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**'Time, Too, Grows on the Moon':
Some Evidence for Knight's Theory
of a Human Universal¹**

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Our species evolved in Africa between 150 to 200 thousand years ago, dispersing across the world within the last 100 thousand years (White et al. 2003; Oppenheimer 2003). There is growing archaeological evidence that by the time this dispersal began, the essential elements of symbolic culture were already established.² Some of the earliest direct evidence concerns engravings on pieces of red ochre and sets of shell beads from Blombos Cave in South Africa, dated over 70 thousand years ago (Henshilwood *et al.* 2002, 2004). Red ochre is an earth pigment widely used by recent hunter-gatherers for body-painting and decorating artefacts. Its *regular* use – from early in the Late Pleistocene³ of southern and northern Africa⁴ – may be used to infer habitual collective ritual (Watts 2002) of the kind long viewed as central to the generation and transmission of symbolic constructs (Durkheim [1912] 1965; Deacon 1997).

Taken together, these developments oblige cultural anthropologists to consider the possibility of significant universals underpinning symbolic culture. Ambitious endeavours to identify and explain supposed symbolic universals were standard during the infancy of anthropology but have fared poorly since the 1920s, the last notable example being Lévi-Strauss's *Mythologiques* (1970–1981). The validity of some cross-cultural symbolic findings – for example, the incompatibility between cooking and noise (Lévi-Strauss 1978), or between menstruation and sunshine (Frazer 1900) – has never been refuted, but with no plausible theoretical model to account for these correlations, research agendas have moved on.⁵

As the 'out of Africa' model of modern human origins gained acceptance, Chris Knight (1991) proposed his 'sex-strike' theory of a unitary origin to symbolic culture, subsequently elaborated with the more rigorously Darwinian 'shamenstruation' hypothesis (Knight et al. 1995; Power and Aiello 1997). According to this model, selection pressures for larger-brained offspring placed heavy energetic burdens on evolving hominin mothers during the last half million years. In low latitudes, these burdens would have been most acute in the dry season. In

meeting these challenges, females could seek support from (a) local kin-related females, (b) male kin and/or (c) out-group males. The optimal strategy would have been to combine all three, co-operating with male and female kin in the task of extracting regular provisioning from sexual partners. According to Knight et al. (1995), ancestral 'modern' females achieved this by making sexual access dependent upon male co-operative hunting success.

Menstruation would have been uniquely salient to males as a reliable indicator of imminent fertility. By painting up in shared blood, or using blood-coloured substitutes such as red ochre, coalitions of nursing, pregnant and cycling females could 'scramble' the relevant information, preventing 'philanderer' males from discriminating between them. By declaring themselves imminently fertile yet currently unavailable, females established the beginnings of group-level sexual 'morality'. With 'blood' used to signal 'ritual inviolability', the same logic could be extended to the blood of game animals, marking raw meat as taboo to hunters. Hunters were obliged to return to camp and surrender their kills to affines, whereupon 'raw' flesh was rendered available through being 'cooked'.

Synchronized female 'sex strike' presupposes an appropriate external clock. With late Middle Pleistocene technology, hunting expeditions would often require overnight travel, presupposing nocturnal light. The only time sunset is not followed by darkness is the second quarter of the waxing moon. With ritual power (in Knight's model) either 'on' or 'off', the 'sex strike' should climax with the hunters' successful return at full moon, whereupon the community switches to a phase of feasting and marital sex. This binary alternation between opposed ritual states, mapped onto lunar periodicity, implies that women's ritual action began at dark moon.

The improbability of Knight's scenario renders it eminently falsifiable. The predicted ritual syntax can be summarized as follows. Ritual potency is switched 'on' by a 'blood'-signal at dark moon. There should be no cooking-fire. In triggering menstrual withdrawal, the 'on' signal connotes 'temporary death', 'fasting', 'hunger', 'raw food', 'darkness' and 'wetness'. Since females must emphatically *reverse* signs of sexual availability, we expect displays indicating not only 'wrong time' but also 'wrong sex' and 'wrong species' (Power and Watts 1997, 1999). Here I test those predictions concerning the cultural construction of time in the light of Khoisan ethno-historical data. The Khoisan – the First Peoples of southern Africa – historically comprise a cluster of hunter-gatherer and herder cultures; genetically they include one of Africa's oldest human lineages. Although I will primarily be addressing hunter-gatherer data, Khoekhoe pastoralist sources will also be drawn upon, on the grounds that despite differences in economy and language, Khoisan cultures have shared structural features across several domains, including ritual and cosmology (Barnard 1992). In what follows, detailed references to sources are placed in the endnotes, to make for clarity in the main argument.

The Moon in Khoisan Ritual and Belief

Recent analyses of Khoisan religion (Barnard 1992: 251–64; Guenther 1999) broadly agree on a set of distinctive shared elements, central to which are 'a dual notion of divinity' and 'a trickster figure who is both protagonist and god' (Guenther 1999: 88). Barnard speaks of a 'high' god and a 'lesser' deity.⁶ Barnard and Guenther differ with respect to the Moon; both reject earlier notions of 'moon worship', but Barnard includes the moon as a pan-Khoisan supernatural being, while Guenther regards it as a 'relatively minor element in Bushman myth and lore' (ibid.: 231). Barnard criticizes past and recent ethnographers for failing 'either to see the structural position of the Moon in relation to other entities, or to explore the cosmo-semantic or syntactic context of indigenous statements about the Moon' (1992: 254). Guenther sees the moon's waxing and waning merely as an inevitable metaphor for life, death and regeneration (1999: 65).

The status of the moon bears upon a more theoretical disagreement between the two authors – the relative significance of structural elements in Khoisan religion. Minimizing structure in religion, belief and myth, Guenther treats ambiguity as the 'ontological and conceptual substance' of Khoisan beings and states (1999: 236). Barnard by contrast emphasizes shared structural features of Khoisan cosmology. The case for a coherence of structure and metaphor operating across ritual arenas was developed by Lewis-Williams (1981; Lewis-Williams and Bieseke 1978).

The Moon in Khoekhoe Ritual and Belief

As European commentators first regularly encountered Cape Khoekhoe pastoralists in the later seventeenth century, they almost invariably reported dances at the appearance of the new moon and/or at full moon. Over the first fifty years of colonization, of twenty-four authors referring to such dancing, the largest proportion only mention new moon dances.⁷ While some accounts were based on hearsay and others were plagiarized, it seems that relative to full moon, the new moon was of equal or greater ritual significance. The majority opinion was that the Khoekhoe 'worshipped' or 'venerated' the moon. A proponent of the opposite view was Langhansz (1694), who held that the timing of dances was attributable to the light afforded, enabling participants to play with their shadows (Raven-Hart [RH] 1971: 406) – this despite an immediately preceding assertion that dances occurred 'especially at the New Moon'. I cite Langhansz as the first in a long line of commentators (some supported by indigenous statements) who regarded the need for light as sufficient explanation for lunar phase-locked dancing.⁸

As for practices accompanying these dances, several accounts mention red cosmetics. Schouten (1655) reported that when people dance, 'they sometimes

turn their eyes to heaven, and then with a red stone write stripes and crosses on each others' foreheads' (RH 1971: 84).⁹ Meister (1688) independently records the use of 'red earth and fat' for face-painting in preparation for a full-moon dance (RH 1971: 349). Kolbe states that women in particular painted up with red ochre for such assemblies, while Valentyn reported that at new moon, men threw balls of clay into the river,¹⁰ possibly indicating a symbolic association between the new moon and water. Heeck, in 1655, reported that new moon dances involved sexual licence; on these occasions: 'those who are yet unmarried (after their fashion) that night take women, one, two or more as they meet them, whether old or young, pretty or ugly' (RH 1971: 35). This account of 'orgiastic' (as opposed to marital) union is consistent in its timing with Knight's model. It should not be dismissed as literary licence, since later accounts describe similar Korana (Khoekhoe pastoralist) rituals, although failing to specify anything about timing.¹¹ By contrast, Bolling (RH 1971: 147) describes Khoekhoe marriage as a full-moon ceremony, held at the beginning of the winter rains (May). Similarly, Grevenbroek (1933: 211) included betrothal ceremonies among various full-moon rites.

Recorded beliefs about the moon are rare. Cowley says that it was believed to control the weather, expressing its pleasure or displeasure with people by showing itself or not (RH 1971 [1686]: 310). According to Grevenbroek, the Khoekhoe 'imputed to the moon all diseases of men and beasts, the inclemency of the sky, and the prevalence of disasters of every kind. When the moon is full, women who are in their monthly courses blame it for their illness' (1933 [1695]: 207). This last remark, flatly contradicting Knight's model, will be evaluated shortly. Both accounts need to be seen alongside those ascribing similar attributes to an otiose heavenly Supreme Being.¹²

The view that the Khoekhoe 'worshipped' the moon was eloquently defended by Kolbe.¹³ Drawing on Hahn's free translation of Kolbe's original, Barnard (1992: 294) says that 'the Moon is not the Khoekhoe God himself', but 'the visible manifestation of God'. Kolbe's example of a 'prayer' to the new moon provides a different picture to that given by Grevenbroek (see above): 'Be welcome, give us plenty of honey, give grass to our cattle, that we may get plenty of milk' (Hahn 1881: 41). The paradox would be resolved if benefits were attributed to the waxing phase, and illness to the waning, consistent with a Nama (Khoekhoe pastoralist) healer's report that medicines were never prepared during the waning moon (Laidler 1928: 434).

According to Hahn, both the Nama trickster – Heitsi-eibib, and God – Tsûillgoab or !Khūb, shared attributes with the Moon – ǀKhāb (1881: 130–7). All three beings come from the east, the sacred direction. All promise immortality, alter their shape and disappear only to reappear. Tsûillgoab and Heitsi-eibib are engaged in recurrent conflicts with 'bad Beings' in which their powers wax and wane. Hahn interpreted Heitsi-eibib's maternal incest as a metaphor of lunar periodicity

(1881: 136), while P.W. Schmidt (1933, cited in S. Schmidt 1986: 210) elaborated on Hahn's notion of the lunar character of Heitsi-eibib's repeated conflicts with ≠Gama≠gorib. Sigrid Schmidt (1986) and Barnard (1992: 259) come to broadly similar conclusions.

Clearly, the moon was central to Khoekhoe conceptions of the 'high god', the trickster, material abundance and scarcity, the overall pattern appearing consistent with Knight's model.

Sources on the /Xam Bushman

The first detailed insights into Bushman belief come with Wilhelm Bleek's and Lucy Lloyd's transcriptions of oral narratives provided by /Xam speakers from what is now Northern Cape Province.¹⁴ Influenced by Max Müller's theories (cf. Bleek 1874: 98), Wilhelm Bleek was predisposed to look for sidereal elements, resulting in some interpretative exaggeration (Bleek 1874, 1875: 9); but this hardly detracts from narrative content. A less well-known nineteenth-century source is von Wielligh's (1921) Afrikaans collection of narratives, largely based on accounts collected in a former /Xam speaking area in the 1880s.

/Kaggen and !Khwa

The two principal supernatural beings in /Xam mythology are /Kaggen, the trickster, and !Khwa, the Rain-Beast. /Kaggen created the moon and game animals, most notably the eland; he was also protector of the game. !Khwa means 'water' or 'rain'; the term could also be applied to menstrual blood.¹⁵ In personified form !Khwa is primarily the enforcer of menstrual observances; he appears as a male being, generally described as a bull-ox, dwelling in water-sources (Hewitt 1986: 78). Prior to the arrival of Khoekhoe pastoralism, !Khwa probably took the form of an eland bull (Schmidt 1979). In enforcing menstrual taboos, !Khwa was identified with the violent, 'male' rain. His principal means of punishment was to send lightning or whisk up transgressors in a whirlwind, transforming them into the Rain's creatures – typically frogs. He threatened not only excessive wetness but cultural reversal. Outside menstrual contexts, !Khwa could be a beneficent Rain-Cow. Von Wielligh's informants also spoke of the Watersnake, a supernatural being sharing several attributes with !Khwa and identically related to menstruating women. Descendants of the /Xam have recently corroborated and elaborated these beliefs (Hoff 1997). Barnard identifies !Khwa with the 'high god' of other Khoisan religions and points out that an association of the Moon 'either' with !Khwa 'or' /Kaggen has long been argued (1992: 255 with refs.). I suggest both associations are valid.

Prefacing Remarks on the Moon in Bushman Belief

Guenther states:

It appears that to some Bushmen the moon represents, in its crescent form as the new moon, life and well-being, as among the /Xam, whose menarcheal rites were timed by the new moon. *Alternatively*, we find that the Nharo associate the waning moon with death: its crescent is seen as a boat carrying dead souls to god ... because of its waxing and waning, the moon appears as a symbol of life (and death) and regeneration throughout Khoisan belief and myth.

In sum, we once again find a considerable *diversity and divergence* of views on this enigmatic stellar body ... (1999: 65, emphases added)

Unfortunately, this otherwise accurate summary is hedged about with misleading qualifications. The new moon is consistently associated with 'life and well being', identification of the waning moon with death and illness seems almost as widespread.¹⁶ This is not a negative 'alternative' view, inconsistent with positive beliefs about the new moon. Instead, it offers a complementary image of the opposite side of the lunar cycle, culminating in Moon's 'temporary death'. Rather than 'diversity and divergence', these two views represent a coherent structure of belief.

Among Khoisan languages with grammatical gender (Khoe family), the moon is masculine; but as an object engendering beliefs it is frequently gender-ambivalent – sometimes male, sometimes female (Power and Watts 1997, 1999; Solomon 1992). From Guenther's discussion of the moon's gender (1999: 130, but see Guenther 1989: 51), one might think this was another example of 'diversity and divergence'. But the moon's gender is tightly structured by phase: new/waxing moon is regarded as male (or sometimes as a child); the full moon is female.¹⁷ The /Xam full Moon was sometimes regarded as wife to the waxing Moon, consistent with the prediction that men hunt during the waxing moon for 'full moon wives'.

The Moon and Menstruation

Moon-menstruation linkages inspire Khoisan metaphors.¹⁸ These do not specify lunar phase, but ritual traditions and associated myths connect menstruation with the dark moon; blood-flow should have ceased by new moon. Following menarche, a /Xam 'new maiden' was released from seclusion at the appearance of the new moon (L. VI, 2: 4000–4002). Guenther (1999: 65) mentions this timing to argue for 'diversity and divergence' of perspectives on the moon, but identical timings are reported for the Angolan !Xū (a !Kung dialect group) (Bleek 1928a: 122) and for the G/wi or closely related G//ana of the central Kalahari (Valiente-Noailles

1993: 94–7), a Khoe-speaking Bushman group. Spanning more than a century and encompassing all three traditionally recognized Khoisan language families (Bleek 1929b, but see Barnard 1992: 22–3), these accounts indicate a deep structure of Khoisan ritual practice. The only contrary account known to me is Bjerre's (1960: 146) report that the Zu/'hoāsi only performed the Eland Bull Dance on the evening of the girl's emergence 'if the moon is shining', going on to state: 'If it is full moon, and there is enough food, the dancing goes on all night ...' (ibid). The timing of the new maiden's emergence casts doubt on Grevenbroek's earlier-cited remark that Khoekhoe women 'blamed' the full moon for menstruation; they were probably 'blaming' the moon in general.

Menstruation is implicitly associated with the dark moon in several versions of a /Xam myth about the Leopard Tortoise.¹⁹ Qing's account to Orpen (1874: 9), in which the trickster Cagn (/Kaggen) has his hand trapped by a river-dwelling creature, may be a Maluti San variant. The Leopard Tortoise is one of !Khwa's creatures, set aside as his meat and tabooed to girls and unmarried men. The tortoise is menorrhagic: 'she is always ill with bleeding'.²⁰ She continues to bleed 'after the moon died, and another moon came, while she still lay ill'. In all versions she is encountered by a male passer-by, generally either out hunting or seeking honey. The tortoise is either a 'grandmother' or 'elder sister' of her victim. She tricks him into assuaging her menstrual cramps by massaging her neck, she then retracts her neck, trapping the hand of her victim and causing the flesh to rot. In //Kabbo's version, where /Kaggen is the victim, rain poured down and 'cold seized him' as his flesh decayed. In Qing's account, the threatened permanence of the union is played out (in a river) according to seasonal rather than lunar periodicity. Flesh falling away suggests extreme hunger. In von Wielligh's version, the two victims return home while the moon is still young. Using dew – 'water from the moon' – they restore their flesh by washing their hands each morning until the moon is full.

There are indications that the severe food and drink restrictions on a /Xam 'new maiden' extended to her immediate kin.²¹ Viegas Guerreiro was told that among the !Xū in Ondova district (Angola), at the first sign of menarche, 'all the fires in the camp are extinguished'. The taboo against cooking during menstruation is epitomized in the versions of the story of the menarcheal girl who attempted to cook flesh. She goes to the waterhole and captures and kills one of !Khwa's children (resembling a young bovid, not to be confused with !Khwa's creatures). She places it on the fire to roast, but water bubbles up out of the ground, extinguishing the fire with hissing and spluttering. The girl and her kin are whisked up by whirlwinds and dropped into the waterhole as frogs.

If !Khwa's relationship to secluded menstruants associates him with the dark moon, then logically he should stand in opposition to cooking in other narrative contexts. A hunter who shot !Khwa as an eland (L. VIII, 16: 7461–2, 17: 7463–72)

found the meat instantly transformed to ashes when placed on the fire; he and his companions suffer a similar fate to the disobedient menstruant. /Xam women expected their husbands' hunting to be unsuccessful during dark moon (Lewis-Williams 2000: 249). An association of meat-hunger with the dark moon is implied by the //Xegwi phrase for scarcity: 'Au! The moon is small (dark)' (Potgieter 1955: 30, parentheses in original). Hunger is also associated with the new moon (B. V: 588).

Like the moon's gender, the gender of the Khoisan menarcheal girl is emphatically mutable (Power and Watts 1997, 1999). She adopts male roles and attributes. She may be identified with the gender-anomalous eland bull or with the hunter who has shot an eland (Lewis-Williams 1981) or gemsbok (Heinz 1994). While in seclusion, the /Xam menstruant possesses !Khwa's destructive supernatural potency. Her emergence at new moon magically assists forthcoming hunts and attracts the desired 'female' rain. She is reintroduced to water and appeases !Khwa by sprinkling haematite over it (recall Valenty's account indicating Khoekhoe ritual attitudes to bodies of water at new moon). The female rain, like the female initiate, is visualized as red (Power and Watts 1997: 545–6).

The /Xam moon was also conceptually red,²² variously ascribed to the red dust on /Kaggen's shoe when he used the shoe to create the moon, to the blood of game about to be killed, or simply because 'cold' things are red. Other Bushman groups hold similar conceptions. Redness and brilliance are consistently associated with Khoisan constructs of supernatural potency, connoting both beauty and danger, attracting and setting apart (Watts 1999: 133–7). Menarcheal observances are the only Khoisan ritual context where red pigments were almost invariably used (Knight et al. 1995: 93–5 with refs.). Among the /Xam and Zu/'hoāsi, the girl's reincorporation into the band appears to have been the occasion for the most socially inclusive use of red ochre. Unlike Khoisan male initiation, menarcheal ritual is ubiquitous, relatively invariant in structure and unequivocally of the classic three-stage structure proposed by van Gennep ([1909] 1960). Guenther (1999: 176) has argued that together with trance dancing, this was the occasion where 'ontological transformation' is most pronounced.

Waxing Moon, Hunting and Rain

Guenther asserts: 'In neither the /Xam nor the Nharo case is there any evidence that the moon was regarded as the bringer of rain, game and food' (1989: 82), yet in the same paragraph he acknowledges that the /Xam addressed the new moon 'in prayer' for assistance in the hunt. Bleek and Lloyd recorded three such /Xam appeals²³ along with a ritualized greeting of the new moon. /Xam women would consult the waxing moon or an eponymous moon-like insect to determine whether

their husbands would succeed in the hunt. The 'Moon' insect (and by extension the moon itself) was spoken of as 'possessing' the game. While the dark moon was blamed for hunting failure, the new or waxing moon – particularly if it appeared red – was a good hunting omen (Lewis-Williams 2000: 250). The new moon's association with game may have informed its description both as the 'moon horn' and as a hunter's bow. Moon's ownership of the game was explicitly asserted by Dorothea Bleek's Nharo informants. It permitted hunting during its waxing, but not at full moon. Bleek also reported a Nharo appeal for rain, addressed to the new moon. Appeals to the new moon for success in hunting antelope are reported for the Kxoe and others. The accounts are remarkably consistent in context and verbal form; most appeals included stereotyped hand-gestures before the face; in several reports, the hunter blew on an antelope horn.

The !Xū also asked the new moon for rain (Bleek 1928a: 122; Lebzelter 1934: 6). Their term for the new moon was interchangeable with that of the 'high god' Huwe (Bleek 1928a: 123; see also Estermann 1979 [1956]: 12). In the 1960s, they still associated the new moon with success in the hunt (Viegas Guerreiro 1968: 97, 298). Appeals to the new moon are absent in recent Zu/'hoā ethnographies, but the same idiom ('struck') is used when an arrow finds its mark and when the new moon first appears (Shostak 2000: 127). Orpen (1874: 5) reported seeing southern San throw sand in the air and shouting out on first seeing the new moon, while the //Xegwi (also southern San) believed that the new moon brought rain (Potgieter 1955: 29). An identification of both the dark and new moon with rain is made in Greef's (1996: 12) Namibian Khoisan story from which this chapter takes its title.

Observations of this kind led some authors, most notably Dorothea Bleek (1928a: 122; 1928b: 27) and Schapera (1930: 177), to characterize Bushman religions in terms of 'moon worship'. Guenther (1999: 64–5) rightly criticizes this view, but misrepresents its basis. It had nothing to do with the timing of healing dances. Prosaic indigenous explanations for dancing at full moon cannot explain ritual attitudes to the waxing moon. Far from the !Xū and Zu/'hoā (!Kung ethnolinguistic groups) showing a 'discrepancy' of views regarding the moon (ibid.: 65), the summarized evidence indicates considerable consistency.

It was widely considered the height of disrespect for a hunter to look at the moon when game had been shot and the poison had yet to take effect (Bleek 1928b: 16; Vedder 1937: 433–4). For the /Xam, such disrespect would prompt the Moon to swallow the game's fat or dilute the hunter's poison with 'Moon's water' (Bleek and Lloyd 1911: 67; Lewis-Williams 2000: 250). Guenther points out that in his role as protector of the game, the /Xam Moon shares an identity with /Kaggen (1989: 81). While there is much to be said for this, to infer that the moon must therefore have been 'the adversary ... of hunters' (ibid.) is to disregard the contrary evidence. The paradox dissolves if we grant that the Moon stands in

a similar relationship to the availability of game (and their fatness) as does the New Maiden. If the menarcheal girl ate game procured by anyone other than her father, or gazed upon springbok, she would invite identical consequences to those befalling the disrespectful hunter (Bleek and Lloyd 1911: 77). By adhering to protocol, she mirrors the moon's role in helping ensure hunters' success.

/Xam Myths of the Moon's Creation

/Kaggen created the Moon (implicitly the new moon) by throwing a curling veld-shoe or feather into the sky. Hewitt (1986: 213–25) analysed four versions of this myth, three from Bleek and Lloyd and one from von Wielligh's collection. In the Bleek and Lloyd versions, the action is precipitated by /Kaggen's intervention in the butchery of an eland, where – by piercing the eland's gall bladder – he angrily eclipses the sun, producing total darkness (cf. Lewis-Williams 1997). Where a shoe is used to remedy the darkness, its dirtiness and redness – being covered in red dust – is emphasized, accounting for the redness of the moon. Arguably, the 'soiled shoe' is a menstruating vagina (cf. Dundes 1980: 47; Vinnicombe 1975: 386), adding to /Kaggen's repertoire of gender ambiguous traits (Hewitt 1986: 153–4). In /Han=kass'o's version (L.VIII, 6: 6505–85) the feather – licked and used to wipe gall-fluid from /Kaggen's eyes – is also soiled. Having thrown up the feather, /Kaggen instructs it on waxing and waning. The narrator concludes by describing nocturnal porcupine hunting, made possible by /Kaggen's creation.

According to Hewitt,²⁴ both of //Kabbo's versions end in similar fashion, with the narrator extolling the social benefits of /Kaggen's act, permitting – *inter alia* – nocturnal hunting. I was unable to corroborate this. Hewitt may have had in mind /Kabbo' narrative about the Sun's conflict with the Moon, featuring a lengthy digression on the benefits of moonlight in allowing springbok hunters to return at night (B. XVI: 1526–52).

In von Wielligh's version,²⁵ /Kaggen made for himself a pair of shoes. But the right shoe chafed or pinched his foot, so he instructed his daughter the Hammerkop (a bird) to soften it by throwing it into the waterhole. The shoe may have been bloodied as a result of the chafing – which would accord with the redness of the shoe in other versions. We learn elsewhere (von Wielligh 1921 [1]: 110) that the Hammerkop was responsible for informing the Watersnake whenever 'young maids' polluted the waterhole with ash. Dwelling at the bottom of the waterhole, the Watersnake is enraged by the polluting shoe and causes the water to freeze overnight. When the Hammerkop retrieves the shoe, it comes out with a piece of ice attached. Now /Kaggen is angered, and throws the ice-bound shoe into the air. The Hammerkop calls on the Windbird to take the shoe up high: 'so that we will have light at night!'.²⁶ Hewitt's translation ends with the summary sentence: 'The

shoe with the piece of ice on it then became the moon', but von Wielligh's text continues: 'When the ancestors saw the moon for the first time, they covered their faces with their hands and praised the moon. Ever since, they had light at night and could hunt porcupines and wait for game at waterholes to shoot them' (1921 [1]: 98). The Sun, jealous of the moon, fires arrows that melt the ice until only /Kaggen's shoe remains. People cried because the moon had died; in response to their crying, the Watersnake created a fountain on the moon to fill up the shoe, renewing the cycle. So, the Watersnake, standing in the same relation to menstruants as !Khwa, is responsible for the moon's waxing.

Moon and Hunting in Practice

In recent Bushman ethnographies, references to nocturnal hunting are rare (Marshall 1960: 342; Cashdan 1986: 164; Valiente-Noailles 1993: 64). Nevertheless, 1970s research (Crowell and Hitchcock 1978) indicated that the most productive strategy traditionally practised by the Zu'hoāsi of Dobe (western Botswana) and Eastern Khoe Bushmen along the Nata River (eastern Botswana) was *night-stand ambush hunting by water sources*. This was restricted to dry-season moonlit nights (normally during the gibbous moon). At this season, water-dependent game aggregate around remaining water-sources. Many species do a considerable proportion of their drinking after sunset, approaching by game-trails (Weir and Davidson 1965; du Preez and Grobler 1977). By exploiting these regularities and optimizing available light, moon-conscious hunters reduce their search-time, greatly increase encounter rates and make it possible to get close to prey. The strategy is similarly productive for the Tanzanian Hadza (Hawkes et al. 1991: table 2; Bunn et al. 1988: 424).

Presumably because of the abundance of big game before the later nineteenth century, descriptions of Khoisan nocturnal hunting – explicitly or implicitly lunar phase-locked and mostly comprising waterhole ambushes – are more common in earlier accounts.²⁷ Of the /Xam, in addition to the moonlit hunting that completes two of the moon-creation narratives, and the account of hunters returning laden with springbok meat at full moon (B.XVI: 1542–3), there are numerous passages in the Bleek and Lloyd collection referring to nocturnal hunting of springbok, the /Xam's principal prey antelope. Holub (1881: 34) reported that springbok were particularly susceptible to dry-season ambush hunting by waterholes (see also Chapman 1971 [1868] II: 141).

It can be inferred that similar strategies would have played a much greater role in the economies of the early Later Stone Age, 12 to 25 thousand years ago, and Middle Stone Age, between 25 and 250 thousand years ago, when spears were the primary weapon and proximity to prey was therefore at an even greater premium

(Knight et al. 1995). It should be recalled that the 'sex strike' model accords dry-season nutritional stress a critical role in the evolution of symbolic culture. The threat posed by lions during night-stand hunting is mitigated by the fact that lions do most of their nocturnal hunting when there is no moonlight (Joubert and Joubert 1997: 86–8). This carving up of lunar time between humans and lions is echoed in a Zu/'hoāsi belief about lunar eclipses: 'on very bright nights a lion may cover the moon's face with a great paw, giving himself darkness for better hunting' (Thomas 1960: 43; cf. Marshall 1986: 183; Bieseke 1993: 24, 111, 114).

Trance Dancing and 'Honeymoon'

Full moon was a common occasion for a trance dance (e.g. Marshall 1969; Barnard 1979: 73, 1992: 253), sometimes indigenously explained in terms of the light afforded.²⁸ Trance dances were also often held on the return of a successful big-game hunt. Hunting of large game (e.g. eland or giraffe) frequently lasted several days (Marshall 1959: 354, fn.1, 1961: 239); it is likely, therefore, that – like ambush-hunting – logistic hunts occurred during the gibbous moon. Indirect support for such a coincidence includes Estermann's account of a !Xū hunting ceremony after killing 'a big antelope', which took place 'at the full moon or a little later' (1979 [1956]: 12), and Mapote's account of how Maluti Bushmen prepared pigment for rock painting (How 1962: 35). Haematite had to be ground and roasted, outside, under a *full moon*, by a post-menopausal woman. It was mixed with the blood of a *freshly* killed eland. The indigenous ideal appears to be one in which the successful conclusion of a big game hunt, trance dance and full moon would all coincide.

Consistent with the Cape Khoekhoe accounts, the //Xegwi considered full moon to be the ideal time for surrendering game as an initial bride-service gift (Potgieter 1955: 11–12). A //Xegwi expression when given something nice to eat was: 'Au! the moon is full' (1955: 30). For the Zu/'hoāsi: 'The round full moon is a sign of satisfaction' (Marshall 1986: 181), while for the /Xam, the full moon was fatness personified, it had 'put on a big stomach' (L.II, 6: 657). In short, full moon is the proper time for feasting.

Myth as Deep History

G/wi and G//ana mythology addresses the origin of the sex-based division of labour in the idiom of lunar periodicity. Domestic pressure from a woman and her children – or from the first woman – motivates the first man to go hunting (Silberbauer 1965: 101; Valiente-Noailles 1993: 192–3). In his 1790 travelogue,

Le Vaillant reported a behavioural counterpart to this logic. Asking the Khoekhoe leader of a Bushman band why they raided livestock, he was told that when there was no longer any meat, the women took off their pubic aprons and slapped the men's faces with them. The raiders' successful return inaugurated a phase of feasting and intimacy for as long as the meat lasted (Glenn 1996: 43). That Khoisan women might insult husbands in precisely this manner is corroborated by Hoernlé (1918: 69).

The following is a condensed rendition of a story told by a Namibian Khoisan storyteller:

The Moon is nearly dead. Tonight it is a bowl throwing water to the earth: ... Tomorrow night the Moon will start to grow again. Time, too, grows on the Moon... We are the Moon People. After we die, the good people ... they walk to the Moon. Everyone is very happy and content in the Moon Kalahari... You say I have told you a charming story? You wish you could tell me that you believe it to be true. But you have to tell me that Americans travelled to the Moon in some kind of super aeroplane... The Moon is a desert, you say... You say you're sorry to have to tell me this. Why are you sorry? I know you're not a liar and a thief – and I, I am also not a liar and a thief... But tell me this: when the Americans travelled to the Moon, was the Moon full?... When the Moon has grown until it's full it is a wonderful place ... not, of course, when it is dying. (Greif 1996: 12–14)

I suggest that such narratives know what they are talking about. Treated with appropriate respect, they are as important to understanding our species' recent African origin as archaeology or genetics.

Conclusion

Among the Khoisan we have traces of a lunar encoded, binary temporal structure. Dark moon is associated with menstruation, seclusion and hunger; it is a period of awesome supernatural potency, threatening cultural reversal and excessive wetness. The mobilization of this potency to secure future abundance begins at new moon. Any sexual connotations of this period are of a parodic, anti-marital character (incestuous or 'animal'). Hunting is a preoccupation of the waxing phase. At full moon, men normatively surrender meat to in-laws, inaugurating a period of cooking, feasting, and marital sex. In terms of supernatural potency, the full moon is marked by a community-wide healing dance. The waning moon is unmarked in terms of ritual power. These structural oppositions testify to the continuing conceptual force of a unifying lunar periodicity to economic, sexual and ritual life. Some of these patterns might be explained in terms of the moon as metaphor for life, death and regeneration. Such an approach could readily equate menstruation

(‘temporary death’) with dark moon. But would it also predict marriage at full moon? Where would rituals of sexual licence fit in? Would wetness be predicted at dark moon or full? Inexplicable on any other basis, the beliefs and practices outlined here confirm the predictions of ‘sex-strike’ theory. It would appear, therefore, that there is more structure to Khoisan cosmology than Guenther would grant. Far from negating binary structures, ambiguity and paradox may be essential to their construction (cf. Power and Watts 1999).

Notes

1. I am grateful for an Honorary Research Associateship in the Department of Archaeology, University of Cape Town. I also thank the Manuscripts and Archives Library, University of Cape Town, for permission to cite from the Bleek and Lloyd collection. Thanks also to Janine van Niekerk for translations of von Wielligh, and Alan Barnard, Chris Knight, Camilla Power, and Elena Mouriki for critical comments; and to the editors of this volume.
2. McBrearty and Brooks 2000 for review; Watts 1999; D’Errico et al. 2001; Henshilwood et al. 2001; Hovers et al. 2003.
3. Onset of the Late Pleistocene, 128ka, the beginning of the Last Interglacial.
4. Watts 1999; Wendorf et al. 1993; earlier within the African tropics, McBrearty 2001; Barham 2002.
5. See D’Andrade (1995) re ‘agenda hopping’.
6. This distinction is more evocatively rendered by Wilmsen’s terms of ‘Creator’ and ‘Administrator’ deities (Wilmsen 1989, 1999).
7. Nine of 24 authors refer exclusively to dances at the appearance of the new moon: (Raven-Hart [RH] 1971: 35, 218, 239, 388, 406, 423, 463, 487; Schapera 1933: 37); five refer to both new and full moon dances (RH 1971: 56, 321, 384, 394, 433); six refer only to full moon (RH 1971: 148, 163, 205, 297, 349; Schapera 1933: 211); two probably refer to full moon dances (RH 1971: 127; Schapera 1933: 139); and two are indeterminate (RH 1971: 20, 310).
8. For further references see Boeving quoted in Kolbe 1731 [1]: 97; Leguat [1698] in RH 1971: 433; Sparrman 1775 [1785-86]: 205; Gusinde 1966: 39; Guenther 1999: 64–5.
9. Schouten’s account appears to have been copied (unaccredited) by Vogel in 1679 (Raven-Hart 1971: 218), and it is Vogel whom Kolbe (1731: 97) credits when repeating the account. While Schouten made no mention of lunar periodicity, this can reasonably be inferred on the basis of the wider literature. Vogel’s

- account explicitly links face-painting with a red stone with new moon dances. The reference to painting with red ochre is from Kolbe (1731 (2): 201).
10. See Valentyn ([1726] 1971: 261). His editor, E. Raidt suggests (260 fn.15) this detail was taken from Schreyer (1681: 40, unseen), he also reports two similar accounts (Meister 1677: 254, unseen) and Ten Rhyne (1933 [1686]: 141). Ten Rhyne asserts that this was done in honour of the sun, but seen against the wider body of Khoisan beliefs and practices, a lunar association seems likely. That he also states that the hurling of the balls into the water was accompanied ‘with a great noise’ would be consistent with a new moon ritual according to the derived predictions of the ‘sex strike’ model.
 11. Wuras 1929 [1858]: 294; Stow 1905: 114–15; Kirby 1933; Engelbrecht 1936: 148.
 12. Dapper 1933 [1668]: 75; Ten Rhyne 1933 [1686]: 140–141; Valentyn 1971 [1726], vol. 2: 95, 261.
 13. Peter Kolbe (1791, trs. Medley 1731) was probably the most perceptive and certainly the most scientific of early observers (Raum 1998; Barnard 1992: 253). For Hahn see (1881: 41). As discussed by Raum, it is unfortunate that hardly any Khoisan specialists have used Kolbe’s original text.
 14. Bleek 1873, 1875; Lloyd 1889; Bleek and Lloyd 1911; Bleek 1923, 1929a, 1931–1936, 1936; Hewitt 1986; Guenther 1989; Lewis-Williams 2000; James 2001; and unpublished notebooks. For ‘sidereal elements’, see Hewitt 1986: 59; Guenther 1999: 64, 231. Where notebooks in the Bleek and Lloyd archive (University of Cape Town Manuscripts and Archives Library) are referred to, Wilhelm Bleek’s notebooks are indicated by the letter B followed by the notebook number in Roman numerals and pages in Arabic numerals. Lucy Lloyd’s notebooks are indicated by the letter L followed by the informant number in Roman numerals (II = //Kabbo, V = Dia!kwain, VI = !Kweiten ta //ken, VIII = /Han=kass’o), followed by notebook number and page numbers in Arabic numerals. Where Dorothea Bleek’s notebooks are referred to (relating to fieldwork with Nharo and !Xū), citation is by archive number (e.g. A.3.16), followed by page number.
 15. ‘Water’ or ‘rain’, see Bleek and Lloyd 1911: 149. Hewitt (1986: 284) mistakenly cites L. V, 6: 4393 as the source where !Khwa is used to refer to ‘menstrual fluid’. Neither 4393 nor its reverse mentions !Khwa. Hewitt probably had in mind one or all of the following passages, firstly on pp. 4389 rev. and 4390 rev., where, in the context of describing the identity of young men with menarcheal girls, Dia!kwain said: ‘he should be afraid of the girls, for the girl’s rain would come out upon him’. A similar injunction is given on p. 4399 rev., with a variant on pp. 4405 rev. and 4406 rev., where he talks of the precautions the girl must take in preparing food for her parents, otherwise: ‘her rain/water would come out of her parents’ teeth’. In all three passages,

- the term !Khwa seems to be used as a circumlocution for menstrual blood itself, rather than designating the intervention of the eponymous supernatural being who punishes breaches of menstrual observances. No mediating being is required in these cases of contagion by direct contact.
16. Guenther's example of Nharo belief concerning the waning moon carrying dead souls has a /Xam counterpart (Bleek and Lloyd 1911: 399). Hewitt's (1986: 93) statement that the /Xam did not relate any celestial body to illness, while strictly correct, needs qualification in so far as death was associated with the waning moon.
 17. L.II, 1: 285–287, continued L.II, 2: 292; Bleek 1928a: 122; Marshall 1986: 181. Lloyd comments (L.II, 2: 291 rev.) that 'the moon should not be she in this tale as it is not a woman'. However, I suspect that the gender assignation may have been correct, as this narrative concerns the 'great moon' with a stomach. For 'wife to the waxing moon', see Lewis-Williams 2000: 247; L. VIII 28: 8843–46; see also Silberbauer 1965: 101 re. the G/wi.
 18. Moon-menstruation metaphors, see Power and Watts 1997: 544 with refs; Schultze 1907: 296; Wilmsen 1999: 86, 89, 127.
 19. Bleek and Lloyd 1911: 36–41; L.II, 5: 565–624; L.II, 8: 811–882; L.V, 5: 4265–4288; von Wielligh 1921 [1]: 145–148. Re 'tabooed to girls...' see Bleek 1991–36, Part V: 303; Hewitt 1986: 281.
 20. The attribution of menorrhagia to the Leopard Tortoise or 'Great Tortoise' (*Geochelone pardalis*) is probably due to its habit of urinating copiously both when laying eggs (Branch 1988: 26) and if picked up. This is the largest of southern African chelonians. Copious urination when picked up (a stress response) is a common trait across species. /Xam girls were instructed that if they found a tortoise (apparently *Psammobates geometricus*, cf. L.VIII, 21: 7843), they were not to pick it up with their hands but to use a stick to put it into their collecting bag 'lest the tortoise should soil her' (L.V, 6: 4383). It may also be significant that Angulate tortoises in the western Cape (*Chersina angulata*) have bright red abdominal plates on the plastron, giving rise to their Afrikaans name of 'rooipens' (red belly) (Branch 1988: 27). In Dia!kwain's version, the protagonist is 'a great water schilpad' (L.V, 5: 4265), probably the freshwater terrapin (*Pelamadusa sp.*); this might also be the unidentified, river-dwelling creature in Qing's version of the myth. For 'always ill with bleeding', see (L.II, 5: 568); 'after the moon died' (Bleek and Lloyd 1911: 38), 'male passer-by' (ibid.; L.II, 5: 569), 'seeking honey', (L.V, 5: 4265; Orpen 1874: 9), 'grandmother' (L.II, 5: 569), or 'elder sister' (Bleek and Lloyd 1911: 39). 'Flesh decayed' (L.II, 5: 566) and 'water from the moon' (von Wielligh 1921 [1]: 147). Cf. the recent study by Waldman (2003).
 21. For 'new maidens' see (Hewitt 1986: 280; Lewis-Williams 2000: 279); for 'fires extinguished', Viegas Guerreiro (1968: 221); for 'cooking flesh' (Guenther 1989: 106–9; Hewitt 1986: 80–81; Bleek and Lloyd 1911: 199–205).
 22. For 'conceptually red' see (B. II: 378, 382; B. III: 440, 458; B. IV: 551–560; L. II, 6: 656), 'create the moon' (B. II: 384, 424; L. II, 4: 484–5), 'game to be killed' (Lewis-Williams 2000: 250), 'cold' things are red (B. II: 378–9) 'similar conceptions among other groups' (Viegas Guerreiro 1968: 298; Köhler 1978/9: 20; Marshall 1986: 180).
 23. Bleek 1929a: 306; Lewis-Williams 2000: 248. Also for 'ritualised greeting of the new moon' (Bleek and Lloyd 1911: 57). For 'success in the hunt', (Lewis-Williams 2000: 249–51; James 2001: 75–6, 194). 'Moon horn' (B. III: 455; L. II, 6: 654); 'hunter's bow' (B. V: 588). For Nharo informants, (Power and Watts 1999: 113); this is the second of two quotations appearing at the top of p.113, incorrectly cited as from Lucy Lloyd's /Xam notebooks. The correct citation is A3.16: 328 rev., recorded 28.2.21, informant's name //axas (a woman). The punctuation is added. See also (Bleek m.s. A.3. 18: 369). For 'not at full moon' (ibid; A.3.16: 302 rev.); Nharo appeal (1928b: 26) Kxoe appeals, (Köhler 1978/79: 17), and others: the !Xū (Bleek and Lloyd 1911: 415, cf. Dickens 1996 re linguistic identity), Zu/'hoāsi (Wilhelm 1954; Köhler 1978/79: 17) and G/wi (Silberbauer 1981: 108).
 24. Hewitt, 1986: 219, 222. For //Kabbo's versions: (B.II, 379–433 [The more precise citation for this version is B.II: 379–390, continued on 421–428 and B.III: 429–433], and L.II, 4: 482–6). //Kabbo's version to Lucy Lloyd makes no mention of benefits arising from the moon's creation and in the version given to Wilhelm Bleek, the only explicit social benefit occurs in the line: '/Kaggen said: "people shall see bushes in the dark..."' (B.II: 386). Hewitt may have misread the passage at the end of the narrative (B.III: 432–3), concerning hunting by sunlight.
 25. 1921 [1]: 97–100; see also Hewitt 1986: 217. For /Kaggen's shoes, compare 'sandals' (Lewis-Williams 2000: 15).
 26. The Windbird manifests as a whirlwind (a detail omitted by Hewitt), which would, on the basis of the Bleek and Lloyd material, link the magic action to !Khwa's typical *modus operandi*. Given that the Watersnake is fulfilling equivalent functions to !Khwa, it could be argued that the Watersnake was ultimately responsible for the whirlwind.
 27. For 'abundance of big game', Passarge [1904] in Wilmsen 1997: 80; ibid [1907]: 175–6. For 'earlier accounts' see Wikar 1935 [1779]: 103; Tindall 1856: 22; Livingstone 1857: 161–2, 165–6; Chapman 1971 [1868] II: 50; Hahn 1870: 103; Passarge [1905] in Wilmsen 1997: 257–8; Wilhelm 1954: 124. For references to /Xam's principal prey' see Bleek and Lloyd 1911: 283; Bleek 1931–36, Pt. V: 311; L. II, 6: 629–630; L. II, 14: 1374–1376; L. VIII, 14: 7224 rev. – 7227.

28. Gusinde 1966: 39; Guenther 1989: 82. Guenther reports that it was because he was told by a Nharo man that they danced at full moon so as not to 'bump into each other' that he ceased all enquiry into the 'stock notion of "moon worship"' (ibid.: 82, see also 1999: 64). In a manner alarmingly reminiscent of Langhansz, Guenther seems not to have noticed that all the recorded 'appeals' to the moon concerned the new rather than the full moon. For references to 'trance dances' following a successful big-game hunt, see Metzger 1950: 74–8; Marshall 1969: 355–6; Barnard 1979: 73; Katz 1982: 39.

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Historical Time versus the Imagination of Antiquity: Critical Perspectives from the Kalahari

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Anthropologists have long distinguished between the narrative forms of myth and history in human retellings of the past. Evans-Pritchard in his lecture 'Anthropology and history' noted the different character of myth and history, stating that myth 'is not concerned so much with a succession of events as with the moral significance of situations, and is hence often allegorical or symbolical in form'. He went on to suggest that it is not incapsulated¹ as history is, but is a re-enactment fusing present and past. It tends to be timeless, 'placed in thought beyond, or above, historical time; and where it is firmly placed in historical time, it is also, nevertheless timeless in that it could have happened at any time, the archetypal not being bound by time or space' (1961: 8). History, on the other hand, according to Collingwood (1946: 10–11), on whom Evans-Pritchard draws, is '(a) a science, or an answering of questions; (b) concerned with human actions in the past; (c) pursued by the interpretation of evidence; and (d) for the sake of human self-knowledge,' and as such is related to problems of specific places and times. Science, according to Collingwood, 'consists in fastening upon something we do not know, and trying to discover it... Science is finding things out: and in that sense history is science' (ibid.: 9).

These definitions are perhaps ideal types that represent two poles between which many works may fall, but they are nonetheless useful in highlighting some qualitative differences found in renderings of the past. In attempting a critique of Watts's chapter (this volume), which relies heavily on Knight's evolutionary theory of cultural origins as an explanatory framework, I shall suggest that this theory may be characterized by the above description of myth. Beyond this specific example such mythic form may be said to characterize a certain genre of speculation, popular of late, about human origins especially in the field of evolutionary psychology. This work often claims to be scientific in its reliance on Darwinian frameworks, but is not scientific in Collingwood's sense, since it offers an explanation for something that it seems we already know – what it means to be human – rather than 'fastening upon something we do not know,' i.e. how to deal