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Krʊəh: astrology, risk perception, and vulnerability to mishap and disaster in Cambodia

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ABSTRACT

There are strong cross-cultural differences in the subjective judgment of risk perception of hazards or disasters. This article aims to examine the cultural construction of risk perception and who is at risk of succumbing to a disaster, using the 2010 human stampede at the Diamond Island bridge in Phnom Penh, Cambodia, as a case study. It focuses on the role of astrology in indicating who is at risk and why. An ethnographic study was conducted in Phnom Penh and nine provinces, involving five survivors and eight of their family members, 34 bereaved relatives of nine people who had been killed, 31 villagers, and 48 key informants including monks, female Buddhist devotees, lay officiants, mediums, and traditional healers. People consulted astrological practitioners, monks, and healers for diagnosis using methods that drew on stories in the Dhammapada and the Jātaka stories. Risk and vulnerability to mishap were believed to arise from the intersection between /krʊəh caŋray/ (ក្រោះចង្រៃ), or astrological misfortune, and /riesəy/ (រាសី), the person's zodiac house at a given time. *Krʊəh* was calculated by diviners using from five systems: 'the exact year' /kʊət cnam/ (គត់ឆ្នាំ); 'zodiac year treads in the current year,' /coan cnam/ (ជាន់ឆ្នាំ); 'incompatibility of the current and birth years,' /cʰoŋ cnam/ (ឆុងឆ្នាំ); 'fatal astrological angle day of week,' /tŋay ʔaŋsaa/ (ថ្ងៃអង្សា); and 'tail end of the old and the beginning of the new year,' /cʌmniə cnam/ (ចំនៀរឆ្នាំ). Where indicated, whether by monks or healers, or by common knowledge, people sought ritual interventions to banish their /krʊəh/. The cultural framing of risk and vulnerability in Cambodia seems to be based on ancient Vedic astrology and contributes to the understanding of astrology in contemporary Buddhist societies. There are implications for the development of culturally responsive strategies to effectively communicate with communities about their risk and vulnerability to mishap, and disaster.

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'We make guilty of our disasters the sun, the moon and stars'

(Shakespeare, 1605, King Lear, Act I, Scene 2)

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Introduction

There are strong cross-cultural differences in the subjective judgment of risk perception of hazards or disasters. In a useful analysis of risk paradigms, Gierlach et al. (2010, 1539) differentiated *dread risk*, the catastrophic level of the anticipated hazard, and *unknown risk*, the level of 'perceived controllability and predictability of anticipated hazards' (p. 1540). As noted by Gaillard and Texier (2010), risk perception in the face of disaster is in itself contextual and is constrained by cultural as well as political and social forces. Mark Nichter (2003) argues that the anthropology of risk and vulnerability includes the study of layperson perceptions of vulnerability, when a person, feeling susceptible to misfortune, experiences weakness, fear and worry. Nichter points out that, within a risk community, cultural factors may lead individuals to feel differently about their risk. Nicola Desmond (2015), in her editorial on engaging with risk in non-Western settings, argues strongly for *emic* ethnographic research approaches to risk perception, and she implies that framing risk is impossible without an appropriate anthropological theory and methods. Some examples of relevant studies have focused on 'risk structure' of Koreans' perception of uncontrollable events such as natural disasters (Yang 2015), living with the risk of fire in Indonesia's peatlands (Bizard 2011), the 2005 earthquake in Pakistan-occupied Kashmir (Danschutter and Housai 2006), and in inequalities in exposure and awareness of flood risk in England and Wales (Fielding 2012).

Further, anthropologists since Evans-Pritchard have examined 'contingency,' a situation in which events can go off track. In the classic study of witchcraft among the Azande in Sudan, Evans-Pritchard (1937) wrote of the sudden collapse of an old granary just when people were sitting beneath it in the heat of the day, who were either injured or killed. The Azande knew that the granary had collapsed because of a termite attack that had eroded its foundations, and they also knew that people sat there to seek refuge from the heat of the day. They explained the intersection of both chains of causation as the result of witchcraft. In the conjunction between the astrological and the practical dimensions, the practical events unfolded because of a particular astrological vulnerability. By consulting the oracles (which happen to be termites), a journey to a potentially hazardous place can be avoided.

A turning point in the anthropology of risk and culture was the seminal 'cultural theory' model of Mary Douglas, published in *Natural Symbols* in 1970, a model which evolved into the 'cultural theory of risk perception', published in *Risk and Culture*, (Douglas and Wildavsky 1983) and which, as she recapitulated in Purity and Danger, 'depends on shared culture, not on individual psychology'. Douglas' work has influenced risk researchers such as Cornia et al. (2016), that cultural orientations deeply influence the way a society deals with risks and disasters, and culturally based concepts shape the blaming strategies such as attributing risk to fate. It is useful to think of 'risk culture' in understanding 'how groups and communities share common ways of perceiving risk' (Cornia, Dressel, and Pfeil 2016, 291). Asa Boholm (2015), in her studies on contingency and risk, convincingly made the case that social anthropology can 'reintroduce into risk studies the complexity of real world risk' (Hansson 2019) that is based on local experiences and cultural constructions. Boholm was critical of Douglas' 'cultural theory' model as functionalist and tending to oversimplify the cultural construction of risk in any given cultural setting.

The English word 'disaster' stems from the Greek words *des* and *Astron*, or 'bad star,' implying 'separated from the star or planet,' and conveys a sense of calamity based on the position of an obnoxious planet (Chang 2006). For astronomy, a disaster reflects nature, but for astrology, it reflects culture. In the flood-prone Buddhist communities in the Nubra Valley of Ladakh, astrologers or oracle men are believed to communicate with the Gods to mitigate suffering (Suri 2018). Astrology is central to risk perception and harm reduction in both Hindu (Kern 1873; Chenet 1985; Guenzi 2012; Beinorius 2015, 2017) and Buddhist (Sørensen 2011; Yu 2011; Burnett 2013; Robert and Marsone 2013) societies, though they are different in their consumption of astrology.

Hinduism sees astrology as an important component (Vedic, way of life), while formal Buddhism appeared to have evolved in order to discard superstition.

Risk and vulnerability are deeply woven into the cultural fabric of Cambodia, the focus of this article's deep dive into astrological risk perception. François Bizot (2013a), writing on the lost horoscope of Cambodian astrologers, takes the Rāmāyaṇa', the Sanskrit epic of ancient India, as his starting point. Bizot explains how the ancient kingdom of Cambodia was conceptualized as a sacred space 'where Mount Meru rises from the centre of the Zodiac' and 'the world is but an enormous stage for the battle between the forces of good and evil, through the intermediary of the planets with which they are aligned. Bizot argues that, 'in this scenario, astrologers have handed down the vestiges of a horoscope based on the archetypical episodes of the Rāmāyaṇa' and that 'this is because the heroes of that celebrated epic, owing to the imprint of their exploits on the material world, are thought to influence the destiny of men' (Bizot 2013b, 299). The hero relevant to my argument is Bibhek (Vibhīṣaṇa), the younger brother of Rāvaṇa, the great astrologer featured in the Rāmakertī, the Cambodian version of the Rāmāyaṇa, with books of astrology mentioned throughout the story (Marrison 1989; Jacob and Kuoch 2006). Indeed, there is a rich record in Cambodia of astrological manuscripts (Au 1953; Sunseng 1977) and, as I and others have observed in contemporary Cambodia, astrology is a cornerstone of the work of monks and traditional healers (Ebihara 1973; Eisenbruch 1992; McGrew 2011; Davis 2016) . As shown in this article, astrology remains linked, to the cultural framing of risk and vulnerability to mishap and disaster.

In a nation scarred by the events of the Khmer Rouge era, for those old enough to have lived through the Pol Pot years in the late 1970s, any new real or threatened disaster tends to rekindle the trauma, and even for younger people, the intergenerational trauma may resonate. This reaction echoed the saying, 'When a cow has a wound on its back and a crow flies above him, the cow will instantly swish its tail,' /koo dɑmbav knɑɑŋ kʔaek haə rumlɔɔŋ rumsaay kɑntuy/ (គោដំបៅខ្នងក្អែកហើររំលងរំសាយកន្ទុយ). The cow signifies the traumatized people who carry their mental wounds on their backs and are quick to be retraumatized by real, threatened, or imagined threats. A festering wound will attract the crow, which is a predator that feeds on carrion and is popularly believed to be a portent of disaster. People, on sensing the 'crow,' are triggered to quickly 'swish it away with their tail.'

As mentioned by Luco (2002), Cambodians have long been wary of defeat by the Thai tiger to the west and the Vietnamese crocodile to the east. With the shocking news of the tsunami hitting Thailand, people believed that Cambodia would be next. and it was noteworthy that, even in Cambodia, which is geographically isolated from the Andaman Sea where the 2004 tsunami wrought disaster on the neighboring country of Thailand, people were convinced that the tsunami would engulf them. The Cambodian nation, like the innocent cow that was injured by war, famine, and illness, and is potential carrion to prey, is now quick to expect the worst – but who was at risk?

The rationale for this study is that, although it is evident that risk is culturally constructed, there is a need, as Thomalla et al. (2015) put it, for more evidence of these links to integrate culture into the risk reduction paradigm. This article focuses on the cultural construction of perceived risk and vulnerability in Cambodia. The case study for this article is the human stampede that took place on November 22, 2010 at Diamond Island (Koh Pich), located in Phnom Penh. I have described the cultural construction of the stampede elsewhere (Eisenbruch 2020).

Just after 10:00 pm on the third and final night of the Water Festival (Bon Om Touk), one of the major national celebrations held at the end of the rainy season, revelers gathered on the water's edge for the dragon boat races and fireworks. Crowds of people were on the Diamond Island pedestrian suspension bridge that crossed the Tonle Sap river. Although the bridge was designed to sway, a stampede was triggered when people shouted, 'The bridge is breaking!' and began to run. However, the exit was narrow and had been barricaded. The crowd surged back and forth, trying to get off each end of the bridge and crushing those in the center, which

resulted in the immediate deaths of 347 people from crushing and asphyxiation, with many hundreds more injured. By the end of the stampede, 378 people lay dead, and at least 755 more were injured.

The article investigates who is most vulnerable to disaster and at what points in their lives. To answer this question, an astrological framework is used, showing how various actors draw on popular notions in perceiving risk and vulnerability. The article starts with a description of a popular ritual divination method based on good or bad predictions and drawn from a Buddhist sources, the Jātaka legends and the Dhammapada text. The ancient astrological formulae for diagnosis of a person's risk and vulnerability are shown in widely-available reprints of the manuscripts used by healers and diviners. Subsequently, it considers in some detail five astrological methods by which an individual's risk and vulnerability to mishap and disaster is calculated, and each system is illustrated by case studies from Diamond Island. With this, the article evaluates responses to astrological risk and vulnerability. Thus, the article elaborates how local Buddhist and animist cosmologies help people make sense of tragedy.

Methods

This is a study of the 'embodied uncertainty,' the lived experience of uncertainty and risk in the context of hazards, as experienced by the individual and the community as feelings and the interpretation of meanings (Sword-Daniels et al. 2018, 290). Embodied uncertainty, which is 'internalized at the individual level, where it is subjective, felt and directly experienced,' is different from the usual focus on objective uncertainty in risk research. The ethnography used in this article explores the 'embodied uncertainty' implicit in the use of astrology to detect and explain risk.

I am a Khmer-speaking medical anthropologist and transcultural psychiatrist who has worked in and visited Cambodia since 1990 leading a research program on traditional healers and Buddhist monks in the context of community mental health and gender-based violence. In the course of this work, supported by male and female Cambodian assistants (in particular, Chou Samath and Phally Chhun), I have engaged with a network of many hundreds of monks and healers across Cambodia. Approval was obtained from the National Ethics Committee for Health Research (NECHR) in Cambodia, and fieldwork for the study reported in this article was conducted with sensitivity to recent concerns raised by research ethics committees on the rigorous appraisal and review of disaster research (Hunt et al. 2016). Voluntary oral consent was obtained after clarifying that the encounters' aim was research and not therapeutic intervention. Participants were deidentified, and the names in this article are pseudonyms.

The morning after the stampede, we started by establishing short initial contact with individuals and families in a spirit of condolence. Efforts were made to avoid re-traumatization, for example, by helping an informant access a Buddhist monk to perform a ritual that would provide comfort to their grief. The informants felt morally rearmed by the fact that the researcher had come to validate their experiences.

Sample

Fieldwork was conducted in Phnom Penh (n = 67), Kampong Speu (n = 20), Prey Veng (n = 12), Pursat (n = 9), Kandal (n = 6), Ta Keo (n = 6), and Svay Rieng (n = 3), and in Kampong Chhnang (n = 1), Banteay Meanchey (n = 1), and Siem Reap (n = 1) provinces, these being areas where the informants who had been involved in the stampede came from. The sample comprised 126 informants (55 women, 71 men). We interviewed five survivors (2 female and 3 male, average age 24.8 years) and eight of their family members. We interviewed 34 bereaved relatives of nine

people who had been killed. Further, we interviewed 23 neighbors and villagers (11 female, 12 male, average age 53.2 years).

We interviewed eight informants who became possessed, or were affected by their astrological vulnerability, or had premonitory dreams or omens of the disaster (7 female, 1 male). Some of them lived in Phnom Penh and had just missed out on being caught in the stampede, or had witnessed it, or seen the ambulances and the general commotion in the immediate aftermath.

Further, we included 48 key informants comprising seven monks (average age 36.5 years), 10 female devotees (average age 65.8 years), 22 Buddhist lay officiants (average age 69.7 years), four mediums (2 female, 2 male, average age 52.7 years), and five traditional healers (all male, average age 67.8 years) who had been consulted by the victims' families or were involved in conducting ritual ceremonies for the victims. Apart from these informants, who were directly involved in the encounters to do with the Diamond Island disaster, we also gathered data from fieldwork carried out since 1990 with, as a conservative estimate, 170 Khmer astrological practitioners, 140 monks, 30 Chinese-Khmer horoscope practitioners and at least 300 traditional healers who a had astrological manuals and were regularly involved in astrological consultations.

Procedure

Once the acute trauma had passed, we met seven families of those who died instantly and another two who had died in hospital in the aftermath, five survivors, and two bystanders. The researchers were not involved in the patient care of those affected. The encounters varied from single meetings lasting an hour to more intensive and repeated meetings with informants, especially with monks, traditional healers and astrological practitioners who had more details to convey. All encounters were conducted in Khmer.

The monks and healers were asked to expand on the their beliefs about misfortune and disaster that helped them understand and treat survivors and the families of victims affected by a range of 'mishaps' from the effects of 'one-off' accidental deaths ranging from fatal road accidents to epidemics and other large-scale tragedies that affected several people. Those who possessed astrological manuals were invited to explain the techniques they used to calculate the risk and vulnerability of those affected by mishap and who consulted them.

We continued sampling until we agreed on data saturation. With back-translation and further iterations of the fieldwork observations, we established the validity of the English-language terms. Using qualitative data techniques that ensured fidelity and minimized observer cultural bias, we analyzed the concepts of astrological fortune as they related to the stampede.

Khmer terms are spelled in roman characters using Huffman, Lambert, and Im's (1970) adaptation of IPA phonetic transcription, rather than transliteration, to help non-speakers of Khmer pronounce the terms more easily and consistently. In each case, the word is also shown in parentheses in Khmer OS font.

Astrological risk and vulnerability

The cultural framing of individual and subjective risk is an important topic because as Bankoff et al. (2015) pointed out, people from organizations attempting to help communities of disaster hold different conceptions of risk than those held by the affected communities.

According to Cambodian tradition, vulnerability and risk, moment to moment, are a result of two factors. /Krʊəh/ (ក្រោះ) is an important way of thinking about risk and vulnerability in Cambodia. In popular usage in Cambodia, /krʊəh/ means a person's good or bad fortune and, when coupled with the word /cɑŋray/, means misfortune or mishap. Related expressions include /nup krʊəh/ (នព្វក្រោះ), nine predictions of misfortune; /tɔtuəl krʊəh/ (ទទួលក្រោះ), to receive a wound

or injury; and /kammaʔ krʊəh/ (កម្មក្រោះ), negative karma. The astrological foundations of /krʊəh/, marking a person's destiny, have to do with the characters of the nine celestial bodies, /nup krʊəh/ (នព្វក្រោះ). The Khmer term is derived from the Sanskrit *nava* (Sanskrit: नव 'nine') and *graha* (Sanskrit: ग्रह 'planet, seizing'); in Hindu astrology, the demon that eclipses the sun and moon is said to seize them and can do the same to a person because of their astrological destiny. This system remains popular, the Khmer or Chinese calendar is displayed in some temples, and people can look it up on the Internet.

Meanwhile, a person's /riesəy/ (រាសី), their "house of fortune" at a given time, day, month and year and the zodiac house can fluctuate up /riesəy laəŋ/ (រាសីឡើង) or down /riesəy tleak/ (រាសីធ្លាក់) in the course of the lunar month. The Khmer term is derived from the Sanskrit *rāśi* (राशि), the 'part' of the sidereal zodiac in Hindu astrology. The popular expression /yii?un dak? aareak coan/ (យីអ៊ុនដាក់អារក្ខជាន់) is borrowed from Chinese astrology and means that when an individual's /rasi/ is low, they are vulnerable to fatal misfortune. Here, the Chinese loan word for 'fortune,' *yùn* (运), is combined with the Khmer /dak/ ('put down') and /?aareak coan/, meaning 'the /?aareak/ guardian spirit that trod on someone' while they had lowered resistance.

Stabbing the Jātaka or the Dhammapada on the riverbank

/Krʊəh/ and /riesəy/ are central to the work of diviners, for example, in the procedure known as /cak kumpii/ (ចាក់គម្ពីរ); *cak* means to stab, and *kumpii*, a sacred code or manuscript, from Sanskrit or Pali *gambhīra*, or profound, literally, to 'stab a sacred manuscript.' This divination procedure was described by Saveros Pou (1992). The officiant hands a person a stick that they slip between any pages of the text, which then indicates one of the five portents of success (the success of young Rām at the *svayamvara*), bad luck (the abduction of Sītā), hope (the episode of Bibhek joining Rām's camp), and good luck (the death of any demon on the battlefield, especially if it is Indrajit). As Pou argued, this divination does not specify an outcome, but foreshadows success or failure and, I would add, when to fear and prepare for a mishap.

One afternoon, I came across a crowd outside the pavilion in front of the Royal Palace. Facing the riverfront, and not far from the Royal flagpole, stood the shrine known as 'landlords of the water and earth guardian spirits that stay near the Royal flagpole,' /preah ʔaŋ daaŋ kaə/ (ព្រះអង្គដងកើ). This place was thought to be linked with the many powerful /baareaʔməy/ (ចារមី) guarding the Royal precinct. Many people—men planning a business or going on a journey, women in love or planning a family, students taking exams—had lined up to find out their auspicious and inauspicious days. Among them were those who had benefited from previous readings and had returned to pay homage, /lie bɑmnɑn/ (លាបំណន់). Before the Water Festival boat races, the crews would also come, perhaps to find out how to reduce their risk in the race, or to understand how well they would do.

The small space inside (see Figure 1) centered on an elevated six-armed statue of Avalokiteśvara, the Bodhisattva of Compassion, who protects people from danger (the name transliterated in Khmer is /ʔaʔveaʔlouke?teesvaʔreaʔ/, that is, អវលោកិតេស្វរៈ). This is the most prominent Mahāyāna deity in popular Buddhism in Cambodia. One manuscript lay ready in the saucer, and another was on the box. The ritual officiant stood in the center, and his three assistants were at the back. Curious onlookers stood outside, peering at the scene within. The kneeling supplicant presented his offerings, /tɑŋvaay/ (តង្វាយ) which included decorated coconut offerings named /slaa tʰoa/ (ស្លាធម៌). He whispered to /preah ʔaŋ daaŋ kaə/ to guide his hand well. Subsequently, the ritual officiant handed a manuscript to him and held it in front of his forehead and, whispering, invoked /preah ʔaŋ daaŋ kaə/ to guide his hand well in stabbing the manuscript. The officiant handed him a stick or tang that he slipped 'randomly' in between two of the velum leaves of the manuscript (see Figure 2), which was subsequently opened at that place for the officiant to view.

Figure 1. Inside the shrine, the elevated statue of Avalokiteśvara and one manuscript in the saucer and another on the box. the kneeling supplicant is whispering to /preah ʔɑŋ dɑɑŋ kaə/. Source: Photograph by the author.

Figure 2. A supplicant in the process of stabbing leaves with an incense stick. Source: Photograph by the author.

Figure 3. After the leaves are stabbed, a woman sits with the ritual practitioner who reads the prediction and adds 'very good' or 'not very good'. Source: Photograph by the author.

The person then sat with the ritual practitioner who read the brief summary on the leaf and then announced whether the prediction was 'very good' or 'not very good' (see Figure 3).

The ritual officiant in attendance explained to me what may happen in each situation. If the first stabbing led to a propitious prediction, the ritual would stop. If the prediction turned out to be inauspicious, he would have two more tries. If there was still no luck, the ritual practitioner would tell the supplicant to seek a monk to perform rituals to 'banish the bad *graha*,' /rumdɑh krʊəh/ (រំដោះគ្រោះ), as described later in this article, and after they get back to their home villages, they would consult a ritual officiant to determine the most auspicious day to perform the /rumdɑh krʊəh/.

To the best of my knowledge, the actual contents of the manuscript have not been made available in English. Even though Pou (1992) emphasized the Ramayana elements, I found the characters and their stories to be derived from two sets of sources. The first is the Dhammapada Commentary, /tʰoammeaʔ bɑt/ (ធម្មបទ) in Khmer, in particular the first part, the Yamaka-vaggo, /yeaʔmeaʔkaʔ veak/ (យមកវគ្គ) in Khmer, the 'Twin Verses.' The Dhammapada has been translated into Khmer (Buddhist Institute 1995). The second textual source is the Jātaka, also in Khmer /cieɗɑk/ (ជាតក).

Here is a single example showing how the fate was determined, depending on which leaves were "stabbed". In this example, the leaves opened between #10 and #11, which is paired around one legend, the story of Kol Thida, /kolt^{h}iidaa/ (កុលធីតា), and lead to diametrically opposite warnings about 'good' or 'bad' risk and vulnerability. The 10th leaf has the cryptic statement, 'An ogress, a *yakkhinī*, turned herself into a human, upon eating the child of Kol Thida.' The 11th leaf has the cryptic statement, 'Kol Thida made her child sleep at the feet of the Buddha to prevent it from being eaten by the *yakkhinī*.' The outcome for a woman anxious to have a successful pregnancy depended on the side of the velum leaf that the knife entered. If entered on the 10th side, the verdict was 'very bad, there will be no health, the child would die.' If it entered on the 11th side, the verdict was exactly the opposite, 'extremely good'; the inference was that the woman could look forward to a successful pregnancy.

This polarization makes more sense on reading the underlying story in the Dhammapada 5 (Burlingame and Lanman 1921) Book 1.4, Story 45, pp.170–5: 'Not hatred for hatred.' There are

two central characters who, until the Buddha intervenes, appear to be locked for generations in a fight to the death, essentially over being capable of bearing children. In Bhikkhu Khantipālo's revision, the story is aptly entitled, 'The Black Ogress' after the Hindu deity Kāli, and the same title as in the Khmer version, 'Burned Charcoal Female Ogre, /kaaləy yakkhinī/ (នាងកាលីយក្ខិនី), the cruel ogress with the black heart. The story is easily accessible in the World of Stories children's education program in Phnom Penh (Anonymous n.d.).

A barren woman was unable to give her husband children. Being wealthy, he needed a successor. His mother wanted him to marry another woman to give him children, and his wife, afraid that she would end up with nothing, decided that she, rather than her mother-in-law, must be the one to find the second wife for her husband, so that she could control her. She did so, and sure enough, the new wife quickly became pregnant, but she could not stop herself from poisoning the second wife in order to kill the fetus. She did the same during the second pregnancy, and in the third, when she not only killed the fetus but also mortally affected the mother who, in her dying moments, realized what had happened and hoped that she would be reborn as an ogress able to devour her children for revenge. Later, she died and was reborn in that very house as a cat. The husband also realized that his first wife had destroyed his family. Enraged, he killed her. She was reborn in that very house as a hen. The hen laid eggs, and the cat came and ate them all. This happened thrice, and the hen realized that the cat wanted to eat her, too. Therefore, this time, the hen made a wish before her death that, in the next life, she could eat the child of the cat, and she died and was reborn as a tigress, and the cat was reborn as a female deer. The doe had babies thrice, and each time, the tigress ate them. When the time came for the doe to die, she hoped to be reborn as an ogress to devour the next incarnation of the tigress.

In the fourth cycle of incarnations, the leopardess had been reborn as a respectable woman of station named Kol Thida, while the deer had been reborn as an ogress, and, who may be the Hindu deity Kāli. When Kol Thida give birth to her child, the ogress yakkhinī, intending to steal Kol Thida's child and eat it, disguised herself as a dear old friend of Kol Thida's and paid her a visit. Pretending to look at the child, she seized and devoured him and left. The same thing happened a second time. By the third time, Kol Thida knew who the ogress was and why she had come. She screamed for her husband to come and without waiting for him, swept up her child in her arms and fled straight to the temple. There, the Buddha was preaching, and Kol Thida placed her son at the Buddha's feet and asked him to protect him from the ogress. The Buddha told his attendant, Ānanda, to bring the ogress in, and subsequently, addressing the two women, he told them about their past lives and preached that vindictiveness could not end by being vindictive. He asked them to end their mutual revenge and become sisters, and he told Kol Thida not to fear, but to give her young son to the ogress, who cared lovingly for him.

Now, the rather cryptic remarks on the 10th and 11th leaves make sense, as do the prescriptive forecasts. These two alternatives are an expression of an ancient Dhammapada story showing the futility of harboring jealousy over fertility and children and, worse, the destructive cycles that sustain even across successive rebirths.

Purchasing the astrologer Bibhek at the market

Today, information on who is at risk and when someone is vulnerable to succumbing to a mishap or a disaster is made available in the form of printed booklets copied by private companies from the original pre-war manuals and that are widely available in markets with a readership. One of the booklets on sale, for example, is the Manual for Prediction, /Tɑmraa pyiekɑɑ cook ceaʔtaa riesəy/ (តម្រាព្យាករជោគជតារាសី) (CMCC and Em Boren [compiler] 2003), which considers a

Figure 4. Manual for Prediction,/Tɑmraa pyiekɑɑ cook ceaʔtaa riesəy/. This book bases its predictions on a person's astrological birth month and year, their /krʊəh/ in relation to their /riesəy/.

person's astrological birth month and year, of their /krʊəh/ in relation to their /riesəy/ (See Figure 4).

When an individual has reason to suspect that they may be at risk or vulnerable to an accident, for example, they been experiencing abnormal happenings, or they knew from their horoscope that this was a period of possible peril, or they had consulted a reputable monk, ritual officiant, traditional healer or astrological practitioner who warned them, they have the opportunity to see what the risk may be and how to avert it. Figure 5 shows one system used by

Figure 5. An alternative edition of the Manual of the Astrologer Bibhek, the Magical Vedic Formulae and the Art of Gāthā verses.

astrological practitioners found in the 'Manual of the Astrologer Bibhek, the Magical Vedic Formulae and the Art of Gāthā verses,' */Kbuən Bibhek horāśāstra: veetea?mʊən səl kiet^{h}aa/* (ក្បួនពិភេកក្សណ៍ហោរាសាស្ត្រ - វេទមន្តសិល្ប៍ គាថា) (Horayu (compiler) 1973). As noted earlier, in the Hindu mythology, the mythical Bibhek was a great astrologer.

One system of calculating a person's *graha* proceeds as follows. If the person is male, the counting starts on the stupa (shown in the diagram at the 7 o'clock position). The astrologer starts counting in a clockwise direction until the day of birth. When the counting stops, the picture the astrologer lands on conveys a message. For example, if the astrologer lands on the image of the headless person (shown in the diagram in the 8 o'clock position) the astrologer

Figure 6. Image drawn by a monk showing what a person looks like when at high risk of a fatal disaster, sometimes by their own doing.

will predict that the person will suffer a fatal disaster, as symbolized by the headless person. This image was known as '*krʊəh* of the amputated head'/ (រោះកំបុកក្បាល). This astrological idea is reflected in 'real life' belief, even today, that when a person sees a headless person walking in front of them, the observer knows that they are in imminent danger of being killed, as shown in Figure 6.

The monk explained that if you call out to attract the person's attention at the material time, they do not respond but rather keep walking like a zombie. These people have been driven to their fatal end by the ghosts known as /mr̥tyuʔ/ (ម្រឹក្យ), the loan word from Sanskrit *mṛityu*, which is related to the Proto-Indo-European 'mer-' for death. The *mr̥tyuʔ* takes some of the 19 souls of the victim who, headless, is impelled to wander into the forest and commit suicide by hanging (Miech 2001), as in the vision of the headless person.

Other predictive systems included the use of playing cards. Several weeks before the stampede, Metry was worried about the safety of her two children. Her son was away on military service, and her daughter Kanha was suicidal after an abusive marriage, which ended with she

Figure 7. Dɑmnaə ciivɨt taam reaʔyeaʔ sɑnlək biə (Life journey through card reading) (Dalin n.d.).

and her husband breaking up. The healer asked Metry to draw from a deck of cards, and she drew the ace of spades, which, according to the healer's manuals, meant both good and bad fortune: sure, Metry would come into money, but it would be of little comfort to her as one of her children would be killed. This was exactly what happened when Kanha was crushed in the stampede, and Metry received financial compensation from the government.

Card reading remains rather popular in Cambodia, for example, in efforts to predict the outcome of a national election or of a football match, and manuals are sold in the markets, such as the one shown in Figure 7.

While card reading offers a vague warning of a fatal accident or disaster, astrology presents a far more elaborate system. The stampede occurred in the Year of the Tiger, a year that was reputedly filled with traffic and ferry accidents—18,287 road casualties (Be 2013). For example, on August 30 that year, several people were killed because of a rocket launcher explosion in Pursat Province; on November 16, an anti-tank mine exploded under a truck in Battambang Province, killing all 14 people aboard; and on December 15, four children were seriously injured in a mine explosion in Battambang Province. Just before the Khmer New Year in April, the Phnom Penh Post reported that various fortune-tellers had predicted that the Year of the Tiger was going to see natural disasters, diseases, violence, and fatal traffic accidents, especially to

those born in the Year of the Tiger (Khouth 2010). As was true for many informants, Farina and her family anticipated disaster that year, starting April 2010, and believed that a tiger would devour human blood. The Royal Astrologer described a cosmic view of the perils faced during the Year of the Tiger, indicating that the fourth of seven celestial daughters of the Maha Kapila Brahma, called Mondea Devi, who came riding on a donkey, would devour 'breast milk,' meaning their blood. When Kanha began walking across the bridge, her brother was startled to see blood flowing profusely from both her nostrils.

The media depicted the stampede as /krʊəh mahʔɑntaʔraay/ (មហន្តរាយ), a compound of two ancient Vedic ideas, the *graha,* which signals astrology, and the *antarāya*, literally an 'accident, obstacle, or hindrance' that a person faces in the liminal state between one form of safety and another (Eisenbruch 2018b, 338). As I observe the use of the term, disaster in Cambodia seems to be depicted on an escalating scale of threat, starting with 'danger' or 'accidents' /krʊəh tnak/ (គ្រោះថ្នាក់) such as a potentially fatal traffic accident, escalating to 'emergency epidemics,' /krueh ʔaasɑn/ (អាសន្ន) such as bird flu, and onward to full-blown disasters /krʊəh meaʔhɑntaʔraay/ such as disastrous political and social revolutions such as the Khmer Rouge era, or most recently the COVID-19 pandemic. Prime Minister Hun Sen resurrected the paramount term /maha saokaʔnedaʔkam dɑɑ rʊəntʰʊət/ (មហាសោកនាដកម្មដ៏រន្ធត់) 'tremendous tragedies of grief that make people tremble with fear' (Chuon Nath 1967), that had been used for some years in the wake of the Khmer Rouge era but was forgotten in the collective memory when in 1998 Prime Minister Hun Sen told people to 'dig a hole and bury the past' and transformed the annual 'National Day of Maintaining Rage' to the Khmer Rouge into the 'Day of Remembrance' (Eisenbruch 2018a, 7). Currently, the Prime Minister resurrected the deep roots of national trauma, which was in the lived experience of all older people. For Cambodian Buddhists, there is no escaping the role of /krʊəh/.

Vulnerability according to the calendar

The families of those killed in the stampede wanted to know the astrological markers of vulnerability. Some of them, worried because of having experienced bad omens, sought advice during 2010 before the stampede. Others chose to consult astrological practitioners, even though the disaster was in the past, to find out what whether they would be vulnerable in the future. I found five overlapping astrological systems drawn on to some extent from Indian Vedic astrology.

'The exact year' - kʊət cnam

We found a widespread belief that people would be vulnerable to disaster during the year that they were of a particular age. When the person's age comprises digits that when added together amount to a multiple of ten, that year is considered one in which they are vulnerable to misfortune or disaster. For example, people aged 19, 28, 37 years, and so on were at *kʊət cnam*, which literally meant 'the exact year,' in which they were vulnerable. It was even worse when a person was aged 10, 20, 30 years, and other years that are multiples of 10. During this year, life was vulnerable to 'becoming zero,' like the Greek Ω, and people, traditionally, were well-advised to avoid unnecessary risk. Each person faces being /kʊət cnam/ (ឆ្នាំកំណាត់) twice every decade. People intending to attend the Water Festival were warned against doing so by their parents or grandparents and ritual authorities such as astrological practitioners because it was the *kʊət cnam* year. As for those parents who had lost children in the stampede, some retrospectively found meaning in the age of the victim as /kʊət cnam/, softening their pain because it helped them understand that fate was at work. However, other parents felt a sense of guilt at having failed to prevent their children from walking to their deaths on the bridge.

Chhoeun, Chandara, and Naroth were among the victims of the stampede who were *kʊət cnam*. The story of Chhoeun, the 20-year-old former monk, adds an interesting dimension to the ways in which those who were steeped in dhamma discounted astrology as a cause for the disaster.

We met Grandma Pealika at home, where a brass urn containing Chhoeun's remains sat prominently. Grandma had personal experience of the power of /kʊət cnam/ as signaling mortal vulnerability. She always tried to ensure that when one of the family members was /kʊət cnam/, they should take evasive action, cancel their planned trips, and seek monks to perform the ritual pouring of lustral water to elevate their astrological fortune (*rāśi*) and thereby magically 'liberate themselves from danger,' /rumdɑh krʊəh/ (រំដោះគ្រោះ).

Chhoeun was different. Shortly before the last day of the Water Festival, Chhoeun sought permission to attend the festival and, as usual, Grandma advised against it because, as a 20-year-old, he was /kʊət cnam/ and going into crowds was not a good idea. However, Chhoeun did not believe in this 'superstition.' As a young boy, he had certainly believed strongly in astrology but, once ordained as a novice monk, he had learned the 'Ten Fetters' (សំយោជនៈ) defined in the dhamma, whereby astrology was considered superstition. Chhoeun was torn between his wish to enjoy the festival, his respect for his grandmother's prudence, and his Buddhist posture on discounting superstition. As a compromise, he decided to go, but only for two days, and intended to come home and lie low. Therefore, off he went.

Grandma, worried about his safety, tried in vain to persuade Chhoeun to see a monk to prepare the ritual /rumdɑh krʊəh/, but he would have none of this superstition, and in any case, if he had wanted to do it, he could have done it himself. After Chhoeun's death, his grandmother was remorse-stricken at not having been more strident in keeping him at home.

Astrology and planet worship are part of Esoteric Buddhism (Sørensen 2011), in which a particular misfortune 'can be warded off by making a talisman of the figure concerned, placed in a certain compass direction' (Burnett 2013, 292). Chhoeun had known nothing of this, for he adhered to a down-the-line Buddhism in which karma was karma. The Ten Fetters that Chhoeun had learned are mentioned in the Khuddaka Nikāya's Itivuttaka 1.15, one of which is the *sīlabbata-parāmāso*: that is, it is a delusion to believe that falling back on superstition, magic, or rituals on their own could solve life's crises. Death in the stampede was unavoidable.

'Zodiacal year treads on current year' - coan cnam

Each individual was born in one of the zodiacal years, and these recurred once every 12 years, which means that once every 12 years, the zodiacal year would be the same as that in which the individual had been born. During that year, one is eclipsed by the zodiac year, and this phenomenon is called /coan cnam/ (ជាន់ឆ្នាំ), literally meaning that the current year treads onto one's zodiacal fortune. In this year of living dangerously, a person is vulnerable to the *graha*. Meanvy's mother said that Meanvy had been born in the Year of the Tiger, and she had tried to exercise caution all of that year. She had even told her daughter to stay away from work until after visiting a monk who would pour lustral water in the ritual called 'elevation of the person's astrological good fortune,' /ləək riesəy/ (លើកកាសី), but Meanvy had to earn the money to support her mother, and she had no time off from work.

'Current and birth years are incompatible' - cʰoŋ cnam

A person whose birth year was incompatible with the current year was thought to be vulnerable to a fatal accident, and people looked up Chinese horoscopes to work this out. Figure 8 shows a version that is widely popular in Cambodia, published on the web by a Chinese travel agency (Anonymous. n.d.).

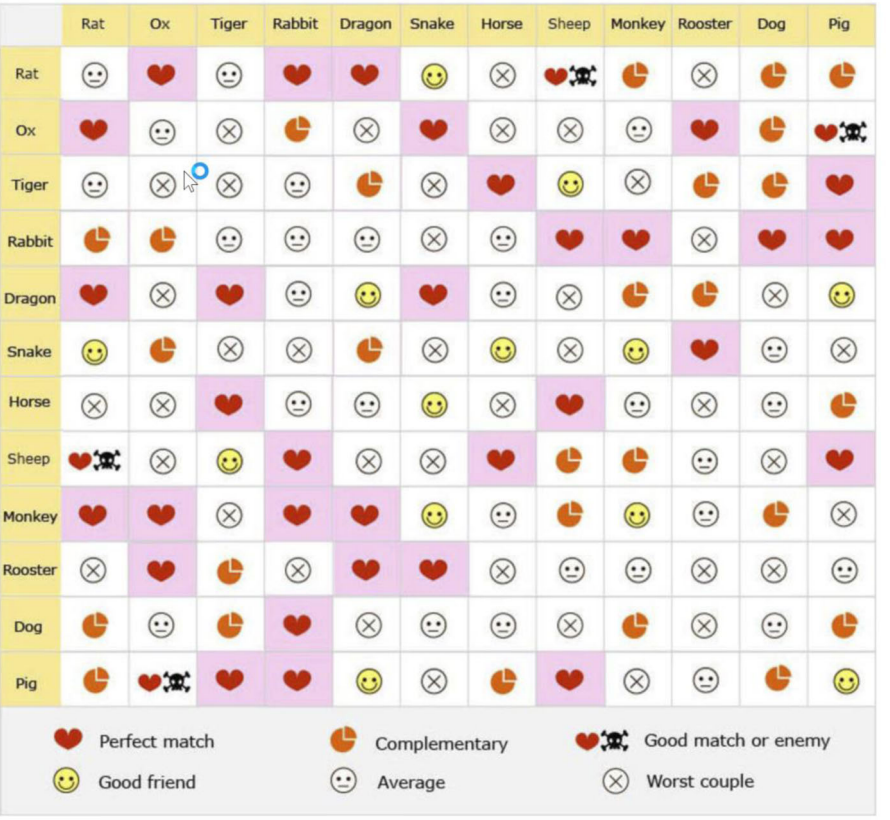

Figure 8. Chinese zodiac compatibility, showing compatibility between both birth and current years (Anonymous. n.d.).

In the year of the stampede, 2010, the Year of the Tiger and, as shown in the Chinese chart, those born in the Year of the Ox, Tiger, Snake, and Monkey were in peril, and were in /cʰoŋ cnam/ (ឆុងឆ្នាំ), in a metaphoric sense from the Chinese loan word *cʰoŋ*, which means 'pouring boiling water onto tea leaves causes them to expand.' The metaphor signifies that a person can be scalded by the heat, and their propensity to fall victim to disaster also expands. Here is an example of how the metaphoric animal, in this case the tiger, comes into play:

Kanha's mother, Metry, told us the story. Kanha was born in the Year of the Monkey, which was incompatible with the Year of the Tiger. Metry had been hypersensitive to these matters right from the time of Kanha's birth because her umbilical cord was short and there was a mole on her chest, each a sign that she would be vulnerable to potentially fatal mishaps throughout her life, especially during periods of astrological vulnerability.

When Kanha was a child, Metry used to address her with the contracted name '*klaa*,' a word formed by two constituents, starting with a simple prefix /k-/, denoting directional intensity and an intimate relationship between the interlocutors in the family and the rhyming word *aa*. As Kanha grew up, in her adolescence, it was evident that her character was audacious, and the nickname *klaa* stuck as a homophone with *kʰlaa*, the Khmer word for tiger. The name *klaa* stuck.

There was more tiger trouble. Kanha had been a victim of domestic violence at the hands of her former husband, who was born in the Year of the Tiger and whose fierce character had come through in his attacks on her. Kanha fled her marital home. It was no surprise that she hoped to be reborn as a man in her next life.

Metry recounted how during the night of the first day of the Water Festival, Kanha had a nightmare that a fierce male tiger had pounced on her and pushed her down the stairs.

She told Metry, who, terrified that Kanha would be killed, warned her not to go out but to seek lustral water from a monk to avert her fatal *graha*. It was even worse because, first, Kanha was not only trapped by her conflict with her former husband (who was born in the Year of the Tiger) but also affected by the current year, and, second, being almost 20 years of age, Kanha was about to become /kʊət cnam/.

With this convergence of inauspicious signs—Kanha's short umbilical cord and her mole from birth, her three bad astrological configurations, Kanha's mother, Metry, had consulted a astrological healer because Kanha had just broken up with her husband and was suicidal and the final straw was when Metry had a nightmare of picking up a coin engraved with the image of Yama, god of death. When Metry drew the ace of spades from the pack, this was a very bad omen of death. However, Kanha paid no heed because she remained suicidal since her marital problems began, and it was as if she welcomed the prospect that her life would be cut short.

The case of Kanha shows an additional element: the role of a person's birthmark or mole signifying who is liable to good fortune or at risk of disaster, either for themselves or for their partner or child. I have found many cases in which people fervently believe that the mole, the /prɑcruy, (ប្រជ្រុយ) has played a critical role in explaining vulnerability to getting hurt. Eisenbruch (2018b) described the mole as being used to 'explain' the actions of men with birthmarks on the tongue or the penis (known as /prɑcruy/ of the Lingam, the symbol of the phallus of Siva, who abused their sexual partners.

'Fatal astrological angle day of week' - tŋay ʔaŋsaa

Popular belief has it that one's death, moderated by the person's zodiac animal year, the five associated elements, and the lineage of that animal, will tend to occur on a particular day of the week called /ʔɑŋsaa kɑmnaət/ (អង្សាកំណើត). The horoscope is divided into 12 astrological houses, each with its distinct zodiac animal, and each subtending an angle of 30 degrees (*ʔaŋsaa*) around a circle. Another Khmer word used for the same idea is /tʊənsaa/ (ទន្សា), which refers to the tang, the sharp object used in divination mentioned earlier in the process of /cak kumpii/. On /ʔɑŋsaa kɑmnaət/, a person is at their weakest and most vulnerable to a fatal incident.

The stampede took place on a Sunday. Here is one such example in which the /ʔɑŋsaa/ day was one of many astrological factors that foretold risk:

Pheakny had been alerted by an astrologer that her daughter Meanvy was in danger. Being born in the Year of the Tiger, Meanvy was not only vulnerable on November 22, 2010 because she was /cʰoŋ cnam/ and /coan cnam/, but she was also /ʔɑŋsaa kɑmnaət/. She was vulnerable thrice over. Pheakny tried to dissuade Meanvy from going to the Water Festival and planned to take her to consult a monk to liberate her from her *graha*, but to no avail, as her daughter was destined to die on that particular day of the week. Thus, she did.

Pheakny, without realizing, was involved in a system akin to and, according to Venerable Chuon Nath (1967), derived from ancient Vedic astrology. People consult fortune-tellers who inform them of their /ʔɑŋsaa/ day, which is the day on which they can take care to minimize risk.

Figure 9 displays a manual, the 'Horoscope Manual and Daily Life,' /tɑmraa hoara sastra niŋ ciivɨt prɑcam tŋay/ (តម្រាហោរាសាស្ត្រ និង ជីវិតប្រចាំថ្ងៃ), which includes the instructions for calculating a person's 'astrological angle,' the /ʔɑŋsaa/ day.

The manual tabulates 12 rows depicting each of the 12 animal years. The columns depict the number and name of the 12 zodiac animal years (e.g., the Ox or Snake); six elements corresponding to that year (i.e., wood, gold, fire, iron, water, and earth); six /pʊəŋ/ (ពង្ស) or lineage of that animal (male or female deva deity, human, and *yaksha*); the seven /ʔɑŋsaa/ days (e.g., Sunday, Monday, etc.); and the Khmer vernacular word for the animal year. The Khmer /pʊəŋ/ is probably derived from the Sanskrit *vaṁśa* 'race.' Leaving aside the complicating factors of

Figure 9. Tɑmraa hoarasastra niŋ ciivit prɑcam tŋay [Horoscope manual for daily life]. Note the advertisements for Swiss watches that have crept into the contemporary reprint, this one by Bun Thorn Copy Printing Shop.

the elements and the /pʊəŋ/, according to the grid, the /ʔɑŋsaa/ of a person born in the Year of the Rat or the Horse is on Sunday, that of the Year of the Ox or the Monkey on Monday, that of the Year of the Tiger or the Rooster on Tuesday, that of the Year of the Rabbit or Dog on Wednesday, that of the Year of the Dragon or Pig on Thursday, that of the Year of the Snake on Friday, and that of the Year of the Horse on Saturday.

Recently, an anonymous Cambodian blogger, perhaps drawing an allusion from outside Cambodia, posted a story about the /ʔɑŋsaa/ day of North Korean leader Kim-Jong Un drawing closer (Anonymous 2017), writing that it did not matter that he was still alive, as sooner or later his *ʔɑŋsaa* day will come around.

'Tail end of the old and the beginning of the new year' - cɑmniə cnam

Some people said that the risk of fatal mishaps or disaster grew toward the end of the year, literally stating that 'the year is stripped or trimmed toward its end,' /cɑmniə cnam/ (ចំនៀរឆ្នាំ).

A few days after the stampede, a devout elderly woman named Yiey Chhom rode her motorbike to view the scene, but half-way there, she had a strange sensation that her body was

being shoved off her seat, and she fell onto the road and was injured. With the approach of the year's end, her friend said that, although she had not yet reached her *ʔaŋsaa* day, and therefore her life was spared, the accident happened because it was the end of the year.

Taking the dragon as an image of the progression of the year, the dangerous parts of the year are the beginning, reminiscent of the dragon's fiery mouth, and the year's end, reminiscent of the backlash of its tail, /voat kɑntuy/ (វាត់កន្ទុយ), literally 'gored by the tail'. If they do not get you at first, they will get you at the end.

Averting risk and vulnerability

During times of heightened risk, the informants chose not to embark on business ventures or journeys. To seek magical Buddhist protection, some also visited monks who performed rituals known variously as 'cut it,' /kat krʊəh/ (កាត់ ក្រោះ); 'banish it and relieve from it,' /rumdɑh krʊəh/ (រំដោះក្រោះ); or 'make it pass by you,' /cɑmlɑɑŋ krʊəh/ (ចំឡងក្រោះ), as described earlier in the case of Chhoeun. The monk would typically pour lustral water over the person while reciting protective stanzas such as those found in the 'Collection of Dhamma to Dispel Graha According to the Twelve Years,' /prɑcum tʰoa rumdɑh krʊəh teaŋ dap pii cnam/ (ប្រជុំធម៌ រំដោះក្រោះទាំងដប់ពីរឆ្នាំ) (Anonymous 1999). Further, the monk gave the person a Yantra or a magical hip cord, or, at the very least, a red string to tie around the wrist to ritually bind the 19 major and minor souls, the /prɔlɨŋ/ (ព្រលឹង) in order to prevent them from escaping from the body. On following up, we found that the informants said that they were free of trouble for months or years after the ritual was performed.

Here is an example of trying to escape astrological destiny of facing disaster. Kakada, an educated urban teenage radio broadcaster, knew that she was in the midst of a year of astrologically determined *krʊəh*. She became scared on hearing the news about events such as drownings and became alarmed when her motorbike collided with a car and she fell off it. Working in the media, Kakada had picked up the formal terms for this sort of danger and depicted her risk as /ʔuʔpaʔtrup/ (ឧបទ្រព). Kakada would not have known that this term was derived from Sanskrit *upadrava* where, in Ayurvedic medicine, it implied that a disease would become fatal. In its Pāli derivation *upaddava*, it is described in the Pali canon as peril or danger.

As soon as she heard about the stampede in a news broadcast, she was alarmed that some other disaster might overtake her during the remaining months of the lunar year. The elders told Kakada and her mother what she had to do in order to split Kakada from her looming misfortune, her /krʊəh cɑŋray/, and to cross into the safety of the New Year. Kakada joined her mother in conducting the ritual to literally float the /krʊəh/ away over the water. Although Kakada did not know the reason, people advised her to go to seven houses in the village and gather 100 riel from each house, thus amassing 700 riels in all, seven kinds of fruit, seven incense sticks, and seven lollies, which she and her mother had to place on a boat and set it afloat away from her along the river, so that they could be liberated from their /krʊəh/. Kakada turned away from the river and was not allowed to look back. The following day, she went to seven temples, and at each temple, she received the ritual pouring of lustral water and was immediately released from the threat of /ʔuʔpaʔtrup/. She told her friends who were born in the same astrological year as hers, and they followed suit.

The concept of vulnerability—the potential for loss or susceptibility to harm (Faas 2016)—has driven a discourse in which vulnerability does not emerge after a disaster but already exists beforehand (Furedi 2007). This applies both to communities and individuals alike. The findings reported in this article show how some were considered as being predestined to die prematurely in a disaster. For example, Kanha had been born with a very short umbilical cord and a raised black mole at the medial base of her left breast. As her mother lamented, she had failed to

conduct the ritual to remove it and mitigate the risk of the associated misfortune, resulting in her death in the stampede.

Foundations in Indian astrology

/Krʊəh/ probably comes from the ancient Sanskrit or Vedic *graha*, which literally means a 'planet' as a physical body, but which also influences the zodiac in specific zones in time and space and thus influences risk. This is no surprise given that Cambodian astrology and divination are derived from practices in ancient India (Porée-Maspero 1962), reflecting the fact that ancient Cambodia was Indianized (Chandler 2008). Beinorius (2017, 230) showed how, in ancient India, astrologers used divination to determine the countries or districts that would experience mishap or disaster 'when the respective lunar mansions with which they were associated are harassed by malignant planets'. Further, the grahas, the astrological positions of planets and stars, were not just indicators of mishap, but they were also causative. Beinorius noted that ancient Indian astrology was big on the prediction of natural disasters such as earthquakes, and kings performed pacifying rites of *grahaśānti* as prescribed in the Ātharvaṇanic text to placate the angry planets and thereby avert disaster—their positions being 'not only indicative, but also causative' of inauspicious events (p. 231) and, as such, connoting the moral failing of humans. Similarly, the *graha* in Cambodian explanations for disaster are not simply about the impersonal alignment of planets but actually reflect the moral wrongdoings of Cambodian society on earth.

Conclusion

Risk perceptions of disaster are strongly shaped by cultural context. An *emic* approach can reveal how people deal with the uncertainty of knowing who may be at risk of succumbing. People in any society will be exquisitely mindful of who is liable to be swept up and lost in a disaster, and it is likely that individuals (and communities) will draw upon local beliefs on misfortune and vulnerability to mishaps, including premature and inauspicious death, and to disaster. The study shows the Cambodian dynamic in which, astrology is strongly associated with risk perception, embedded in the survivors' descriptions of mishap and disasters and the connections between the local concept of /krʊəh/ and its putative origins in the ancient Vedic astrological *graha*.

It comes as no surprise that in Indianized societies such as Cambodia, the underlying system of determining risk and vulnerability seems to be derived from Vedic astrology and Buddhist sources, notably the Dhammapada and the Jātaka tales. Risk and vulnerability are culturally framed as /krʊəh/, and fluctuations in /riesəy/, their zodiacal house of fortune at a given time. This system seems to guide the fears and attempts at minimizing risk. Disaster is seemingly so random in choosing its victims, and it raises such primal anxieties over who will live and who will die, and the article shows how people draw on astrology, in explaining who is vulnerable and when. That said, it would be wrong to essentialize culture as static, and the cultural construction of vulnerability should always be perceived in the context of physical, technical, ecological, social, political, economic, and other considerations.

The relevance of the findings is evident, given the rising sense of risk vulnerability globally, as well as the need to develop culturally informed empathetic strategies and approaches to handling risk. A culturally responsive disaster response should be driven by a clear understanding of what people seek to do in the face of risk and vulnerability. The cultural framing of risk, as presented in this report, lays a foundation for further work to establish the link between astrological risk perception and public policy centered on risk management practices. There are implications for the development of culturally responsive policies and strategies to more effectively communicate with communities on their risk and vulnerability to misfortune, mishap, and disaster.

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