, we found their practiced ethics often only accounts for the interests of their clients. For instance, we found the witches attempting to neutralize evil spells cast on their clients by reflecting them back on whomever cast them originally. Witches were only thinking of their clients interests, discarding other stakeholders involved in gambling or black market affairs. We observed a widow woman's therapy session with witch4. She mentioned her involvement with the *Black Business*. A few years back she was chased by the BGB (Border Guards Bangladesh) while smuggling. She hurt her knees. The treatment that she received from the local doctor was ineffective. She told us,

> *"My knees are not going to recover as I do an illegal job. Even the witch-medicine may not work but I come here to get some spell on me before every big load so that police and the BGB fail to catch me." (witch4)*

We found that the witch was supporting her illegal business silently by advising her of various ways to avoid the BGB. However, the witch justified it as women empowerment as the woman had no other way to feed her children if she stopped her business. It should be noted that most of these 'immoral' services are provided in secret by the witches, while on the surface they still uphold moral values.

8 POWER, POLITICS, AND WITCHCRAFT

We found that the witches maintain networks with the other community stakeholders including political and religious actors, and the local healthcare system. These professional networks allow them to accumulate power. Utilizing that power, witches and their clients fight their adversaries. In this section, we discuss how witches interact with various sources of power.

Power Accumulation

Major sources of social power in rural Jessore include religious institutions, the Union Council, the Police, etc. On the other hand, medical centers and hospitals also empower the local masses with healthcare. Witches maintain a close connection to all these groups and accumulate power from them. Almost all the witches mentioned that they maintain personal connections with officials of local mosques and temples because the *Imams* of the mosques and the *Pujaris* of the temples are highly influential. These connections are often maintained through the donations of animals or money, especially a portion of the fees collected from their clients. The donations benefit the witches, as the officials of mosques and temples often encourage the local masses to consult witches for various problems.

Remaining in the good graces of the local union council and police is also important in the rural professional sphere. Four of the witches mentioned that they had supported the local candidates spiritually during the member-election in their respective villages, by reading palms, participating in secret sacrifices and campaigning, etc. They maintain good connections with the local police by providing them with discounts for therapy. Four witches mentioned that the police often help them obtain alcohol from underground markets to prepare various clients' medicine, because few licensed alcohol sellers are available within their neighborhoods. One witch shared her experience working as an informant for the police to solve a number of drug dealing cases. The payoffs from these liaison are professionally crucial. All the witches mentioned that the Head of the council in their respective villages wrote certificates which grant them official permission to conduct therapy. Witches often ensure their personal security using their connections to the police and union councils. For example, their marriage counselling often opposes the

interests of various people in the community. The liaison and the spiritual power together prevent such adversarial groups from causing any prospective bodily harm, as was mentioned by most of the witches.

The witches shared with us their opinion on medical treatment. Most of them emphasized that there are some issues which should exclusively be attended by medical professionals. At the same time, they also said science is limited for failing to acknowledge supernatural entities, and for failing to explain and reduce human suffering, which most of the witches claimed that the witchcraft is capable of addressing. The witches believe that people need both genres of treatment rather than choosing one. As such, all the witches but one were partially trained in *Allopathic* medicine and basic first aid. Three witches mentioned that hospital officials often refer patients to them who are interested in witchcraft therapy alongside medical treatment. One witch also informed us of her other chamber near the city hospital for enthusiastic clients. Sometimes incorrect treatment and mismanagement at the hospital motivate the clients to see a witch, as was also mentioned by three of the witches. However, medical consultants are rare in the neighborhood, at least ten villagers mentioned to us that visiting a witch often turned out beneficial for them since they got a chance to discuss their medical situation. The witches informed us of medical training on maternal health, childbirth, and childcare, treatments for snake-poison etc. helped them update their witch therapy.

Use of Power

Witches utilize their power to fight various social norms. These norms often include misogyny, radical religious rules, health related stigmas and taboos, etc. Our observations show that most of the 'women' cases that the witches handle are directly or indirectly connected to abusive relationships, gender discrimination and violence, etc. One way to solve these problems is to utilize *Mantra* which are purely spiritual. Connections with the council members help the witches handle gender abuse and violence cases. For example, over the eight-month experience in the field, we noted at least seven cases where the witches, acting as a marriage counselor, engaged the female members of the union councils and the police to save female clients from their in-laws who had tortured and starved them, demanded dowry, etc.

Moreover, witchcraft consultancy is an influential factor in breaking radical religious norms. Often the strong opinions of priests are enfeebled by any mention of witch-advice. For example, calling off of marriage by women is reproachable in the communities of both the religions. But the same action can be socially and religiously approved if a witch plays the role of a 'rural marriage and divorce consultant'. We have witnessed at least 10 cases where the female clients consulted witched regarding their marriage, divorce, and partners' polygamy, and together found ways to resolve those issues in a culturally acceptable manner, bypassing strict religious rules. Furthermore, witches dispute the stigmas and taboos held by their clients. Several women mentioned that witches encouraged them not to be shy to see a male gynecologist during their pregnancies, although many of them had discarded that suggestion before because of familial pressures.

9 WITCHCRAFT, MODERNITY, AND USE OF DIGITAL TECHNOLOGIES

Our findings from the field shows that the witchcraft practice in rural Jessore is entirely modern. We use the characteristics of modernity defined by Eisentaldt [36] to explain this in the following paragraphs.

Providing universal theories

The witches that we studied have a theory for everything. They apply these theory to explain a diverse range of topics, from mundane rural life to international politics, modern science and technology, and western culture, many of which they have never seen or even heard of. For example, a Bangladeshi aircraft crashed in Nepal with a large number of passengers [96] when our ethnography was being conducted. A female co-pilot was piloting the flight. Witch6 explained that accident was a consequence of the Gods' wrath. Since a woman was approaching the Gods physically (by flying so high in the clouds), the Gods took that as a transgression, according to her. She also said that the Gods punished both the female pilot with death and punished the passengers with injury for accompanying the pilot. This and many such incidents demonstrate how withes provide theories to explain the world around them.

From Center to Periphery

Witches in rural Jessore often consider themselves (and portray to others) as the center of spiritual power that combines knowledge, truth, justice, and morality. They spread this spirituality from within them to 'others'. They preach their spiritual lessons, demonstrate their magical power, and help people live a moral life. Hence, a stream of spirituality, a magical power for knowledge and morality, flows from them to the villagers, and even to outsiders. This makes them critical of other sources of power, and capable of providing solutions. Most of the witches mentioned that the existing laws and judicial courts are corrupt and incapable of establishing justice in society. They consider it their responsibility to utilize their power to manipulate the law and the

courts. As a result, many come to seek support during legal crises. Similarly, they criticize many modern medical practices and provide 'better' spiritual solutions, as we have already discussed earlier in this paper. This flow of power from 'center-to-periphery' allows them to establish themselves as the only superior entity in their village (and even in the universe).

Updating

Witchcraft knowledge and practices in rural Jessore update themselves quickly with the progress of time and technology. We have noted their attempts to align themselves with trendy use of technologies, obtaining western education, and updating their witchcraft knowledge and capabilities by meeting and attending conferences in collaboration with the broader witch-community.

Through Education. The witches we met had a diverse range of educational qualifications, from elementary school to college graduate. All of them showed us their collections of books and mentioned how these books helped them excel in their profession. All of them mentioned that they care for education, especially for women, while all of them also mentioned that daughters need not be educated more than a certain level, lest it causes more trouble in their families and makes their lives intolerable. Their enthusiasm for education is often related to their need to read and learn information from different sources to keep themselves updated.

Through Technology. First, we found the witches in Jessore using modern communication technologies including television, satellite channels, mobile phones, and the Internet. They have also updated their therapies accordingly. For example, one of the witches performed her *Tantra* on a mother who came to her asking for help so that her daughter leaves her son-in-law. For this, witch4 demanded a digital photo of the daughter and the son-in-law, which the woman then showed on her mobile phone. The *Tantra* was then made based on the digital photo. Similarly, witches have *BKash* accounts (mobile money transaction system) on their phones and they use that for receiving their visiting fees. They also often use mobile phones to consult their clients remotely, although the witchcraft that is performed over mobile phone is often weaker than the ones villagers receive in face-to-face consultancy. In their usage of mobile phones, they are also aware of the security and privacy concerns of their clients; as witch5 explained to us why she does not save the contact numbers of her clients in her phone,

> *"... (S)ee, a lot of people touch my phone. If I save clients' contacts and someone somehow looks into my phone and find their numbers there, then they will know that my client came to me, or contacted me. If people around the clients know it, that might not result in something good to them socially, familialy and spiritually." (witch5)*

Furthermore, some witches are also concerned about the social troubles created by mobile phone technology including addiction to the internet and Facebook, video chat, and pornography. Some of them are also researching ways to deal with these cases. Witch3 shared with us a case in which she provided a porn-addicted teenager with therapy by performing the *'Ghor Bondho Todbir'* (resisting evil spirits influencing the clients), and prohibiting books, mobile phone, laptop and TV for that boy for several weeks. Moreover, almost all of them mentioned that often they get to handle cases of fraud where someone stole money from the clients over their phone by making up different stories, including pretending to be a sorcerer and by threatening *Baan*.

Through Peers. Witches mentioned that they update their witchcraft knowledge also from their witch networks. They maintain the preceptor-disciple relationship through occasional visits and talking over mobile phones. Apart from consulting the Jinn that posess them, their preceptors are reliable to consult in difficult cases. Usually, they use the phone to talk to other witches or their preceptors. We also were informed of the *'Pagol Mela'* fair where witches gathers and showcase their performances and power. They usually hold the witch conference during the night of *'Pagol Mela'* where they meet other witches, hold professional discussions and consult each other. They often find new friends and collaborators from *Pagol Mela*, or similar get-togethers of witches.

10 DISCUSSION AND CONCLUSION

In this paper, we have presented a detailed description of the witches and their witchcraft practices in rural Jessore, Bangladesh. We have further illustrated the connection between the well-being of rural lives and witchcraft, various stages and dimensions of witch therapy, connection between witchcraft and local power politics, and the moral concerns and modernity aspects of witchcraft. Lessons from our study open up new scopes for HCI in both design and theory.

We open the discussion by focusing on the design implication that our study generates for HCI. Our study demonstrates several avenues for HCI to integrate its existing focus on health and well-being with traditional spiritual practices. This integration can take forms ranging from participatory design with the witches to modernizing their practices. Building on witches' current connections with medical institutions and law-enforcement, partnerships can be built to examine and rectify their medicines, therapies, and other practices to protect villagers from known harms. This may be done

while allowing for their influence over the villagers; as a demonstration of the 'updating' aspect of their modernity. Existing literature shows that a deeper investigation into their medicines and therapies may also discover many situated and low-cost solutions [84, 91, 93], and promote local knowledge in medicine. HCI design can help build on that stream of work. Furthermore, design interventions can also help reduce the problem of fake witches, and help extend their therapies to remote places [49]. Beyond this, witchcraft may benefit the ongoing movement of sustainable HCI by showing various ways to integrate design with local history, culture, environments, and politics [32, 92]. Building on Bidwell's work on integrating indigenous knowledge with design, we argue that the operation of witchcraft needs to be understood through local cultural products and interpretations. Only then we can have a deep engagement with indigenous people - a necessity that both HCI and ICTD communities are concerned with [27, 28, 34].

Beyond these design implications, our study contributes to a number of broader tensions in HCI. First, our study of witchcraft joins the postcolonial computing movement within HCI and ICTD [4, 50, 65]. Building on the concept of 'otherness' [86], postcolonial computing demonstrates how mainstream computing knowledge is often ignorant of local and indigenous knowledge, and that creates a space for postcolonial struggle through marginalization, resistance, disapproval, and failure [1, 2, 77]. These studies connect themselves to a rich body of work in history and social science depicting how colonized knowledge has been historically marginalized and suppressed, and colonized bodies are often neglected, examined, marked, exploited, or deprived [11, 94, 95]. This paper joins this body of work by presenting how existing HCI knowledge and practice lacks indigenous understandings of health and wellbeing. This paper shows how traditional western knowledge is not rich enough to comprehend many categorizations and interpretations of witchcraft. This paper also demonstrates how local witchcraft practices in rural Jessore, despite having several limitations, challenge western medical practices. We argue that HCI has an ethical responsibility to focus on improving traditional knowledge and practices to make them a valid and respectable parallel/alternative support for health and well-being as a process of decolonizing HCI research and ensuring historical justice [16, 17].

Secondly, our study contributes to HCI's growing interest in political design [12, 25, 31, 59, 69], and its connection to morality. Both our findings and previous studies demonstrate how witchcraft contributes to rural morality by emphasizing communal harmony and social relationships. Thus, an action that is harmful to a communal bond becomes immoral and is driven away from the community. This allows people from various faiths (for example: Muslim and Hindu) to co-exist under a shared moral umbrella. This is a significant departure from the modern democratic model of coexistence [46] that essentially separates the moral (private) spheres, and creates an artificial ethical umbrella (public sphere) for co-existance of different faiths. Most of HCI's dominant works on politics either takes an agnostic position to their opposition [31, 67, 88], or attempts to 'persuade' them. Benhabib [14] and Mansbridge [60] have argued that separation of faiths allows one sphere attributing its 'evil' to another; and thus may contribute to them turning against each other. To overcome this challenge, we need to bring various moral groups closer. We argue that witchcraft can provide HCI researchers with examples and inspirations for making a deeper engagement with various moral values, designing with their similarities and differences, emphasizing on communal relationship, and neutralizing radicalism by using other local sources of power.

Thirdly, our study contributes to HCI's broader interest in modernity, power, and movements. This tension is often depicted in HCI through a series of criticisms of the hegemony of modern, rational, and capitalist values, and their intrusion into our life [4, 9, 35, 44, 50, 63]. A growing body of HCI work shows how the 'modernist vision' of 'center-to-periphery' development is challenged, overthrown, or limited by localized, and vernacular movements in technical, economic, and political spheres [3, 7, 8, 52]. Core to this tension, exists an idea of the supremacy of 'scientific rationalilty' that is essentially built within an Western discourse of modernity [54]. Like other local movements, witchcraft rejects this singular version of modernity by posing itself as an inherently modern practice through its own values and operations, regardless of whether those are labeled 'irrational' by 'others'. This decoupling of scientific rationality and modernity essentially opens paths for embracing multiplicity in power, and challenging a hegemony. For example, our study shows how witchcraft supports rural women against patriarchal oppression, and poor villagers against religious rigor. Witchcraft thus demonstrates how a local small voice can combat a hegemony, or a large global power through local means, collaborations, and interpretations [41]. We believe that this lesson can inspire HCI to 'design from within' to bring positive changes to traditional communities.

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