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Izanami giving birth to Kagutsuchi / Fire

Evidence for a widespread proto-historic cosmology revolving on an elemental transformative cycle, in Japan, Africa, throughout the Old World, and in the New World – as a step in the world-historic development of modes of thought

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ABSTRACT: Point of departure will be the myth of the primal goddess Izanami giving birth to the Fire God Kagutsuchi, and in the process sustaining such burns that she dies and becomes a, or the, death goddess -- a remarkable development, for at this point she has already given birth to islands, mountains, trees, etc. without noticeable difficulty. I will outline six different registers whose interplay governs the myth, and of these I will only explore one: that of a transformation cycle of elements. Here, like in Izanami's plight, destruction and production are the two basic relations. This cosmological model surfaces, for instance, in a late, streamlined form in late 1st mill. BCE China: as the yi jing cosmological system of changes based on the 64 combinations of the eight trigrams two taken at a time; and the five-element cosmology of Taoism in general -- but with convincing parallels -- significantly differing in detail -- in sub-Saharan Africa, Ancient Egypt, India, Ancient Greece -- Empedocles and other Pre-Socratics -- and North America). Fire, of course, is among one of the basic elements or positions, and so are water, earth, air, often also metal and wood. Without wishing to reduce the complexity and literary grandeur of the myth of Izanami giving birth to Kagutsuchi / Fire to just one of the varieties of the transformative cycle of elements, my detailed argument explores what rich insights this perspective yet may offer, both to the study of Japanese mythology (casting some -- hopefully --new light, not only on Izanami and Kagutsuchi / Fire, but also on Izanagi, and on the nature of their narrative), and to the historical study of human modes of thought worldwide.

NOTE: This excessively long paper consists of three parts. The first part (sections 1 and 2) introduces the topic and the problem. The second part (sections 3, 4 and 5) gives a long-range analysis of transformative cycles of elements as widely distributed cosmological systems in global cultural history. The third part (sections 6-7) applies the second part to the subject matter at hand. At the conference, only parts I and III will be presented, while part II (which constitutes in fact -- the draft of -- an article in its own right) will only be summarised. The Table of contents, overleaf, guides the reader through the paper and may serve as a summary.

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1. Introduction

1.1. Synopsis of the myth of Giving Birth to Kagutsuchi / Fire

Point of departure of my argument is the myth of the Japanese goddess Izanami (イザナミ, also given as 伊弉冉尊 or 伊邪那美命, meaning ‘she who invites’) giving birth to the Fire God Kagutsuchi (カグツチ), also called Kagutsuchi no kami (迦具土の神), Hinokagutsuchi (火之迦具土), or Ho musuhi (火産霊). Izanami is the sister and spouse of Izanagi (イザナギ, recorded in Japanese classic histories (early 8th c. CE) as 伊弉諾 – in the *Kojiki* 古事記 – or as 伊邪那岐 – in the *Nihon Shoki* or *Nihongi* –, also written as 伊弉諾尊, meaning ‘he who invites’). These two creation deities of the eighth generation have, geomythically, produced the islands, sea, rivers, mountains, trees, herbs, of the Japanese archipelago. Although many instances of procreation in the early phase of the ‘Age of the Gods’ are indirect and non-genital – with numerous clusters of gods springing from implements, acts, conditions etc.), the earliest geomythical phase of this process is implied to have taken place in the normal manner of human birth, from Izanami’s womb and via the natural birth channel (which marks her as a great Mother Goddess). Yet, amazingly enough, considering the diverse nature of this offspring, no obstetric problems presented themselves (apart from some highly significant miscreants to which we shall return) until Izanami gives birth to Kagutsuchi / Fire. Then (at least, according to the *Kojiki*, and one alternative version cited in the *Nihongi*) her genitals are lethally burnt, and she retreats to Yomi 黄泉 / ‘Yellow Springs’, the land of death, where her dealings with Izanagi constitute a dramatic and moving parallel to the Orpheus and Eurydice theme from Ancient Graeco-Roman mythology.² Fleeing from Yomi and pursued by Izanami and the eight Thunder gods that have sprung from her putrefying body, Izanagi erects a number of boundaries between Yomi and the land of the living, separates from Izanami who thus become the Death goddess, kills Kagutsuchi / Fire, and engages in elaborate purificatory lustration, – in the process all the while generating new clusters of gods, including the two protagonists of the next mythical episode: the Ocean/rainstorm god Susanowo スサノオ, and his sister the Sun goddess Amaterasu-ōmikami (天照大神 / 天照大御神) or Ōhiru-menomuchi-no-kami (大日靈貴神).

1.2. Central question and disclaimer

My argument seeks to answer the central question as to *why, after giving birth to islands, mountains, rivers and trees for which the human womb and the human natural birth channel are equally unequipped, giving birth to Kagutsuchi / Fire should be so utterly disruptive, both to Izanami and her sibling spouse, and to the narrative sequence of the canonical Japanese cosmogony.*

² Cf. Ovid., *Metamorphoses* 10; Apollodorus, *Bibliothèque*, 1.3.2; Pausanias, 9.30; Vergil., *Georgica*, 4.453.

I am an outsider to Japanese studies, have no access to modern scholarship in Japanese, and therefore my answer to this question can only be tentative and partial; my answer must necessarily rely on a comparative theoretical framework, some of the groundwork for which I explored in previous meetings of the Harvard Round Table and of the International Association of Comparative Mythology (van Binsbergen 2004, 2006, 2007, 2008 and in press).

2. Six registers together informing the ancient texts of the myth of Giving Birth to Kagutsuchi / Fire

A formal and hermeneutical analysis of the principal ancient texts presenting variants of our myth (*Kojiki* and *Nihon Shoki*,³ 8th c. CE, available in scholarly English translations with extensive critical apparatus) suggests that, in each of these variants, the narrative oscillates between a limited number of registers:

1. *The ‘Sinising’ (‘Chinese-ising’, ‘Chinesing’) register:* As a superficial embellishment, the peripheral respect for, and emulation of, classical Chinese cosmology and philosophy, as mediated via Korea – major themes in which were the cosmic egg, the myth of P’an-ku 盤古 (implied), the correlative systems of 8 trigrams 八卦 *pa gua* and 64 hexagrams of *yi jīng* 易經 (commonly known in the West as ‘I Ching’) as a metamorphic cosmology, and the distantly kindred correlative system of 五行 *wǔ xíng* Five Elements. As the beginning of the *Kojiki* has it (the entire book was written in classical Chinese, as a convincing demonstration of Korean-mediated Chinese cultural domination over early Japan):

‘At the Great Palace of Kiyomihara did he ascend to [9] the Heavenly seat: in morality he outstripped Ken-Kō, in virtue he surpassed Shiū-Ō. Having grasped the celestial seals, he was paramount over the Six Cardinal Points; having obtained the heavenly supremacy, he annexed the Eight Wildernesses. He held the mean between the Two Essences [i.e. *Yin* and *Yang* 陰陽 / Japanese *In* and *Yō*] and regulated the order of the Five Elements [五行 *wǔ xíng*] ‘ (Chamberlain 1919: 3).

A little further down is an explicit reference to two of the sixty-four configurations of the *yi jīng* system.

2. *The geomythical register:* Much more centrally, a geomythical account of the origin and unity of the Japanese archipelago.

3. *The ‘bureaucratic-proliferation’ register:* Equally centrally, a charter of the early Japanese state bureaucracy, by attributing a specific god to each constituent aristocratic unit – on this point there are obvious parallels with Chinese theology and mythology.

³ The *Kojiki* gives only one integrated version authored by one identified narrator, but the *Nihon Shoki* often cites (albeit without identifying sources) a considerable number of variants of the same episode.

4. *The bodily register*: Often hidden under layers of Chinese-induced ‘civilising’ prudery,⁴ a strongly lingamic/yonic theme, befitting an account of origin and procreation, and apparently (cf. Buruma 1983) affirming a *longue-durée* orientation of Japanese culture. In addition to the obviously sexual passages, numerous oblique allusions could be cited, e.g. the ‘pillar’ and ‘hall’ as the scene of our divine sibling’s wedding; or the smith god called to make the metal mirror with which the Sun goddess is to be lured out of her hiding: Chamberlain interprets the smith’s name as ‘Celestial Penis’. This body part is more frequently alluded to the first part of the two Japanese traditions, for instance informing the symbolism of Izanagi’s ‘Jeweled Spear’ (Aston 1896: 4f, ‘male pillar’ – on authority of the 18th-c. CE Japanese commentator Hirata) that is instrumental in the creation of the islands...⁵ In this connection it is most remarkable⁶ that the least attractive aspects of human corporality (urine, faeces, death and putrefaction) are mainly illustrated, in the text, on *female* bodies, whose dying is almost depicted as essential for the continuity of life – not only in the case of Izanami, but also of the food goddess Ukemochi 保食神 – with many parallels worldwide. Yet it is not exclusively women’s bodily functions that are depicted: some of the ungendered bodily functions of male bodies are also evoked but then in contexts evoking not vulnerability but prowess: Izanagi urinates a boundary river between the land of the living and Yomi; male Susanowo like a naughty boy stealthily defecates on the throne of Amaterasu,⁷ with dramatic consequences: this being one of the reasons cited for her seclusion which plunges the entire world in darkness.⁸ Female anatomical

⁴ Cf. Elias 1939.

⁵ For extensive comparative aspects of such a name, cf. Allegro 1970, although I am aware of the bad reputation of this book.

⁶ Although hardly surprising, from a depressing comparative perspective ranging from the Christian Church Father St Augustine to traditional Jewish and Islamic conceptions of womanhood. Could this be another ‘cross-model’ trait?

⁷ Or is this simply a peasant’s matter-of-fact observation on the use of human manure on the Sun goddess’ cherished rice fields?

⁸ More frequently mentioned is that Susanowo flays a live piebald horse backwards (from tail to head) and, through a hole he has made in the roof of the celestial weaving room, lowers it amidst the weaving ladies-in-waiting, who are so disturbed by the act that the weaving-shuttles hit them in the vulva, as a result of which they die – another powerful evocation of the Bodily Register, 4, in its sexual aspects. The piebald horse is full of associations, of which however I cannot ascertain to what extent they may have existed in the conscious minds of the ancient Japanese editors of our texts. In the first place variegation may be an evocation of the star-spangled sky, as it is clearly and explicitly in the symbolism of the leopard skin in Ancient Egyptian ritual, especially in the context of the *imiut* portable shrine that consists of a bowl filled with (human sacrificial?) blood, a pole erected in the bowl (the world axis), and a leopard skin hanging from that pole (heaven) (cf. Stricker 1963-1989). Moreover, variegation is usually a sign of ambivalence, and in many comparative contexts, e.g. in sub-Saharan Africa (cf. Werbner 1989) variegated skins are the typical attributes of the diviner, whose work makes him straddle the upper world and the underworld. Again we may have to do with a ‘cross-model’ trait here, extending not so much to Japan but perhaps to China, where the culture here Fu Xi 伏羲 is associated both with a deer skin (usually interpreted as merely a sign of primeval primitiveness; however, unmistakably with shamanic connotations – and many deer species have a variegated skin) and with an (apparently variegated) ‘river horse, dragon or turtle’, on whose skin he discovered the Eight Trigrams 八卦 *pa gua* that form the basis of the 易經 *yi jing* correlative system. Scapulimancy with deer shoulder bones is mentioned in our two classic Japanese texts, and shortly after his birth Kagutsuchi / Fire is, by his very name, associated with the Mt Kagu wooded mountain god Kagu 香 (modern (Beijing) reading: xiāng, ‘fragrance’), whose name also has ‘deer’ connotations but (apart from the connection which also Chamberlain makes – 1919: 33, Fire being produced from Wood) few closer parallels can be discerned from my remote position as a non-reader of Japanese – except perhaps for the fact that a

characteristics, although not conspicuously inspiring respect,⁹ yet at least can invoke laughter to the extent of saving the world: the pulled-out nipples and denuded vulva of the dawn goddess *Ame-no-uzume-no-mikoto* 天宇受売命, 天鈿女命 ‘Heavenly-Alarming Female’ are apparently so incomparably funny that the laughter they incite lures the Sun goddess out of her fatal seclusion.¹⁰

5. *The natural-phenomena register*: An evocation of natural phenomena not at the level of extreme abstraction as in the elemental system shortly to be discussed, but at the phenomenological level the way they present themselves to the naïve observer: sunshine, rain, storm, volcanism, inland and seashore waters, etc. It is remarkable that the Rainbow, which in many other cosmologies features as an active element notably as the implacable enemy of Rain/Thunder, in the Japanese mythical account plays only a very passive and incidental role, as the bridge by which Izanami and Izanagi approach the world to begin their creative work; we will come back to this point. Nonetheless, the same kind of cosmological enmity plays a very central role in the Japanese account, notably as the struggle between the sibling Amaterasu the Sun goddess, and Susanowo the Ocean/Rainstorm.¹¹ A-typical is here that the latter is depicted not as the central supporter of agriculture which Rain is in most Old World cosmologies, but as its destroyer, corrupting food and upsetting the rice fields whose responsibility is the Sun goddess’ (as the patron, not so much perhaps of agriculture, but of order and justice – a role the sun also plays in West Asian, Egyptian and Graeco-Roman cosmologies). Japan shares this a-typical position with Ancient Egypt and Ancient Mesopotamia, and the explanation may well be that all three regions have largely relied on irrigation rather than rain-fed agriculture, with rain-storms in Japan being notorious for their destructive effects on crops out in the fields.

deer skin (inevitably from the celestial deer haunt Mr Kagu) is the standard material to make the Heavenly Bellows, without which Amaterasu’s mirror could not have been forged. (One is distantly reminded of the Uralic > Finnish theme of the Sampo, a miraculous mill producing endless fortune, and also the masterpiece of the primal smith, there called Ilmarinen, ‘Son of She of the Sky’).

⁹ As they have been claimed to do in specific, ceremonialised contexts in modern Japan, cf. Buruma 2000 / 1983.

¹⁰ Cf. Witzel 2005 and references cited there.

¹¹ The parallel goes even so far that Amaterasu and Susanowo, siblings of a later generation, emulate the marriage of Izanagi (their father) and Izanami (whom Susanowo repeatedly calls his mother, although according to the narrative she died before Susanowo and Amaterasu emerged during Izanagi’s acts of purification; according to some variants in the *Nihongi*, however, Izanami is simply the Sun goddess’ mother and is also Susanowo the child of both Izanagi and Izanami, born immediately after the leech child). There are a few indications in the ancient texts that the distinctions between these generations is blurred and artificial, so that in fact there is considerable overlap (e.g. in ownership of divine weapons) between two male, and between the two female, protagonists, respectively.

Amazingly, Amaterasu and Susanowo’s marriage is meant as a form of divination: if the male partner produces children of his own gender, that will indicate that his intention vis-à-vis his spouse (and her kingship of Heaven) are good, and the other way around. That people in their interaction with the supernatural gamble on the basis of the gender of as yet unborn offspring, is not limited to the Japanese narratives. For instance, in the highlands of North-western Tunisia in the late 1960s, peasants would constantly engage in wagers with the invisible, deceased saints associated with the major shrines what are dispersed all over the land: through a prayer, a (typically very small) herd of cattle, sheep or goat is put under the protection of the saint for the duration of the season, and any male offspring that will be born from the herd in that season will be ritually sacrificed for that saint, but any female offspring will remain the inalienable property of the human owner (van Binsbergen XXXX; Köbben 1975).

6. *The elemental-transformative-cycle register*: Totally implied, hidden from the contemporary authors' consciousness and likewise unnoticed, apparently,¹² by most modern commentators, *and not consciously making contact with the Sinising Register 1 of which the Taoist and yi jing correlative systems make an integral and self-evident part*, there is the register of a transformative cycle of elements. This system is akin to, but quite distinct from, the classic Chinese ones mentioned under Register 1; to my mind, the system has constituted an integral part of Japanese culture from the oldest times on, and as such continuous with a widespread, underlying cosmology of a transformation cycle of elements, surfacing not only in Ancient China but also in sub-Saharan Africa, Ancient Egypt, Ancient Greece, and even in North America.

I can safely leave the elaboration of registers 1-5 to specialists on the culture, language, history and literature of Japan and of East Asia in general. My claim however is that the answer to the obstetric puzzle signalled lies largely in register 6, a comparative discussion of which will form the central part of my argument. Izanami is centrally involved in the production of the world, and in the process meets her destruction. In my opinion the details of this dramatic fate can only be understood as a distorted application of the widespread proto-historic model of the transformative cycle of elements.

3. Long-range, transcontinental parallels to the elemental-transformative-cycle (Register 6) in the myth of Giving Birth to Kagutsuchi / Fire: The widespread model of the transformative cycle of elements

Worldwide, there are most instructive parallels, in the story of Izanami's death when giving birth to Kagutsuchi / Fire. These may be identified in the first place in East Asia especially classical Chinese culture; but also in sub-Saharan Africa, in (reconstructions of) pre-conquest North America; in Ancient Egypt; in Ancient Greece.

It is a widespread idea that the entire universe is composed of a handful of essences, which are combined and dissociated so as to produce the myriad concrete manifestations of reality. Four elements (Ancient Greek: ριζώματα *rizomata*, 'roots') were identified by the Pre-Socratic Greek philosopher Empedocles of Acragas / Agrigentum in Southern Italy (first half of the fifth c. BCE), who in the Western tradition until recently has been regarded as the inventor worldwide of a cosmological scheme recognizing only a handful of elements.¹³ The model was subsequently divulged by Aristotle and became the cornerstone of Western astrology, medicine, psychology, symbolism, until Early Modern times. However, it is now abundantly clear that, in his

¹² Again, with all the reservations of the non-specialist who has only seen a tiny fraction of the relevant Japanological literature.

¹³ For the established, but obsolete, view, f. Longrigg 1976, XXXX, [**add refs**]. Most of this literature also ignores the extent to which, in the Pre-Socratic and classic formulations, we are dealing here with a transformation cycle. Longrigg yet (1963: p. 171f, n 16.) rejects any suggestions as a four-element doctrine before Empedocles, e.g. Gigon 1935: 99. The most influential newer work on Empedocles is that by Kingsley (e.g. 1994), who traces his ideas into the West Asian realm.

Western periphery of a Greek world that had always been highly indebted to adjacent West Asia (regardless of possible connections further afield, in Asia and Africa), Empedocles merely codified a thought system which, in various local variants, had been circulating throughout Eurasia for at least centuries and probably millennia.

The local varieties of this system may be distinguished along a number of dimensions:

1. Number of elements.
2. Nature of the difference between elements.
 - a) full transformation cycle.
 - b) Intermediate forms between the full transformation cycle and immutable element as fixed, parallel categories.
 - c) four immutable categories as the most recent trend.

As far as the number of elements in the transformative cycle is concerned, Empedocles' four-element system presents a bare minimum, whereas throughout Greek and Roman Antiquity a five-element system would appear to have been the standard one, adding a 'fifth element' (literally: quintessential) to Empedocles' famous earth, water, air and fire. As Table 1 indicates, a five-fold partition is found in many parts of Eurasia, including in Hinduism and Buddhism, Japan, China, and in the Bön religion of Tibet.

Table 1. Four or more elements in various Eurasian traditions

No.	Tradition ¹⁴	Earth	Water	Air	Fire	5th (Quintessence)	Other
1	Greek	Earth	Water	Air	Fire	Aether/Idea	N/A
2	Latin	Earth	Water	Air	Fire	Quintessence	N/A
3	Hindu and Buddhist ¹⁵	Earth <i>khsiti</i> or <i>bhumi</i>	Water <i>ap</i> or <i>jala</i>	Air <i>marut</i> or <i>pavan</i> (air or wind);	Fire <i>agni</i> or <i>tejas</i>	Aether/Sound and <i>byom</i> or <i>akasha</i> (aether);	
4	Seven Chakras philosophy (combining Hindu and Buddhist themes)	Muladhara (Root): Earth	Svadhasthana (Sacral): Water	Vishuddha (Throat): Ether/Sound Anabata (Heart): Air	Manipura (Navel): Fire		Sahasrara (Crown): Thought/Space Anja (Third Eye): Light/Time
5	Japanese: Godai 五大)	Earth 地 <i>chi</i>	Water 水 <i>sui</i> , <i>mizu</i>	Wind 風 <i>fu</i> , <i>kaze</i>	Fire 火 <i>ka</i> , <i>hi</i>	Void / Sky / Heaven (空) <i>Kū</i> , <i>sora</i>	Consciousness
6	Chinese Wu Xing ¹⁶	Earth 土 <i>tǔ</i>	Water 水 <i>shuǐ</i>	N/A	Fire 火 <i>huǒ</i>	Void	Metal 金 <i>jīn</i> , Wood 木 <i>mù</i> ,
7	Bön	Earth	Water	Air	Fire	Space	N/A
8	Ancient Egypt	Earth	Water	Air	Fire		Sky, Aether

¹⁴ For many details of this scheme I am indebted to Anonymous n.d. I have suppressed a line 'Neo-Paganism' (more or less coinciding with the New Age movement of the later 20th c. CE), and have instead inserted my own view of the Ancient Egyptian system, see below.

¹⁵ The *pancha mahabhuta*, or 'five great elements' of Hinduism; the *mahabhuta* ('great elements') or *catudhatu* ('four elements') of Pali / Early Buddhist literature are earth, water, fire and air.

¹⁶ Cf: Fung Yu-lan 1952: II, 13; Needham c.s., II, 260ff; Maciocia 2005.

In addition to these Eurasian data, and in considerable and surprising continuity with them, systems of a transformative cycle of elements may be found in sub-Saharan Africa and North America, to which I shall devote a separate brief discussion below.

3.1. The transformative cycle of elements in East Asia: Two classical Chinese correlative systems

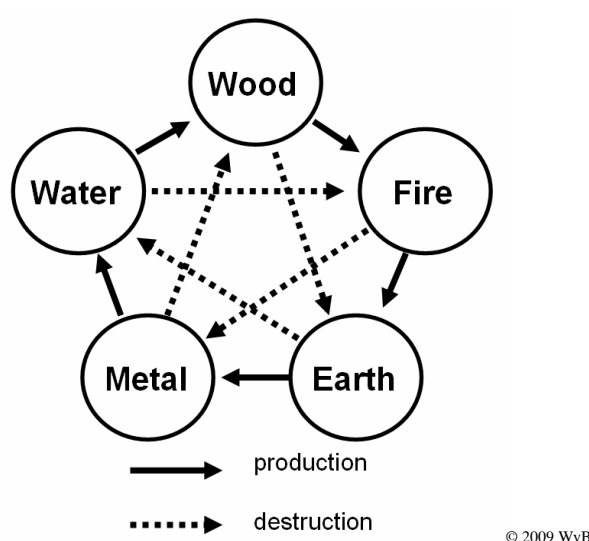
Obviously, for a discussion of our myth from early Japan under heavy Chinese cultural influence, the Chinese correlative systems are the most obviously relevant. We shall first briefly indicate their outlines, before embarking on a comparative and historical discussion.

Let us first present the classic Taoist system of the Five Elements.

At the heart of Taoism as a wisdom philosophy of transformation with divinatory applications, is most clearly a transformation cycle. Earth, Water, Fire, Metal and Wood constantly produce each other and work upon each other in a complex cycle that shows how the specific position of each 'element' at each moment in each specific situation is ephemeral and incidental, giving way to another elemental phase given the specific circumstances.

Destruction and Production are (cf. Fig. 1, which renders as a special case the Taoist, classic Chinese transformation cycle in its simplest form; cf. Needham c.s. 1956; Fiskejo 2000) the two basic relations between elements in this proto-historic transformative cycle, secondary relations are furtherance / blessing and hindrance / insult.

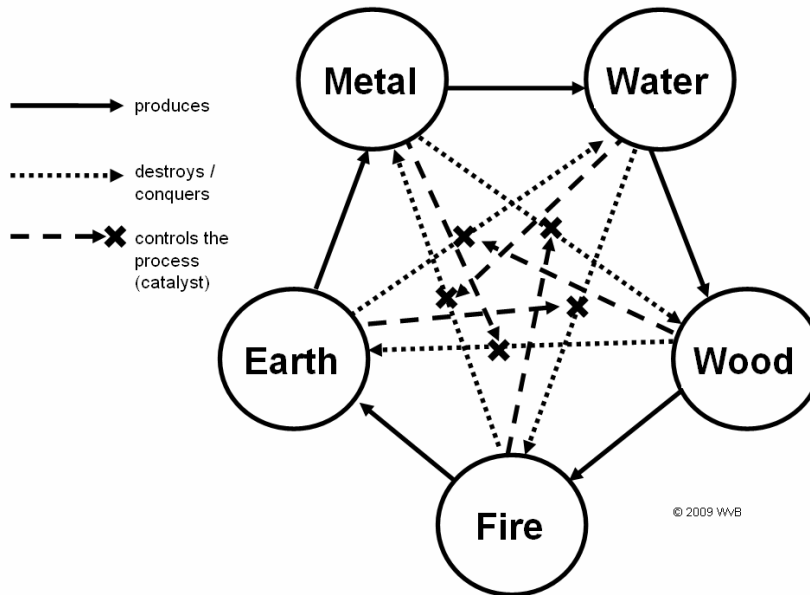
Fig. 1. Basic transformations in the classic Taoist cycle of elements



In attenuated form, the relationships of production and destruction as indicated may also be conceived as furtherance, friendship and praise (for production), and hindrance, enmity and insult (for destruction), respectively

In fact, however, the model is much more complicated, because for each relation between two elements that produce or destroy each other, there is a third element that control the process – as some sort of catalyst.

Fig.2. The Taoist five-element transformative cycle according to Needham & Ling



This is essentially a rendering of the formula given by Needham with Li (1956: II, 260f):

‘Wood destroys (conquers, red arrow) Earth, but Metal controls (x) the process
 Metal destroys (conquers, red arrow) Wood, but Fire controls (x) the process
 Fire destroys (conquers, red arrow) Metal, but water controls (x) the process
 Water destroys (conquers, red arrow) Fire, but Earth controls (x) the process
 Earth destroys (conquers, red arrow) water, but Wood controls (x) the process’

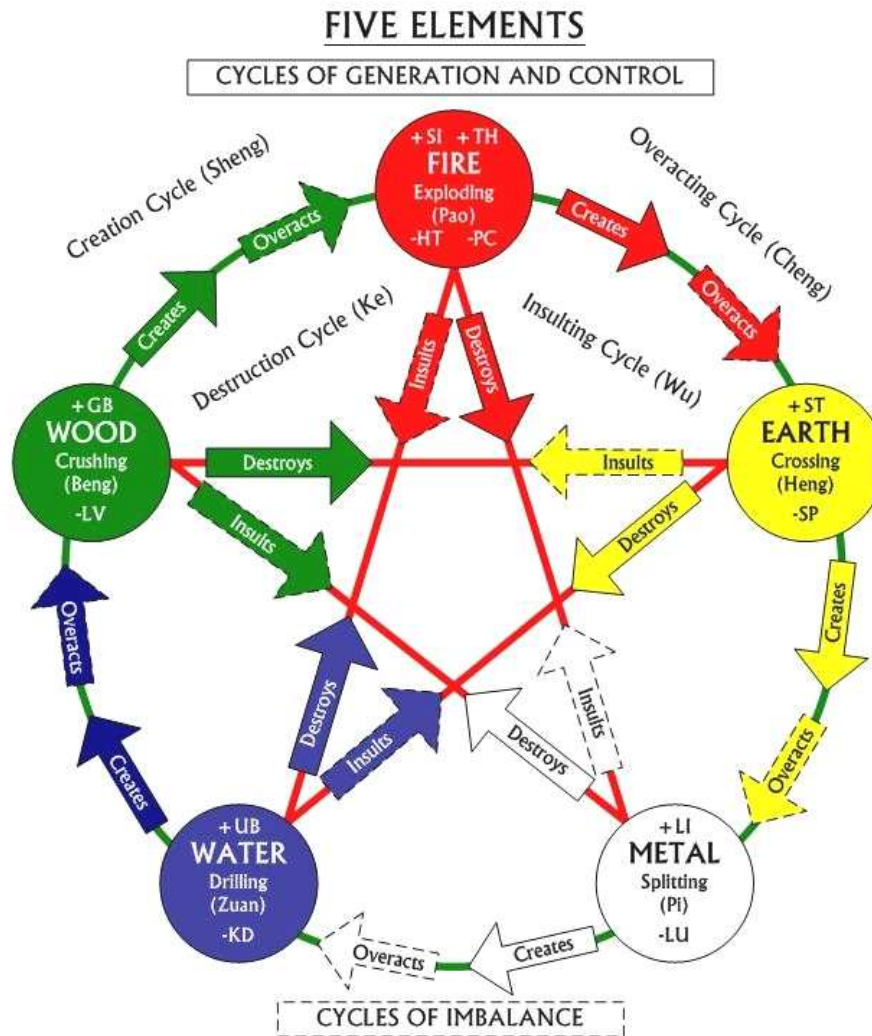
with this proviso that in addition to the destruction relations, I have also shown the productive relations

We see that this cycle of transformation essentially defines three roles: the Destructor, the Destroyed, and the Catalyst. Even more elaborate versions have been published, in which the cycles shows here are complemented by other cycles:

These principles have been worked into Taoist formulations of great complexity, as in Figure 3.

The essence of the Chinese Taoist system is that the difference between each element is accidental and situational, and that each of them may turn into all others in one or two steps. Belonging to a particular element in an accidental and incidental condition, not an ontological given. Since the distinctions between the elements are ephemeral and non-essential, there is no fundamental difference between them – absolute, transcendental differences are absence from the Taoist system, which is geared to a constant flow of immanentalism. Perhaps the full transformation cycle is essentially shamanistic, going back to the Upper Palaeolithic of West to Central Asia (c. 20-15 ka BP).

Fig. 3. Taoist cycle with creation, destruction, overacting and insulting cycles



We can now turn to a discussion of the famous 易經 *yì jīng* system of changes, whose dynamic logic resides in the systematic ways in which pairs of trigrams are combined into 64 named configurations, between which systematic transformations exist, whose generation and interpretation is the basis of *yì jīng* as a cosmological, divinatory and psychological system.

While these two classical Chinese correlative systems largely set the scene as far as East Asia is concerned, let us now turn to Western Eurasia, where in the last two millennia a correlative system of four immutable categories has established itself as the norm.

Table 2. General overview of 易經 (yì jīng)

Trigram Figure	Binary Value	Name	Translation: Wilhelm[3], others	Image in Nature [4]	Direction [5]	Family Relationship [6]	Body Part [7]	Attribute [8]	Stage/ State [9]	Animal [10]
1 ☰ (☰)	111	乾 qián	the Creative, Force	heaven, aether (天)	northwest	father	head	strong	creative	horse
2 ☱ (☱)	110	兌 duì	the Joyous, Open	swamp, marsh (澤)	west	third daughter	mouth	pleasure	tranquil (complete devotion)	sheep
3 ☲ (☲)	101	離 lí	the Clinging, Radiance	fire (火)	south	second daughter	eye	light-giving, dependence	clinging, clarity, adaptable	pheasant
4 ☳ (☳)	100	震 zhèn	the Arousing, Shake	Thunder (雷)	east	first son	foot	inciting movement	initiative	dragon
5 ☴ (☴)	011	巽 xùn	the Gentle, Ground	wind (風), wood (XX)	southeast	first daughter	thigh	penetrating	gentle entrance	fowl
6 ☵ (☵)	010	坎 kǎn	the Abysmal, Gorge	water (水)	north	second son	ear	dangerous	in-motion	pig
7 ☶ (☶)	001	艮 gèn	Keeping Still, Bound	mountain (山)	northeast	third son	hand	resting, stand-still	completion	wolf, dog
8 ☷ (☷)	000	坤 kūn	the Receptive, Field	earth (地)	southwest	mother	belly	devoted, yielding	receptive	cow

3.2. Western Eurasia: Four immutable categories as the norm in the last few millennia

In the second place, the Eurasian systems may be distinguished in terms of the kind of difference and the kind of transitions, if any, that are claimed to exist between the four or five elements distinguished.

Western philosophy and natural science are commonly held to have begun in Ancient Greece, with the Pre-Socratic philosophies of Thales – water – , Anaximenes – Air, Heraclitus – fire – , and Empedocles – water, air, earth, fire – in the middle of the 1st mill. BCE. Against the comparative background of the widespread Eurasian correlative systems presented in Table 1, two observations appear to be in order.

- In the first place, such Pre-Socratic philosophers as preferred to name one *prima materia* (water, air, fire, etc.), seem to have been implicitly aware from the wide system of at least four elements, from which they alternately picked only one element to make their point about some ulterior substance
- In the second place, the Pre-Socratics appear to have fossilised the elements of the widespread Old World transformative cycle into fixed and immutable parallel ontological positions. Thus these philosophers appear to have from the underlying dynamic, cyclical logic of the transformational system, and this is certainly how they have been represented by later commentators and have

been canonised in the history of science. Probably this view is not quite correct.

The Pre-Socratics were represented by Aristotle, mainly in his *Πέρι γενέσεως και φθορας / De Generatione et Corruptione*,¹⁷ in a way that – as we shall see – still recognised the cyclical nature of the system, and subsequently enshrined in Graeco-Roman, Arabic, Indian and European natural science, astrology,¹⁸ other forms of divination, medicine, iconography, etc. as one of the central paradigms leading to modern science and modern thought). Nor does this exhaust the applications of the proto-historic transformation cycle in the Greek, and by extension Indo-European, context. A case in point is the Homeric struggle of Achilles (a sea god especially in the Black Sea region, but – for reasons beyond our present scope – structurally to the equated with Earth, aided by Hephaestus, i.e. Fire at the instigation of Athena, = Air?) against the River Skamandros (Water), and in a recent paper Nick Allen (2008 and in press) drew attention to the unmistakable parallels between this account and the struggle between the rainstorm god Indra (Water) and the water-absorbing snake Vṛtrá (Earth). Hephaestus is a key figure in this connection: my recently drafted extensive study¹⁹ brought to light the extensive applicability of the transformational cycle of elements in the Ancient Greek context.

Whereas the Taoist system is one of an unending transformation cycle, at the other extreme of the spectrum we find the use to which the Empedoclean system has been put in the ontologies of Graeco-Roman Late Antiquity, medieval Byzantine, Arabic and Latin science, and their Early Modern derivatives e.g. in the four humours doctrine of Galenus, in the Hebrew high priest's ephod claimed to symbolise the four elements and containing the cleromantic apparatus of the *urim* and *thummim*, in classic Arabian 'ud-[i.e. lute] centred musical theory,²⁰ in geomancy (*'ilm ar-raml*), which emerged in Iraq at the end of the 1st millennium CE in the context of the philosophical movement of the *Ihūān as-Safā'a* – which was a major influence in the interpretation of Empedoclean four elements towards a conventionalised classification system where a sense of a transformation cycle had been lost.

Here the four elements appear as fixed ontological positions, which have their own immutable inherent characteristics.²¹ The world is composed, not of an unending systematic cycle of transformations in which one substance transforms into another,

¹⁷ Aristotle's title would have made a fitting heading for the story of Izanami's *Giving birth to Fire!*

¹⁸ Pingree 1978 splendidly offers an overview of the transcultural connections involved.

¹⁹ Van Binsbergen, in preparation; triggered by Blažek's – 2008 and in press – claim that his name should be considered a reflex of the Ancient Egyptian theonym Ptah; see final footnote to the present argument.

²⁰ Howard, W., art. 'Arabian music', in: The New Grolier Multimedia Encyclopedia, Release 6, 1993

²¹ Thus, for instance, in geomancy, complex numerical manipulations are based on an initial foursome, each consisting of four vertically arranged symbols each of which can take the value 'odd' or 'even'; from top to bottom, these symbols are interpreted as head, body, legs and feet. Cf. the Arabian geomantic author Zunbul in the reading of Klein Franke (1973). Klein Franke shows how all sixteen geomantic figures are interpreted by Zunbul in terms of the four elements; Klein Franke sees here a direct reference to Empedocles, although there is no explicit ground for that in Zunbul. Nonetheless, with Plato and Pythagoras Empedocles was seen as a divine prophet by the Ihwan al-Safa'a, cf. Massignon 1974.

but of the varying amalgamation of four fundamentally different substances which each remain constant in the process.

These absolute differences remind us of the logic of writing and of a writing-based formalised science – such a four-element system is no longer an oral nature philosophy capable of underpinning the practical cosmologies of illiterate peripheral peoples – on the contrary, it is the literate, articulate science that belongs to a life world in which writing, the state, science and organised religion have totally altered the shape of culture and of society, in a general application of notions of transcendence that are the opposite of the immanentist transformation cycle of Taoism.

At the far end of these transcendental, immutable distinctions lies Early Modern natural science, modern atomic theory, and modern physics and chemistry in general. The great French historian of science Gaston Bachelard has written poetical-philosophical analyses of all four elements (Bachelard 1938, 1942, 1943, 1946, 1948) in a bid to articulate their essence in terms that are still acceptable to natural science and philosophy today, stressing the importance of the thinkability of scientific and pseudo-scientific representations.

Meanwhile a closer look at Empedocles, Aristotle and Plato reveals that the discarding of the transformative cycle and the fixing of elements in immutable positions may have occurred not in classical Greek civilisation but in later centuries only.

3.2.1. Empedocles

It is important to stress that the standard reading Empedocles' four elements as four separate ontological states between which only sharp and discrete distinctions exist and certainly no fluid transitions, is very much based on an anachronistic projection of the type (b) conception onto the Pre-Socratic and classic Graeco-Roman material. From the Empedoclean corpus²² it is clear that this thinker did initially conceive of the four elements as part of a transformation cycle and not as statically distinguished ontological categories.

²² There exists an enormous literature on the Four Elements in the Graeco-Roman tradition, and specifically on Empedocles. Most of this literature (up to the late 20th century CE) tends to ignore the wider Asian ramifications, and to see Empedocles as the unprecedented inventor of the foursome. This claim is patently wrong, for already with Hesiod, several centuries before Empedocles, we find

Theogony, 116-138; cf. Fontenrose 1958: 213, 221f): 'the children of Chaos were Earth, Darkness, Love, and Night. Earth gave birth to Heaven, Mountains and Sea; Darkness and Night produced Sky and Day; Earth and Heaven mated and produced the twelve Titans, who include Ocean, Law (Themis), Memory, Brightness, along with such figures as Koios [= Ionian for *poios*, = 'whosoever'] and Krios, who appear to be Titans and nothing more'.

By the same token, we already see the nucleus for a four-element doctrine when another pre-Socratic philosopher, Anaximenes, considers air the original element, which however turns into fire through thinning, and then into water, earth and stone. (cf. XXXX XXXXX; Kuypers 1968).

Table 3. The four elements according to Empedocles (source: Leonard 1908; my identification)

Greek	English	identification ¹
6. τέσσαρα γὰρ πάντων ῥιζώματα πρῶτον ἄκουε/	6. And first the fourfold root of all things hear!—	
Ζεὺς ἀργῆς	White gleaming Zeus,	Fire
Ἥρη τε φερέσβιος ἠδ' /	life-bringing Here	Air
Αἰδωνεύς ²	Dis,	Earth
Νῆστις ^{3,4} θ', ἠ δακρῦοις τέγγει κρούνωμα βρότειον. /	And Nestis whose tears bedew mortality.	Water
7 ἀγένητα,	7. uncreated	
8. ⁵ ἄλλο δέ τοι ἐρέω· φύσις οὐδενός ἐστιν ἀπάντων / θνητῶν, οὐδέ τις οὐλομένου θανάτοιο τελευτή, / ἀλλὰ μόνον μίξις τε διάλλαξις τε μιγέντων / ἐστί, φύσις δ' ἐπὶ τοῖς ὀνομάζεται ἀνθρώποισιν. 9. οἱ δ' ὅτε μὲν κατὰ φῶτα μιγέντ' εἰς αἰθέρ' ἴκωνται / / ἢ κατὰ θηρῶν ἀγροτέρων γένος ἢ κατὰ θάμνων / ἢ ἐ κατ' οἰωνῶν, τότε μὲν τὸ [λέγουσι] γενέσθαι / εὔτε δ' ἀποκρινθῶσι, τὰ δ' αὖ δυσδαίμονα πότμον· / ἢ θέμις [οὐ] καλέουσι, νόμῳ δ' ἐπίφημι καὶ αὐτός./ 10. θάνατον . . . ἀλοίτην. / 11. νῆπιον οὐ γὰρ σφιν δολιχόφρονές εἰσι μέριμναι, / οἱ δὲ γίγνεσθαι πάρος οὐκ ἐὼν ἐλπίζουσιν / ἢ τι καταθνήσκειν τε καὶ ἐξόλλυσθαι ἀπάντηι. / 12. ἔκ τε γὰρ οὐδάμ' ἐόντος ἀμήχανόν ἐστι γενέσθαι / καὶ τ' ἐὼν ἐξαπολέσθαι ἀνήυστον καὶ ἄπυστον· / αἰεὶ γὰρ τῆι γ' ἔσται, ὅπῃ κέ τις αἰὲν ἐρεΐδηι.	8 But when in man, wild beast, or bird, or bush, / These elements commingle and arrive / 9 The realms of light, the thoughtless deem it 'birth'; / When they dispart, 'tis 'doom of death;' and though / Not this the Law, I too assent to use. / 10. Avenging Death. / 11. Fools! for their thoughts are briefly brooded o'er. / Who trust that what is not can e'er become, / Or aught that is can wholly die away. / / 12. From what-is-not what-is can ne'er become; / So that what-is should e'er be all destroyed, / No force could compass and no ear hath heard— / For there 'twill be forever where 'tis set.	

remarks

1. Scholars have been in disagreement as to the specific interpretation of the four theonyms in terms of the four elements enumerated by Aristotle (*Meteor.* (339a 15-19 and 36-b2); some have interpreted Hera as Earth, which however leaves Air unaccounted for. Since Zeus is both the god of thunder (an aspect apparently implied here by Empedocles) and of the clear sky and in the latter capacity equivalent to Ancient Egyptian Shu, his sister and spouse would be homologues to Tefnut, i.e. Moisture, Mist, Air.

2. cf. Hebr. *Adonai* אֲדֹנָי

3. Although scholars have assumed, on the basis of this attestation alone, that Nestis was a water goddess in Southern Italy, a more satisfactory general identification of Nestis is Neith, which does not rule out a Neith cult in Southern Italy. Already Karst (1931a, 1931b) concluded to considerable Ancient Egyptian influence on the Capitoline cult of earliest Rome. Egyptian archaeological finds from Southern Italy have been considerable (Lambrou-Phillipson 1990), but that was the case in many parts of the Early to Middle Iron Age Mediterranean.

4. In Nestis' tears we recognise the tears of Rē^c out of which humankind was supposed to have found its origin (another possible Egyptian link!), but also (with plausible Egyptian resonances) the tears of Mvula / Rain, the demiurge whom the Nkoya people of South Central Africa consider to be the child of the High God Nyambi, and thus (especially in view of the life-bringing nature of rain) the connection between Heaven and Earth

5. From lines 8f it is clear that also for Empedocles the four elements are primarily a transformation cycle. This is also how Aristotle has read the Empedoclean heritage, although many later readers have tended to see the four elements as fundamentally different and disparate ontological categories.

3.2.2. The elements in Graeco-Roman Antiquity after Empedocles

The same idea transpires in Aristotle, who stresses that the four elements constantly transform into each other. Like the later Stoics, Aristotle adds a fifth element aether, to the four familiar ones of Empedocles:

‘...four bodies (somata, σώματα) are fire, air, water, earth.’ (Arist. Meteor. 339a15-16)

‘Fire occupies the highest place among them all, earth the lowest, and two elements correspond to these in their relation to one another, air being nearest to fire, water to earth.’ (Arist. Meteor. 339a16-19)

There cannot be any doubt that for Aristotle, the elements were not fixed parallel positions but steps in a transformative cycle:

‘Fire, air, water, earth, we assert, originate from one another, and each of them exists potentially in each, as all things do that can be resolved into a common and ultimate substrate.’ (Arist. Meteor. 339a36-b2)²³

Already in Plato we find resonances of these Empedoclean ideas but in a vaguer form:

Table 4. The four elements in Plato’s *Timaeus*

<p>[48b] ἀναχωρητέον, καὶ λαβοῦσιν αὐτῶν τούτων προσήκουσαν ἑτέραν ἀρχὴν αὐθις αὐ, καθάπερ περὶ τῶν τότε νῦν οὕτω περὶ τούτων πάλιν ἀρκτέον* ἀπ’ ἀρχῆς. τὴν δὴ πρὸ τῆς οὐρανοῦ γενέσεως πυρὸς ὕδατός τε καὶ ἀέρος καὶ γῆς φύσιν θεατέον αὐτήν καὶ τὰ πρὸ τούτου πάθη: νῦν γὰρ οὐδεὶς πω γένεσιν αὐτῶν μεμήνυκεν, ἀλλ’ ὡς εἰδόσιν πῦρ ὅτι ποτέ ἐστιν καὶ ἕκαστον αὐτῶν λέγομεν ἀρχὰς αὐτὰ τιθέμενοι στοιχεῖα* τοῦ παντός, προσήκον αὐτοῖς οὐδ’ ἂν ὡς ἐν συλλαβῆς²⁴</p>	<p>[48b] and taking once again a fresh starting point suitable to the matter we must make a fresh start in dealing therewith, just as we did with our previous subjects. We must gain a view of the real nature of fire and water, air and earth, as it was before the birth of Heaven, and the properties they had before that time; for at present no one has as yet declared their generation, but we assume that men know what fire is, and each of these things, and we call them principles and presume that they are elements¹ of the Universe, although in truth they do not so much as deserve to be likened with any likelihood,</p>
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Remark: στοιχεῖα, *stoicheia*, here applied to physical ‘elements,’ was the regular term for ‘letters’ of the alphabet; Cf. *Theaet.* 203 B ff., *Rep.* 402 A ff.

We will end our all to brief overview of the situation in Western Eurasia at this point. Below we will return to this part of the world to reap the lessons of our wide-world comparison. Let us now proceed to consider intermediate forms between the full transformation cycle and the four immutable categories

3.3. Intermediate forms between the full transformation cycle and the four immutable categories

Intermediate forms between the two extremes (a) full transformative cycle (c) discarded transformation cycle with elements as fixed immutable positions, can be seen in various places in Eurasia, where the number of elements is reduced from (what appears to be) an original six, to five or four, and where the transitions between ele-

²³ Aristotle, *Meteorologica*

²⁴ Perseus, at: <http://www.perseus.tufts.edu/cgi-bin/ptext?lookup=Plat.+Tim.+48b>

ments become less and less fluid and cyclical – in other words where such transition tend to become firm, transcendental differences setting these elements ontologically apart from one another. I suggest that the transformation of such transitions took place, initially, in Central to West Asia in the Bronze Age (3rd millennium BCE and later), with the result that such transitions could become manifest both in the extreme East of Eurasia (Japan), and in the South (Hinduism, Buddhism), and in the extreme West (Mesopotamia, Egypt, and finally Greece).

Persistent though generally rejected claims²⁵ of South Asian influence on Meso America might create a background against which to interpret the appearance of foursomes in the latter part of the world, for instance the tetrarchical form of government, and the conception of the four elements. However, given the uncontested influence of Hellenistic thought and art upon West and South Asia, we may assume that, once the four element system had been adopted/reformulated in Greek-speaking Western Eurasia in Pre-Socratic times, its success in classic and Hellenistic times subsequently exerted a great influence on the shape of the element system in South Asia and, via Buddhism, in East Asia. It is noteworthy that in Tibetan Bön religion, which is often depicted as a mixture of Buddhism imposed upon an older shamanistic substratum, the transitional forms away from the full transformation cycle seem to have largely supplanted the full transformation cycle which one would have expected on shamanistic grounds. Also the Mongolian system (Mostaert 1969²⁶) revolves on the foursome fire, water, earth and air, to which occasionally (cf. the Taoist system) wood and metal may be added. In West Eurasia (Ancient Egypt, Greece) the four-element system appears as standard from the Middle Bronze Age. I submit that the emphasis on four, and the trend toward immutable, clearly demarcated categories between which no constant transition takes place, is due to interference from the concept of four directions and the four corners of the earth, which is so widespread in Eurasia including South East Asia, Africa and the Americans that it must be of very great antiquity. However, there may be other sources for the obsession with four, as suggested in the Assyriologist's Gadd in 1966:

‘There is indeed nothing original or peculiar in making the primitive distinctions of up, down, right, and left, to which these ‘regions’ [S,N,W,E; Akkad, Subartu, Amurru, Elam] conformed, but it was surely a legacy of ‘Chaldaean’ astrology first, to make these directions identical with a geographical scheme, and second, to transfer this scheme to the heavens. The zodiac and its signs is known to be a later development, but still in the ambit of ‘Chaldaean’ astrology, and the geographical arrangement applied to these signs gave rise to a division into what were afterwards called the four ‘trigons’. In later oriental and western conceptions the four trigons of the zodiac had their differing natures, like the original countries of the Babylonian world, and found their counterparts in the four elements, the four humours of the body, and notions concerning four ages of man, and the four cardinal virtues; associations of ideas and a common derivation is clear enough in all these.’²⁷

When Kammerzell,²⁸ in his approach to panther symbolism of the Ancient Near East and especially Ancient Egypt, suggests that – according to Kammerzell's not uncontroversial etymology²⁹ – the panther appears as the ‘four animal’, he attributes this to

²⁵ Nuttall 1909; Elliot Smith 1929: 10f; Also cf. Tylor XXXX, XXXX on board games.

²⁶ Mostaert 1969.

²⁷ Gadd 1966.

²⁸ Kammerzell 1994.

²⁹ It was doubted by the prominent comparative linguist Blažek, personal communication, 2004.

the four toes out of which the ripping panther claw is composed; however, more general foursomes lurk behind here, e.g. the four directions, and the four components out of which the panther skin's design is composed (white, black, red-brown, in rosettes). Also the elaborate mantle with which the priest-king (or god) of Mohenjo-Daro is depicted in a three-dimensional rendering, is evidently a panther skin (still retaining traces of red) with the rosettes rendered as a foursome (a three-leaved clover-leave with a central dot).

3.2.1. Indications of a four or five element system in Africa and in (ideally pre-conquest) North America

Remarkable is that traces of a four or five element system and of a transformation cycle similar to that of Taoism, may be found in Africa. A case in point is in the first place Ancient Egypt, for which the pioneer Afrocentrist writer Cheikh Anta Diop already made a claim to this effect half a century ago. Below we shall inspect the Egyptian case in some detail. For sub-Saharan Africa the most elaborate and convincing case to my knowledge is that of the clan nomenclature of the Nkoya people of Western Zambia, which I will discuss below in some detail. In Togo, a traditional story featuring '*les quatre fils de la veuve*' (the widow's four sons) are a thinly disguised evocation of the four elements.³⁰ By the same token, Nommo, the cultural hero / creator of the Dogon of Mali, was supposed to have woven the four elements together.³¹ On the other hand, the Dogon and other groups in the African savannah have been recognised (Willis 1994) as a cluster with a mythology that is strikingly rich and elaborate as compared with the rest of sub-Saharan Africa including the Bantu-speaking region, and state-of-the-art genetics with its discovery of a substantial 'Back into Africa' migration from c. 15 ka BP onward, has pointed out the mechanism responsible for the very extensive cosmological, mythological and symbolic (even linguistic) continuities between sub-Saharan Africa on the one hand, West and Central Asia, and Europe, and even the Americas, on the other hand, from the Upper Palaeolithic onward. An indication of a four-element system in Africa may also be seen in the fact that West African *ohene* (king) is seen as the incarnation of four deities – although this could just be a reflection of the ubiquitous theme of the four directions, whilst Wescott (1961) interprets it as a sign of Ancient Egyptian continuity in latter-day West Africa.³² Moreover, we see an insistence on foursomes in all African geomantic divination systems,³³ from four-tablet divination in Southern Africa to the four symbols making up a geomantic unit in West Africa (also cf. Sixteen Cowries as a geomantic-derive divination system, where the mathematical properties of four tokens that are clearly distinguished from one another and that can each take two positions – up or down – have been replaced by 16 identical tokens notably cowries), but here we cannot assume a local insistence on four as a cosmological number (e.g. referring to the four directions), but merely the continued prominence of foursomes in all geomancies derived from *'ilm ar-raml* (geomancies, like cowries, divination

³⁰ Prilop 1985.

³¹ Griaule XXXX; Lubart 1990. Griaule's Dogon ethnography however, eagerly appropriated and wildly interpreted by a great variety of authors with a New Age tendency, cannot be taken at face value; cf. van Beek 1992; Clifford 1988..

³² Wescott 1961.

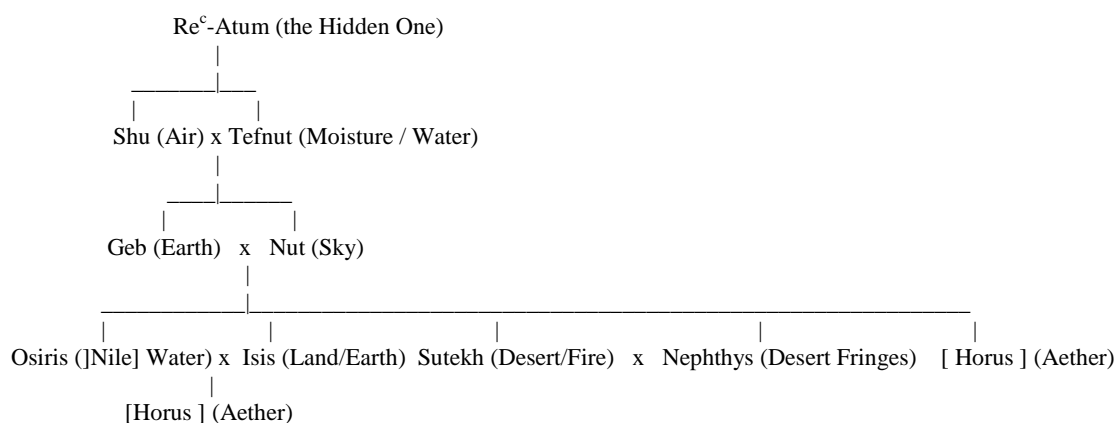
³³ e.g. Bohannan 1975.

bowls,³⁴ and Indonesian musical instruments and boat types, and a stray Roman coin found at Buea, Cameroon, having reached Southern Africa, and then West Africa, from South and West Asia via the Indian Ocean and the East African coast).

3.2.2. Indications of the transformative cycle of elements in Ancient Egypt

In various Egyptian cosmogonies such as they were codified in the Old Kingdom (3rd millennium BCE), personalised and narrative, mythical evocations of a classification scheme can be detected which, in effect, look like a four- or five element systems. Claims to this effect were already made by the pioneer Afrocentrist writer Diop (1991: 377f) but were unjustifiably ridiculed – even though Diop, as a physicist, was eminently placed to appreciate the natural-science implication of this proto-scientific classification.

Fig. 4. Four elements underlying the Heliopolitan cosmogony of Ancient Egypt



³⁴ An interesting case can be made for wooden divining bowls, such as attested in historical times (mainly from the nineteenth century CE on) both in Southern Africa and on the Bight of Benin (Nigeria); cf. Bent 18XX, Frobenius XXXX. Skinner XXXX. [**give illustrations**]. Soon after their discovery the signs in the rim were interpreted as some kind of zodiac, but scholars were puzzled by their sheer number: well over thirty, rather than the 12 one was accustomed to on the basis of Western, South Asian, and Chinese astrology. The solution to the puzzle probably lies in early Chinese astrology. In earliest times the well-known Chinese zodiacal cycle of 12 animals spanning 12 years (not months) was depicted as comprising not 12 but 36 animals, both real and fabulous. These animals were represented on the rim of a Chinese divination board, i.e. a planisphere which must be considered a predecessor of the well-known L'o Pan [**add chinese chrs**] geomantic compass which is still in use among the practitioners of the well-known Chinese spiritual location method called *feng shui* 風水. A similar (but not identical) list of c. 36 animals is containing in a mystical work on the five elements by Hsiao Chi, 小琪 of the middle of the first millennium CE (Sui dynasty 隋朝 581-618 CE); cf. Walters 1989: 80. Numerous finds from East Africa (first of all those from Great Zimbabwe) testify to the considerable extent of Chinese trade with Africa, which makes it quite possible that Chinese divination temple blocks have been inspired into African divination tablets (but very similar tablets are found among the inhabitants of North America: Culin 1975), and nautical compasses have inspired divining bowls among the South African Venda and at the Gulf of Guinea, which look surprisingly similar (however, there is also an Ancient Graeco Roman parallel, cf. Davis 1955). Very striking is Hook's (1975: 22f) well-informed report, on a South African diviner who used three sticks in a manner highly reminiscent of *yi jīng*, and who was aware of Taoist turtle numerical symbolism

In Ancient Egypt the Hermopolitan Ogdoad – eight-fold – consisting of four gendered pairs successively representing ‘primordial waters’ (Naunet and Nu, *-t* being the feminine suffix), ‘air or invisibility’ (Amunet and Amun), ‘darkness’ (Kauket and Kuk), and ‘eternity or infinite space’ (Hauhet and Huh), represents a quasi-Empedoclean four-element system. This was attested in the second half of the 3rd mill. BCE, two thousand years before the Pre-Socratics.

In roughly the same period, the nine gods of the Heliopolitan Ennead (Atum > Shu and Tefnut³⁵ > Isis, Nephthys, Seth, Osiris, Horus > Horus the Younger) could also be construed as referring to elemental positions. In the Heliopolitan cosmogony we find the first gods arrayed as indicated in Fig. 4.

Although mixed with other personified mythical elements, the themes Water / Air / Earth/ Fire can be clearly identified here. I cannot make out any evidence of the more advanced system, in which there is a catalyst attending the standard binary relations of production and destruction. In the Hermopolitan cosmogony, we find the original beings as four pairs of amphibian beings of complementary gender, springing from the original chaos. Also the foursome of the sons of Horus (associated with the Canopian vessels in which a mummified person’s viscera are kept) are suggestive of a four-element concept, although here again the notion of the four corners of the earth may take precedence. By and large, the Egyptian expressions reminiscent of a four-element system are too ornate and narrativised to allow us to place the *origin* of such a system in the Nile Delta in the Early Bronze Age. I take the Egyptian expressions as conventionalised, peripheral expressions, of a system more likely to originate in Neolithic West Asia, between the Persian Gulf and the Black Sea, in a context characterised by the interaction between relatively early forms of a number of major language macrophyla:

- Sino-Caucasian (which by that time had already Sino-Tibetan, and probably also North American Na-Dene – yet the trans-Steppe communications, especially when intensified by chariot technology, would take care of further diffusion of the transformation cycle),
- Eurasiatic (particularly including Indo-European, Sumerian, Uralic, probably also Dravidian, and with remoter interactions with Altaic > Japanese),
- AfroAsiatic,
- and probably of the now exclusively African languages Nilo-Saharan, Niger-Congo and KhoiSan (van Binsbergen 2008).

³⁵ If one were pressed to identify a single parallel for Izanagi and Izanami in the Western part of the Old World, it would be the divine twins Shu (‘Air’) and Tefnut (‘Moisture’), the first creatures to be produced parthenogenetically by Atum, the first being, through an act of masturbation (although other Egyptian versions claim that in this he was helped by a female goddess whose name translates as ‘Hand’ ... Interestingly, Shu and Tefnut may also be identified with the Sun and the Moon, and with the eyes of Horus – which would suggest that the Izanagi of our Japanese myth come close to Horus – Sun and Moon are born from his eyes at purification. Below we will also recognise, in both the Egyptian and the Japanese sibling pair, a parallel with the post-flood surviving twins charged with the repopulation of the world.

3.2.3. The clan system of the Nkoya people of Zambia as a triadic (catalytic) transformation cycle of elements in disguise

3.2.3.1. Nkoya clans

The Nkoya people are among the inhabitants of the wooded plateau of western central Zambia on the Zambezi / Kafue watershed. Their history, socio-political organisation and religious forms have constituted major topics of my work ever since the early 1970s. The people who today, after an intensive ethnicisation process in the course of the 20th century, ethnically identify as Nkoya and who speak dialects of what they recognise as the Nkoya language, had been organised in fragmentary small states, under more or less powerful rulers, *Myene* sing. *Mwene*, for several centuries at least before they became tributary to the Luyana / Lozi / Barotse kingdom in the Zambezi flood plain to the west. Thus, with their Lozi overlords, they became incorporated (1900) into the colonial state of Northern (initially North-western) Rhodesia, which in 1964 gave way to the postcolonial state of the Republic of Zambia. Ever since political incorporation, Nkoya *Myene* have acted as members of the Lozi ruling aristocracy, which however did not prevent them from constant and severe friction, throughout the 20th century, with the Lozi Paramount Chief and with aristocrats of more unambiguously Lozi extraction. Nkoya formal political organisation, retained the remnants of an elaborate (partly Indonesian influenced) ceremonial court culture even after incorporation (it is in many respects indistinguishable from the Lozi one).

It is not the aristocratic structure centring on *Myene* and their courts, but the clan structure (cf. van Binsbergen 1992: 162f and *passim*) which is most puzzling. Nkoya clans are named sub-national groupings, of which less than two dozen can be identified in contemporary social life and in the compilation of Nkoya oral traditions, *Likota lya Bankoya*. Clan membership is ambilineally inherited. Clans are not necessarily exogamous. There are indications that clans used to be rather localised, subdividing the extended Nkoya territory among them and managing its natural resources both economically and ritually. Each clan has a hereditary ruler whose title is now integrated, as that of a (usually junior) *Mwene*, into the overall Nkoya political organisation.

Table 5. Those Nkoya clans that have a close connection with a kingship (*Wene*), in the late 19th century before effective incorporation into the Lozi state

	clan name	alias	Mwene
1	Nyembo, 'Bee', 'Sparkler'	Kamanisha, 'The Finisher'	Mwene Kahare
2	Sheta, 'turner', (i.e. dizzy one, bull roarer, tether, peg, fire-bore)		Mwene Mutondo
3	Lavwe, 'Goat'	Shihondo (meaning obscure)	Mwene Kabulwebulwe
4	Nkonze, 'Licker' (probably antbear)		Mwene Shakalongo
5	Mbunze 'Buzzard' / 'Fish Eagle'		Mwene Nyati
6	Ntabi, 'Spear Hunter'		Mwene Kingama
7	Shungu, 'Barbel Fish'		Mwene Nyungu
8	Shihombo, 'Tinderbox'		Mwene Shilulu
9	Nkombamba, 'Mushroom'		Mwene Mukambe
10	Kale (no local meaning, although 'Fish Spear' is suggested)		Mwene Yuvwenu

source: van Binsbergen 1992: Table 1, p. 195, [check page], based on Oral source [19] 18.10.1977.

In the pre-colonial, especially the pre-statal, period, clan leaders were ritual rather than political authorities, and were often women. Plausibly clan leadership was transformed into the institution of kingship, *Wene*, under influence of external conditions such as the rise of long-distance trade, the encroachment of neighbouring states, and the arrival of new, partly Indonesian-influenced, models of political culture.

Nkoya traditions, foremost Shimunika's compilation *Likota Iya Bankoya*, situate the origins of clans (*mikoka*, pl., sing.: *mukoka*) at the very origin of society; their myth of the origin of kinship is in fact a story of a contest between clans:³⁶

ABOUT THEIR ORIGIN

3

1 After creating everything else in the world Mwene Nyambi created Man. 2 Our grandparents used to say that we, all the people in the world, were born from the same great-grandmother. She was fertile, and from her womb came forth all the clans, notably:

- (1) Lavwe,
- (2) Mbunze,
- (3) Shungu or *Kale*,
- (4) Ntabi,
- (5) Nkomba, and
- (6) Nyembo.

The following *nicknames* [Nkoya: *myahi*, plur.]³⁷ are in use for the clans:

- (1) The Lavwe are nicknamed Sheta [and] Shikumbawuyuvu;³⁸
- (2) the Mbunze: Langu-Nkwehe;³⁹
- (3) the Shungu or Le: Tumbwa or Makanga⁴⁰;
- (4) the Ntabi: Nzovu⁴¹;
- (5) the Nkomba: Mukuni Shilombe⁴²
- (6) The Nyembo or Shihombo: Shimunziko and Wishe.⁴³

³⁶ In the following two chapters from *Likota Iya Bankoya* I follow my edition of that work (van Binsbergen 1992; cf. 1988), but I omit my explanatory footnotes to that edition, partly because, in the intervening sixteen years, I have changed my mind in the light of much more comparative research into Nkoya language, traditions, myths and symbolism, and partly because the relevant detail will be offered in the present argument below.

³⁷ In a manner described at length in my *Tears of Rain* (1992), the translation of *Likota* into English was made by Mr Malapa [**check**] and myself, under extensive and prolonged supervision of a committee of Nkoya intellectuals. It is in this context that the translation 'nicknames' came up for *myahi*. The word contains the onomatopaeic root *-ahi*, 'to laugh'. On second thought, the translation 'joking partner' would be much to be preferred, with the implication that then several clans are involved, whereas a nickname per definition belongs to one and the same clan.

³⁸ Original footnote: *ku sheta*: 'to be dizzy', as explained in the story of the Cooking-Pot of Kingship; a folk etymology of the name *Shikumbawuyuvu* is presented below, in the story about the Bark Container Which Could Hear.

³⁹ Original footnote: Cf. *mulangu*, 'large bell', used to scare off birds from the fields. *Nkwehe* means 'hawk'. Apparently, the bell and the bird form a pair of opposites, rather than a single clan name.

⁴⁰ Original footnote: *Shungu* means 'barbel fish', and is also associated with the verb *ku shungula*, 'to lack relish to go with the *ncima* staple food'; *tumbwa* means 'vulture', and *makanga* 'guinea fowls' — another pair of opposites.

⁴¹ Original footnote: *Nzovu* means elephant; here not a nickname for the same clan, but the other element of the pair of opposites and hence the complement clan name is given: the spear hunter (*Ntabi*) kills the elephant.

⁴² Original footnote: Cf. *nkuni*, firewood. The *milombe* tree yields the wood from which drums are made, and thus stands in a subservient relation to the kingship; an underlying opposition is that between hyenas (*nkomba*) and large predators associated with the kingship.

⁴³ Original footnote: *shimunziko*: 'kindling'; *wishe*: 'smoke'.

The *nickname* Shimunziko has the following meaning. When these people wanted to get honey they had to make a fire to scare away the bees; because of burning their hands every time and having smoke in their eyes they were called Kindling and Smoke. All these clans spring from one and the same ancestress. ³ This means that there is only one division of Nkoya:

‘Even though the fruits may be scattered, we come from one and the same mukolwa tree.’
In other words we are all of the same stock.

WHERE THE KINGSHIP OF THE NKOYA
CAME FROM
THE STORY OF THE COOKING-POT OF KINGSHIP

4

¹ The kingship of the Nkoya is said to have started with the large cooking-pot full of game meat. Many of the Nkoya in the past said that Mwene Nyambi is a bird; and that Mwene Nyambi has a child, Rain (Mvula), also a bird; and that two clans in this world are the relatives of Rain: the Nkwehe [Hawks] on the part of the birds, and the Mbunze [Buzzards] on the part of the people.

² Shikalamo sha Mundemba was therefore the one who prepared the large pot with game meat he had bagged; he put the pot on the fire and started cooking the meat. The meat had been cooking from the early morning till midday, and when the pot of meat was still on the fire Mpungumushi⁴⁴ sha Mundemba called all the people. He said to them:

‘Anyone who can take the large pot of game meat off the fire will become Mwene of all the people in this area.’

All clans in that area tried very hard to take the pot of meat off the fire. ³ Some went to cut poles long and strong enough to take the pot of meat off the fire, but they could not go near, for the fire was very large and could burn them: it was very dangerous for them to go near. ⁴ All the clans: Mbunze, Lavwe, Ntabi, Nkomba, Shungu and Nyembo, tried to the best of their ability but they failed to take the pot of meat off the fire. Then the daughter of Shikalamo sha Mundemba fetched water in a tight basket; with the aid of this basket she managed to go around the fire, pouring water and extinguishing the fire. ⁵ With great efforts she got near the pot of meat and using her pole she managed to take the pot off the fire. Then she called her relatives and all the people, saying:

‘Let us eat.’

After they had eaten one of her relatives shouted:

‘Come so that you can lick the plates of the Sheta⁴⁵ who have gone around the pot of meat which was on the fire.’

Then Shikalamo sha Mundemba told all the people:

‘You have all failed to take the pot of meat off the fire, but my daughter Shilayi Mashiku has managed to do so. She has eaten the meat with her relatives. She is ‘the bird⁴⁶ that takes good care of its young ones’ and she is to be your Mwene. You who have licked the plates are the junior Myene henceforth known as Nkonze⁴⁷. The Sheta and the Nkonze are the same people, all Myene.’

⁷ When all the clans heard this they said to the people of Shilayi:

‘You are from now to be called Sheta, for you have gone around and around the pot of meat when it was on the fire.’

To the others they said:

‘You are from now to be called Nkonze for you have licked the plates of the Sheta.’

At the end of the ceremony it rained so heavily that the fire was extinguished. The people said:

‘Our Kingship comes from the Raindrop.’

The restricted number of only six clans being mentioned in the cosmogony of chapter 3 of *Likota* differs strikingly from the nearly two dozen that appear in the rest of chapter 3 and in contemporary Nkoya social life. Apparently this inconsistency is accounted for by considering each of the six cosmogonic clan names to be triple in

⁴⁴ Original footnote: A name or title which is evidently not modern Nkoya, and in which the Luba words *mpungu* (‘buzzard’, perhaps ‘fish eagle’) and *mushi* (‘village’) can be detected; their present-day Nkoya equivalents are *chipungu* and *munzi*.

⁴⁵ Original footnote: ‘The Dizzy Ones’, affected by the circling around the pot of meat.

⁴⁶ Original footnote: Here the bird theme with which this passage began, comes back. It would look as if calling rain was predominantly a female affair (even the gender of Mwene Nyambi and of Mvula is left sufficiently unspecific to allow it to be interpreted as female), and one which evoked (through the bird theme) major representations of the supernatural.

⁴⁷ Original footnote: ‘Lickers’.

that each clan has two ‘nicknames’ (*myahi*) in addition to its real name, and this is certainly how contemporary Nkoya interpreted the situation; however, below we will come to a different and obviously better interpretation. There are other inconsistencies. Whereas the informant of Table 1 distinguished between Shungu and Kale as different clans (possibly paired if Shungu is ‘Barbel Fish’ and Kale is understood as ‘Fish Spear’), the tradition reflected in *Likota lya Bankoya* (edited by the hand of Rev. Jehosaphat Shimunika in a manner described in detail in my book *Tears of Rain*) identifies Shungu and Kale. Moreover, of the ten clans that are associated each with a royal title, only 6 feature in *Likota’s* cosmogony. Two of the most prominent kingships of the twentieth-century Nkoya scene are among the clans not featuring in the cosmogony: Mutondo (however, the central myth of the origin of kingship, are related in *Likota*, is in fact an aetiology of the associated clan name, Sheta i.e. ‘Turner’, paired with the Nkonze, ‘Lickers’, who likewise do not feature in the cosmology); and Kabulwebulwe – however, from extensive archival sources dating from c. 1900 (especially the reports of the Gielgud-Anderson expedition to the Hook of the Kafue, 1900) it is clear that the Kabulwebulwe title, although considered senior once incorporated into the colonial state (and surviving because it was too far east to be under the suffocating Lozi influence), was at the time that of a mere big man seeking to establish himself as royal – an outsider to the time-honoured traditional system, in other words. The identity of Kale and Kahare which is stressed by many informants and also by Smith & Dale, is not borne out by the informant of Table 5 who sees the Kale clan as associated with Mwene Yuvwenu, but the Nyembo clan with Mwene Kahare.

In fact, the clan name Kale is a particularly puzzling element. In accordance to Manchester School conventions, and duly acknowledged in my edition of *Likota*, I have omitted the plural personal prefixes Ba- in the English rendering of the names of social groups. Clans are also social groups, but their names – in true totemic fashion – tend to be composed of a lexical root designating an animal species (or other items in the natural world), prefixed by Ka-, the singular personal prefix. The list above reads KaLavwe, KaMbunze, etc. in the original Nkoya.

By the same token, the proper name Kale as an alternative name for the KaShungu clan came to be interpreted as composed of Ka+Le, where the lexical root -Le is puzzling but might be interpreted either as deriving from ku-le-nga, ‘to create’, or from mu-li-nga, ‘spear’. Some interpret the Nkoya clan name as ‘fish spear’. In actual fact, however, the name Kale does not follow the syntactic productivities of Nkoya as a Central Bantu language, but is a totally foreign element, with not a Bantu but presumably an Indo-European, Afroasiatic or Austric background. Meaning ‘Black One’, the name Kale is frequently found all over the extensive Old World distribution area of Gypsies; this area does extend to Africa, where iron-working Gypsy groups have been studied e.g. by Bernhard Streck in Sudan. In the Nkoya context, as well as among their eastern neighbours the Ila (cf. Smith & Dale 1920: [**add page**]) the name Kale occurs as alternative for Kahare / Kahale, one of the principal royal titles of the Nkoya (and, not by accident, the one closest, in culture and geographical association, with the Ila region). The oral traditions associated with the Kahale title stress the original Kahale’s association with a foreign origin, iron working, *Conus* shell ornaments, and the introduction of a new type of xylophone-centred royal music – enough to identify the Kahare title as another transoceanic offshoot of some South Asian (initially perhaps South East Asian) itinerant trading and metal-working group with special interest in music – the general Gypsy pattern. The fact that the Kale clan

does not feature among the cosmogonic clans is another indication of the foreignness of the Kale name.

Karst (1931: 533f) reconstructs a considerable influx of Bantuoids from South Asia, partly in the form of peoples broadly associated with the Gipsy stock. This suggests that my model of a continuous curved interface between Africa and the outside world. The entire process, and the interface I identified, may just be signs of a massive Asian intrusion. In this respect it is of the greatest interest that Kale (one of the names under which the Gipsy nation is known) also appears as an alternative name for Kahare in Nkoya and Ila traditions. [quote Smith and Dale ; Tears of Rain] The Kahare name marks the intrusion of Gipsy elements, which has elsewhere in Africa been traced in Egypt, Sudan etc. The two distinctive features of the Gipsy nation, music and metal work, are eminently represented in the Kahare case and in the traditions that surround it. But iron working and royal orchestra also attend the other South Central African 'kings of the savannah', and I think that the Gipsy / South Asia link must be very seriously considered.⁴⁸

An extensive list of Nkoya clans is given in Table 6:

Table 6. Nkoya clans

name (Nkoya)	name (English)
Kale ⁴⁹	fish spear?
Langu ⁵⁰	bell
Lavwe, Shihondo	goat
Makanga	guinea fowl
Mbunze	buzzard, fish eagle
Mukuni	firewood
Mvula	rain
Nkomba	mushroom
Nkonze	antbear?, 'licker'
Nkwehe	hawk
Ntabi	spear-hunter
Nyembo	bee, drone
Nyembo	sparkler (honeycomb? drone?)
Nzovu	elephant
Sheta	turner, dizzy one, bull roarer, tether, peg, fire-bore
Shihombo	tinderbox
Shikumba	beehive
Shilombe	milombe tree: wood suitable for carving especially for royal drums
Shimunziko	kindling (out of mushroom)
Shungu	barbel fish
Tumbwa	vulture
Wishe	smoke

⁴⁸ Karst 1931a.

⁴⁹ This is the only clan name where I have not removed the Ka- element, for reasons given in the text.

⁵⁰ The actual clan name as recorded is Langu-Nkwehe, 'bell-hawk'

How to interpret the apparently dazzling heterogeneity of this Nkoya array of clans? It is possible to come up with a formula that creates order in this confusion?

3.2.3.2. *Interpreting the array of Nkoya clans: (1) as segmentary opposition [the following section is from the draft of Global Bee flight]*

In *Les formes élémentaires de la vie religieuse*⁵¹ Émile Durkheim demonstrated (albeit on the basis of dubious ethnographic data on Aboriginal Australian societies he himself had never visited) the strong links which exist between any one social group, conceived as a religious congregation, and its objects of worship. The latter are claimed by Durkheim to be arbitrarily chosen and to ultimately symbolise ‘the social’ as such. Durkheim’s analysis (like Freud’s struggle with similar questions round about the same time in *Totem und Tabu*⁵²) was limited to just *one* theoretically conceived social group, and did not involve the social and political interaction between several groups, each with their own objects of veneration. The decisive step towards a consideration of totemism as involving the interplay between several groups was set by Claude Lévi-Strauss.⁵³ His illuminating re-analysis of totemism showed how the juxtaposition of social groups in a traditional context takes the form of the juxtaposition of the respective group’s object of veneration — a seminal principle in religious anthropology. Each totemic group is identified with a particular plant or animal species from the natural world, and observes special taboos vis-à-vis that species which do not apply to the other sections of society. This special relationship, Lévi-Strauss argues, is based not on some irrational, animistic propensity towards nature worship including the belief that animals are truly Man’s ancestors; neither on the fact that these species (as Malinowski would have it) represent individual Man’s selective interest in nature, in other words are ‘good to eat’; neither because they mark, with an overload of anxiety, the situations which are particularly crucial for the perpetuation of society as a whole — as in Radcliffe-Brown’s view.⁵⁴ Lévi-Strauss claims instead that the species are selected because pairs of such species are the most ready expressions of both the opposition and the complementarity which exist simultaneously between the two groups thus identified, in other words, because these particular species are ‘good to think about’. The two groups involved are not only contrasted (by names and symbolism), and thus presented as *in opposition* to one another; they also *complement* each other, uniting by reference to a shared underlying *aetiological principle* which explains the specific pairing up of the two natural species.

Let us take an example of totemic clans from the Nkoya people.

‘In present-day Nkoya life the significance of clans is not immediately obvious. This is partly due to their high degree of dispersal and intermingling in modern times. Yet on further analysis clans turn out to be still rather important on the level of the marital system, joking relations, rural support systems in times of individual destitution, and funerary arrangements. In all those respects the clan structure offers inter-local ties which largely regulate that part of the social process that extends beyond the immediate daily face-to-face context.

⁵¹ Durkheim, *Les formes élémentaires de la vie religieuse*, o.c..

⁵² Freud, *Totem und Tabu*, o.c.

⁵³ Lévi-Strauss 1962a; and especially: Lévi-Strauss, C., 1962b.

⁵⁴ Malinowski 1954; Radcliffe-Brown 1952; cf. Homans 1941.

Joking relations exist between specific pairs of clans. Such relations were and are expressed by stereotypical reference to the natural relations between clan totems; e.g. between members of the Bees clan and the Smoke clan a joking relation exists, they call each other ‘grandfather’, abuse each other, may take sexual liberties with each other (if from opposite sexes), and appropriate each other’s possessions without actionable offence, since it is through Smoke that Bees are chased when (...) honey is being collected (...).

The clan structure provides an extensive and dense network of consanguinity, affinity and putative kinship spreading all over the countryside. (...) The extensive geographical distribution of a limited number of clan names (all through their nicknames associated with animal species and other natural phenomena) points to a cosmologically-supported social-organisational continuity throughout the region and far beyond — a far wider scope than the present-day distribution of rather small ethnic and linguistic clusters in the area would suggest. (...) [W]hile clans today are dispersed and any residential community (a village; a valley comprising a dozen or more villages) contains members of any number of clans, pre-state clans (...) occupied a contiguous, rather well defined area, in which they had exclusive rights over the natural resources present. (...) [O]n the religious plane the clan engaged in ecological ritual (...) directed to the High God.⁵⁵

Now the Nkoya clans are *all* linked in pairs of complementary opposition. The situation is rendered complicated since each clan is said to have a number of nicknames in addition to its official name; this results in a kaleidoscopic optionality in naming clans and adds extra fun to the joking process. The following table makes the complex underlying structure of clan names, nicknames and reasons for punning transparent in so far as the bee theme is concerned. It is the aetiological principle (i.e. a specific reference to a concrete domain of social, productive or reproductive local practice) which explains the solution of a particular pair of nicknames, and which sets the tune for the jokes to be improvised between the members of the two clans involved.

*Table 7. Complementary opposition in the nomenclature of two joking clans in western central Zambia, nineteenth and twentieth century C.E.*⁵⁶

species		aetiological principle
clan A	clan B	
<i>Nkomba</i> , i.e. ‘Mushroom’	<i>Wishe</i> , i.e. ‘Smoke’	smoke is a sign of consumption of the mushroom wick in the tinderbox
<i>Shimunziko</i> , i.e. ‘Kindling’	<i>Wishe</i> , i.e. ‘Smoke’	smoke is a sign of consumption of the kindling
<i>Mukuni ba Shilombe</i> , i.e. ‘Wood of the <i>Shilombe</i> tree (of which royal drums are made)	<i>Wishe</i> , i.e. ‘Smoke’	smoke is a sign of consumption of the wood when the tree is hollowed out in preparation of the drum
<i>Nyembo</i> , i.e. ‘Bee, Drone’	<i>Wishe</i> , i.e. ‘Smoke’	smoke chases the bees so that their honey can be collected
<i>Nyembo</i> , i.e. ‘Sparkler’	<i>Shihombo</i> , i.e. Tinderbox	the sparkler ignites the tinderbox

The clans see each other as having intermarried in the distant past, in the context, or at the conclusion, of violent conflicts which have been reconciled but remain encoded in the ‘joking relationship’ expressing both inter-clan conflict and sociable complementarity between the paired clans at the same time. It is the nicknames which bring out

⁵⁵ Van Binsbergen 1992: 162-165. Incidentally, the word ‘pre-state’ here refers, not the imposition of colonial rule in 1900 C.E., but the formation of Nkoya states, presumably from the sixteenth century C.E. onwards.

⁵⁶ Modified after: van Binsbergen 1992.

the special relationship between these two clans and thus provide a never ending source of inspiration for jokes between joking clan partners.

Naming and ritual (tabooed) practices serve to identify specific social groups and to articulate special relationships of complementary opposition such as exist between specific groups without pervading the entire society. They constitute a formal structural scheme. The members of the culture in question may be themselves conscious of the aetiological principle (they clearly are in the case of Nkoya clan joking, which largely consists of citing and varying the very contents of the aetiological principle): bee and smoke in the practical context of bee-keeping; smoke and mushroom in the practical context of fire-marking, etc. However, the aetiological principle linking two clan names may also go lost under the free play of jocular, linguistic and mythological free variation, and in the context of new socio-cultural conditions which over the years have replaced those which originally informed the specific articulation of complementary opposition encoded in a myth, rite etc. If clan names like the Nkoya ones would survive in contexts (like twentieth-century Zambian capital cities) where firewood and honey are no longer freely collected and have been largely replaced by purchased charcoal and manufactured sugar, a researcher of the twenty-second century C.E. might still be able to trace the oppositions involved but she or he would need a lot of additional historical information before hitting on the practical aetiological principle that would make sense of both names and of their pairing. The structuralist method in the anthropological analysis of formal cultural products such as myths, rites, ceremonies, arts, decoration patterns, although not the universal paradigm it was once claimed to be, accords us at least a theoretical perspectives on these situations; occasionally this method even allows us to tentatively reconstruct such underlying aetiological principles as have gone lost to consciousness.

The argument in this subsection stresses, in classic structuralist fashion, that Nkoya clan nomenclature can be understood as a collection of binary oppositions. There is however evidence of a more complex and more dynamic structure, of threesomes, which we will now explore.

3.2.3.3. Interpreting the array of Nkoya clans: (2) as evidence of a cycle of transformations consisting of triads

Above I already spotted a number of inconsistencies in the twentieth-century treatment of clans by otherwise highly knowledgeable Nkoya informants. There is a constant tension between two modalities: bundles consisting of two, three or more clan names are constantly cited, but whereas for one informant these multiple names are just synonyms for the same clan, for others they are opposites reminiscent of complementary oppositions and therefore refer to different clans. Moreover, if all clans can be paired to most other clans, through a pair of meaningful opposites (in the manner of *Le Totémisme aujourd'hui*) inviting joking and punning, the result is kaleidoscopic but conducive, not to cohesive social structure but to socio-political fragmentation and incoherence. Finally, it appears as if there is often, or always, an implied third party when two clans are in complementary opposition: Smoke chases the Bees when honey is collected, but this is predicated on the presence of a third party, Fire, and the same argument may be made in many other of the binary aetiologies given above.

Yet there must be some more definite structure, for joking ties between clans (in ways not yet stressed above) regulate important aspects of socio-ritual life such as defining a set of people who are a person's institutionalised burial agents, whereas in life the same set of people features as a last but unfailing resort when the appeal to multilateral and patrilateral kinsmen (for food, shelter, protection against witchcraft, support, contributions to bride wealth to be paid) have all been in vain.

Clearly, much depends on the meaning of the obscure word *myahi*, which occurs only once in the text of *Likota*, and which is not a common word in contemporary spoken Nkoya either. The interpretation as 'nickname' suggest that in the threesome 'Nyembo or Shihombo: Shimunziko and Wishe' we are really dealing with one clan 'Bee / Drone / Sparkler (alias Tinderbox)' which also has two other names: 'Kindling' and 'Smoke'. Social practice among contemporary Nkoya however shows that this is a total misreading. In a given situation one may find two people jokingly insulting each other:

'You, you are nothing, you are mere Kindling, and we are the Tinderbox that puts you afire and annihilates you'.

Or alternatively:

'You may be the Sparkler, but the only test of your force lies in us, Smoke'.

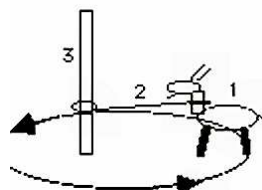
In reality, behind the formula 'Nyembo or Shihombo: Shimunziko and Wishe' three very different clans are implied, which stand in a relationship of *causation, destruction, or catalytic action*. That this is the correct interpretation is clear from the otherwise enigmatic statement in *Likota* ch. 3:

'The *mwahi* Shimunziko has the following meaning. When these people wanted to get honey they had to make a fire to scare away the bees; because of burning their hands every time and having smoke in their eyes they were called Kindling and Smoke.'

By the same token, the alternative name of the Nyembo (Bee, Sparkler) clan as Kamaniha, 'The Finisher', also suggests that this clan plays the destructor role in a threesome with a destructed and a catalytic element.

Let us take a closer look at one particular clan triad: Lavwe, Shihondo, Sheta, and Shikumba[wuyuvu]. This triad is more difficult to interpret because it involves a semantic twist. The simplest and presumably original interpretation is depicted in Figure 5:

Fig. 5. The clan triad: Lavwe, Shihondo, Sheta, and Shikumba[wuyuvu] illustrated from real life



Here we find the clan:

- as the passive element, the destructed, the goat (Lavwe) tethered to a pole
- as the active restrainer (= destructor) a string of bark rope (Shikumba) serving as tether
- and finally as catalyst remaining passive but providing anchorage for the tether, the pole, which is the Turner (Sheta)

Domestic goats are no longer to be found in Nkoya villages in Kaoma district but they do occur in other parts of Zambia and we must assume that they were once part of Nkoya village life. Bark rope makes up the usual binding material for a great variety of purposes, from house building (walls are formed in that the loam or *dagga* remains suspended in coils of bark rope twisted between a row of vertical poles, hence ‘pole and dagga’ for traditional village architecture in this part of the world) to packaging elephant meat for bicycle dispatch from the bush to the village. Implicitly the vertical pole that serves as the Turner around which destructor and destructed turn around is a cosmological image of the celestial axis throughout the Old World and the New World, going back to a common fount of Upper Palaeolithic hunters’ astronomy: the phenomenon of diurnal rotation of visible stars around the celestial pole is manifest to the naked-eye to anyone caring to gaze up to the heaven for more than a second. Given the generally high development of Nkoya astronomy which allows the expert Nkoya hunters to orientate by night, and the veneration of while, debarked vertical poles in the prophetic movement of Mupumani (1914-1915) and to this day in the Bituma cult (for both, cf. van Binsbergen 1981), I have little doubt that also for the Nkoya the vertical pole evokes the celestial axis, but I have made no specific enquiries on this point.

The semantic twist in the interpretation of this triad now comes in, when the destructor is called, not Shikumba (bark), but Shikumbawuyuvu, ‘Bark Do You Hear?’ This goes back to a story involving Luhamba and Katete, a mythical twin of opposite sex,⁵⁷ whose male element, Luhamba, was to be the first, legendary, male king of the Nkoya people, the first Nkoya Mwene to turn royal power to a military use in order to ward off the war thread from the side of the Humbu people (myth acknowledges the initial preponderance of female kings, and there are strong indications that male kingship could be seen as usurpation of a female prerogative by men engaging in warfare and long-distance trade).

ABOUT THE SHIKUMBAWUYUVU CLAN — ‘THE PEOPLE OF THE BARK CONTAINER WHICH COULD HEAR’

7

1 When Luhamba and Katete were being hidden by the Mbunze — Luhamba in a bark container, Katete in a mat — 2 the Humbu came to the village of Lyovu Iya Mbuwa and asked:

‘Tell us if there is any Sheta here?’

The Mbunze answered:


‘There are no Sheta left alive. 3 This is what we are saying and if the bark container had been a person it would have heard. ‘Do you hear, Bark Container?’ Also, if the reed mat had been a person it would have heard. ‘Do you hear, Reed?’’

The Humbu heard these words of Lyovu Iya Mbuwa. 4 They left and camped on the Miluzi, a tributary of the Lalafuta, and then went along the Lushimba, a tributary of the Lufupa. Thus the Humbu war came to an end. (*Likota*, ch. 7).

⁵⁷ And thus reminiscent of the Paradiscial Two Children which we find in cosmogonies and flood stories all over the world – for reasons I have explored elsewhere van Binsbergen, Quantative report flood stories, in preparation.

Luhamba is here addressed by the name of the container that protects him, and Katete by her own name. Katete however consists of the stem *-tete* (reed), preceded by a personal singular prefix: ‘Mr or Mrs Reed’. A similar play on Luhamba’s name was not possible in the English translation: it is derived from a lexical root *-hamba*, ‘to travel’, with a prefix *lu-*, for royal things, singular. Incidentally, many hydronyms in South Central Africa also begin on the element *Lu-*. This would lead to ‘Royal Travelling Thing’ as the puzzling meaning of Luhamba’s name, or possibly ‘Water course for Travelling’. Some more light is cast on this name by comparative evidence from the Mwinilunga region on the Congo-Zambezi watershed, which was the home of many of today’s inhabitants of the Nkoya region only a few centuries ago. Here Victor Turner (!) described⁵⁸ the Chihamba cult, with the same ‘travelling’ lexical element, which then becomes very clear, for in this context Chihamba, the White Spirit, in close similarity with the Bituma cult among the Nkoya⁵⁹ is the god of a foreign food crop, originally American, killed but venerated so that the cult’s adherents may consume it safely. Symbolically there is continuity, over a very vast area extending from the Ancient Near East and the Mediterranean to West Africa and across the Atlantic to Meso America, of such intimately intertwined themes as the dying vegetation god, God’s Child, food crops as God’s greatest gift to humankind, and the Celestial / Paradisiacal Twins of opposite gender.

Whether a historical fact or (as we suspect) merely a symbolic theme stressing gender complementarity in the face of such male dominance as trade and warfare would generate, male usurpation of kingship, like kingship itself, is a symbolic innovation that related perpendicularly to the traditional clan-based cosmology and symbolism. It therefore appears as if the reconstructed ‘original’ clan triad Lavwe, Shihondo, Sheta, and Shikumba as illustrated in Figure X was transformed into a statement mythically legitimating male kingship. The bark rope Shikumba tethering the Lawve clan becomes a bark container concealing the prospective male royal incumbent Luhamba ‘Royal Travelling Thing’. And by this association, the link with the goat and the pole symbolism is eclipsed by other symbolic complexes similar to the clan triads but not in themselves part of the original, pre-statal clan structure:

1. Katete, ‘Reed Person’, Royal Princes, the Twin Sister who legitimates the male exercise of kingship by her brother Luhamba ‘Royal Travelling One’; one might be tempted – even though our discussion, below, of the ‘cross-model’ would imply that much more comprehensive connectivities are involved here than just Egyptian ones – to make two Egyptological connections at this point, and stress the similarity between the Nkoya mythical royal twins Katete and Luhamba, on the one hand, and two central royal pairs (constituting two of the five principal Ancient Egyptian royal titles from the First Dynasty onward:⁶⁰
 - a. ‘The One of the Reed and the Bee’ (*nswt-bit*, in hieroglyphic writing ) , where the reed element is very clear in Katete, whereas the Bee – although more conspicuous in the Nyembo clan title – could well be accommodated with the name of Luhamba

⁵⁸ Turner 19XXX

⁵⁹ cf. van Binsbergen 1981.

⁶⁰ Both *nswt-bit* and *nbtj* have been extensively attested in the First Dynasty texts as compiled by Kaplony 1966.

‘Royal Travelling Thing’. The connotations of long-distance displacement inherent in Luhamba’s name, and in the extreme geographical expanse of the symbolic complex indicated in last footnote, makes a connection with Ancient Egypt not totally preposterous.


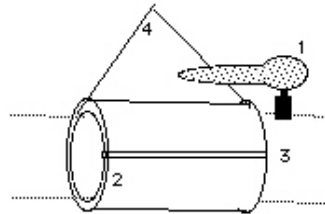
- b. ‘The Two Ladies’, *nbty*, , i.e. the Ancient Egyptian goddesses W3dyt and Nḥbt, the king’s protector goddesses in vulture and cobra shape respectively, signifying Upper and Lower Egypt. It is not only the twin and twinned nature of these goddesses, nor the occurrence of the vulture among Nkoya clan names (as well as the prominence of Mwene Shihoka, ‘Snake’, in Likota’s mythical accounts!), but particularly the fact that in the conventional iconography as shown here, both goddesses are depicted in baskets that may have been the prototypes of the reed wrapping (so closely reminiscent of the Egyptian royal titlature) and bark hive in which Katete and Luhamba were said to hide.⁶¹
2. the bark hive in which Luhamba (as if he were a bee, i.e. Nyembo /) took refuge, has its own story of a triad to tell, as becomes clear from Figure 6:

Fig. 6. The bark hive as a potentially triadic icon



In order to produce the kind of bark hive that one frequently finds in the vicinity of Nkoya villages, one makes two horizontal incisions and one vertical one in the bark of a thick tree trunk, then peels off the bark from the trunk. A bark string is attached to it, and it is suspended in the top of a tree. While here the bark hive is clearly the destructed, one could argue whether the destructor is the axe or the bark rope, and whether the catalyst is the original tree trunk from which the bark is taken, on the tree in which the hive is finally suspended. These points are only of secondary influence for the image of the bark hive is not actually used to produce the triadic logic of clan symbolism – it only emulates that logic.

The following Table 8 demonstrates that nearly the entire nomenclature of Nkoya clan can be easily and convincingly cast in terms of such causally linked threesomes; the table follows the order of ‘clans’ as given in the cosmogonic passage in *Likota* ch. 3. Since 20th-century CE Nkoya actors have lost all awareness that in Nkoya clan nomenclature here we are dealing with a transformation of a six-element system, the identification of the various elements involved is merely a reconstruction and wrought with uncertainty and ambiguity in some cases; yet the overall pattern is strikingly convincing.

⁶¹ In this connection it is relevant to memorise that reminiscences of the *nbty* name in sub-Saharan Africa are not limited to the Nkoya. The kingdom of Mpororo, South West Uganda has a clan structure similar to that of the Nkoya, cf. Denoon 1972; Uzoigwe 1975. This kingdom was reputedly ruled by two queens, high priestesses of the god Niawingi; they are carried about in baskets (cf. Delme-Radcliffe 1905). My attention was foirst drawn to this information by van der Sluijs, Mythopedia.

Table 8. Nkoya clan nomenclature as evocative of a triadic cycle of transformations

no.	destructor	destroyed	controls the process (catalyst)	proposed aetiology	proposed element
1	Shikumba [-wuyuvu]	Lavwe, Shihondo	Sheta		
	bark rope [bark hive, see text]	Goat (tethered on a bark rope);	Turner	the bark rope constrains the goat but the pole reaches into the sky	Aether or Wood
2	Langu	Nkwehe	Mbunze		
	Bell	Hawk	Buzzard	the bell chases the hawk but it is owned by the royal buzzard	Air
3	Tumbwa	Shungu / Kale	Makanga		
	Vulture, Fish Eagle	Barbel Fish	Guinea Fowl	The fish eagle snatches the barbel fish but leaves the guinea fowl alone	Water
4	Ntabi	Nzovu	Mulinga		
	Spear Hunter	Elephant	Spear	the elephant is the king of the earth yet the bottom-dwelling human kills it with his spear	Earth
5	Nkombwa	Mukuni	Shilombe		
	Mushroom, Snuffbox	Firewood	Mulombe Wood From Which Royal Drums Are Made, so that they are immune to lightning	the fire consumes the dried mushroom in the tinderbox, but not the wood from which royal drums are made	Wood or Fire
6	Wishe	Shimuziko	Nyembo / Shihombo		
	Smoke	Kindling	Sparkler ⁶² Or Tinder-Box	the kindling is transformed into smoke, but not the metal sparkler in the tinderbox	Fire or Metal

With Table 9, we are only left with two clan names that have not been accommodated: Nkonze and Mvula, but these could be incorporated in the same overall schedule by adding a seventh element, even though the residual, secondary, and late nature of this seventh element is underlined by the latter's hybrid and superfluously repetitive nature:

Table 9. Nkoya clan nomenclature as evocative of a triadic cycle of transformations, with Nkonze and Mvula accommodated

no.	destructor	destroyed	controls the process (catalyst)	proposed aetiology	proposed element
7	Nkonze	Mvula	Sheta		Aether, Sky, Rain
	Licker	Rain	Turner	The junior kings get their share of Rain, but the senior kings who are the connection between heaven and earth control the process	

⁶² A little metal thong within a tinder-box, which when scraped against a piece of flint produces the spark that sets linted mushroom kindling afire.

Admittedly, this addition requires us to use the Sheta / ‘Turner’ element twice, for it already features in the first element: Lavwe / Sheta / Shikumba[wuyuvu]. This is certainly an irregularity that should not pass without comment, for it is (just like the inclusion of the linguistically and conceptually foreign onomastic element Kale) another indication that, although the clan structure can be taken to have been the bedding from which the royal structure has been largely shaped, the domain of kingship is yet essentially discontinuous with that of clanship. In other words, kingship encompasses essentially alien elements that do not systematically spring from the pre-statal symbolic systems such as enshrined in the clan nomenclature. Such a conclusion should not surprise us: in an earlier study⁶³ I demonstrated in a comprehensive itemised analysis the same fundamental discontinuity between the values and practices of Nkoya village life in the 19th and 20th century CE, on the one hand, and those of Nkoya royal courts in the same period, on the other. This means that the seventh clan triad I have added by means of Table 9 cannot be taken as the recovery of an initially lost or overlooked integral part of the original traditional clan structure, but must be seen as a specific aberration testifying to the attempt to account for kingship in terms of a pre-existing model of six clan triads. The story of the cooking pot of Kingship (Likota ch. 4, as cited above) restates the same seventh clan triad in narrative, mythical form.

We have three more steps to go.

In the first place, it is now clear that the term *myahi*, which at the lexical level we have already identified as ‘clans that are associated with one another as joking partners’, at the cosmological level should be translated as ‘systematic transformations in a logic of cyclic causation’.

Secondly, what the cosmogonic section of Likota (ch. 3) appears to call the six original ‘clans’ (*mikoka*), are in fact *elements* of *phases*, in the sense these terms are used to describe the primal units in Pre-Socratic (‘roots’, ῥιζώματα in Empedocles Fragments 6, later a similar idea reoccurred as *stoicheion*, στοιχείον ‘irreducible element’ – especially in the mathematical and linguistic sense but also in reference to the composition of matter – by Plato) and Taoist (五行 *wǔ xíng*, ‘five phases’)⁶⁴ cyclical composite world views, respectively. *The Nkoya system of triadic clan nomenclature is in fact a system of the cyclic transformation of six elements, each of which may take three characteristic shapes.* The difference however with the Taoist and Pre-Socratic views is that the Nkoya system is exploded into non-recursive multiplicity: in the Taoist system the same five elements always place, in turn, the role of destructor, destructed, and catalyst, but in the Nkoya system these roles have become disconnected hence the number of elements, or clans, has multiplied from six to eighteen. This also suggests that the Nkoya system of clan nomenclature is not anything near

⁶³ Cf. van Binsbergen 1993.

⁶⁴ Cf. Cook & Rosemont Jr 1984; the remark on five phases in the notes, p. 68, n. 7, where it is argued that the expression ‘five phases’ is much to be preferred to ‘five elements’ to render the Taoist conception.

the original historical roots of the underlying Old World transformation cycle: what the Nkoya have is a peripheral local elaboration, no longer understood in its initially informing logic, hence gone berserk.

In the third place, we must realise that the Nkoya system is far from unique, but in fact presents very striking resemblances with the cycle of transformations that is at the heart of classic Chinese Taoism. We are here in the presence of an immanentist logic of transformation that also informed four-element theories in early Greek philosophy, quadruple pairs of cosmogonic beings in Egyptian cosmology, and many other applications of the same underlying transformation cycle.

3.2.4. The discovery of an Upper Palaeolithic multi-element system spanning the Old World and North America

The elaborate Nkoya clan system turns out to reveal an ancient six-element cycle with catalytic element, and with unsystematic adaptations towards the introduction of kingship. The comparative evidence from Eurasia, coupled with the recent genetic discovery of the ‘Back into Africa’ movement and corroborative evidence from comparative mythology and ethnography along such lines, makes it very unlikely that the Nkoya system should be viewed in isolation. Below (footnote 90) I shall venture a number of possible explanations to account for the apparent continuity between South Central Africa and East Asia: there are close parallels to the Nkoya system in the Taoist transformation cycle, including the ‘insulting’ / joking element between the elements.

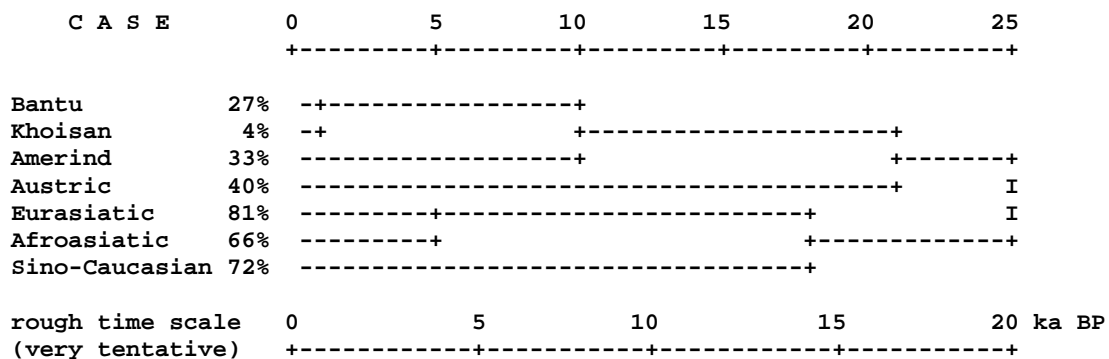
Although I am now inclined to invoke a relatively recent, 1st of 2nd mill. CE, influx of East Asian specifically divinatory influences in order to account for the continuity between Africa and East Asia, there is also an attractive alternative going back much longer, to the Upper Palaeolithic, from 15 ka BP on. The latter is the period before the trans-Bering migration and the Back into Africa migration, when Central Asia still harboured cultural traits that were to end up in North America and sub-Saharan Africa respectively. The evidence of such a common heritage ending up in both North America and sub-Saharan Africa is rapidly expanding, and so far includes (apart from a hypothetical transformational cycle):

- girl’s puberty rites especially among the NaDenē speaking peoples (whose languages have been recently grouped into one linguistic macro family along with Sino-Tibetan, Caucasian languages and Basque!), and the Niger-Congo speaking (including Bantu-speaking) Africans;
- gaming and divinatory tokens, which both in South Central Africa and throughout North America come in foursomes and are often indistinguishable from both regions;
- forms of material culture (basketry, fishing implements, house building, etc.) that show a considerable affinity between Central Asia (Mongolia), North America, and (especially Bantu-speaking) sub-Saharan Africa
- comparative mythology reveals a considerable affinity between the myths of sub-Saharan Africa and those of the Americas – a point repeatedly made in the recent work of the comparative mythologist Yuri Berezkin, and also emerging from my worldwide analysis of flood myths.
- linguistic evidence: Long-range comparison in the fields of culture and mythology have in recent years derived much inspiration from long-range linguis-

tics. This branch of scholarship (Starostin, Ruhlen, Bengtson, Peiros, Dolgopolsky, Blažek etc.) now claims to be able to reliably reconstruct as many of 1153 lexical roots of so-called *Borean, a reconstructed language thought to have been spoken in Central Asia c. 20,000 ago. Most living languages, and especially most language family and higher-level phyla, contain a fair selection of these roots in their (reconstructed *proto-)vocabulary, and the specific distribution of these Borean roots, however tentative, tells us (e.g. through statistical cluster analysis, but although through more qualitative approaches) something of the remote history of and between languages, and of the modalities of thought and experience particular to certain prehistoric periods (e.g. Dolgopolsky 1998). Now, when we look at the distribution of reconstructed *Borean roots over the various macrophyla, we see a remarkable and unexpected affinity between African and American languages, only to be explained by a Central Asian common part-origin before the disintegration of Borean

- probably a red herring is a name like ‘Wounded Knee’ – a historically charged toponym in North America, but in Southern Africa the name of the principal Culture Hero of the Khoi-San speaking peoples, some of whose ancestors have been demonstrated (Cavalli-Sforza et al. 1994) to have lived in West Asia only 10 ka BP.

*Fig. 7. Dendrogram setting out the relative positions of the *Borean-associated linguistic macro-phyla in relation to Bantu and Khoisan (after van Binsbergen 2008d)*



Considering the six-element system of the Nkoya clans, we now may add such a system to African-North American parallels, for we find a six-element system (although articulated in terms of directions rather than elements, with Up and Down added to the usual four direction North, East, South and West) among the NaDenē-speaking peoples especially the Zuñi⁶⁵, and neighbouring peoples such as the Sia,⁶⁶ Pueblo,⁶⁷ and Hopi.⁶⁸ We have good reasons to consider Central Asia the epicentre of such an underlying Upper Palaeolithic system; not in its periphery, but in its very centre, among the Mongolians (who speak a Nostratic / Eurasiatic language, like most

⁶⁵ Cf. Li An-Che 1937; Parsons 1916; Judd 1947. The closely related Navaho are now often claimed to distinguish six directions, which has become an icon of Native American popularised cosmology, but the older ethnographic literature more often attributes only four directions to the Navaho.

⁶⁶ Parsons 1936.

⁶⁷ Parsons 1929.

⁶⁸ Fewkes 1900.

peoples of Eurasia and Africa, and not a than a Dene-Sino-Caucasian language), a six-item system has been retained which is not merely one of directions but one of elements in the general sense discussed above, including the foursome fire, water, earth and air, to which occasionally (cf. the Taoist system) wood and metal may be added.

In addition to this comparative-ethnographic evidence, there is the mythological evidence of a transformative cycle of elements in North America in the form of flood myths. In native, ideal-typically pre-conquest North America, some flood myths at one of the several possible levels of interpretation appear to revolve on permutations within the transformative cycle, with Flood being simply the Water element dramatised, while a divine trickster in animal shape tends to both trigger, and efface all boundaries, and systematics at the same time.⁶⁹ Cases in point are the following:

From the Skagit people of the state of Washington, USA: The Creator made the earth and gave four names for it -- for the *sun, waters, soil and forests*.⁷⁰ He said only a few people, with special preparation for the knowledge, should know all four names, or the world would change too suddenly. After a while, everyone learned the four names. When people started talking to the trees the change came in the form of a flood. When the people saw the flood coming, they made a giant canoe and filled it with five people and a male and female of all plants and animals. Water covered everything but the summit of Kobah and Takobah (Mts. Baker and Ranier). The canoe landed on the prairie. Doquebuth, the new Creator, was born of a couple from the canoe. He was told to go to a lake (Lake Campbell) and swim and fast to get his spirit powers, but he delayed. Finally he did so after his family deserted him. The Old Creator came to him in dreams. First he told Doquebuth to wave his blanket over the water and the forest and name the four names of the earth; this created food for everyone. Next, at the direction of the Old Creator, he gathered the bones of the people who lived before the flood, waved the blanket over them and named the four names, and made people again. These people couldn't talk, so he similarly made brains for them from the soil. Then they spoke many different languages, and Doquebuth blew them back to the places they lived before the flood. Someday, another flood will come and change the world again.

From the Ahasta people (Northern California interior, USA): Coyote encountered an evil water spirit [water] who said, 'there is no wood' [wood] and caused water to rise until it covered Coyote. After the water receded, Coyote shot the water spirit with a bow and ran away, but the water followed him. He ran to the top of mount Shasta; the water followed but didn't quite reach the top. Coyote made a fire, [fire] and all the other animal people swam to it and found refuge there. After the water receded, they came down, made new homes, and became the ancestors of all the animal people today.

Or, from the Menomini people (Wisconsin-Michigan border, USA): Manabush wanted to punish the evil Manidoes, the Ana Maqkiu who had killed his brother Wolf. He invented the ball game and asked the thunderers to play against the Ana Maqkiu, who appeared from the ground as Bears. After the first day of play, Manabush made himself into a pine tree [wood] near where the Manidoes played. When they returned the next morning, the Manidoes were suspicious of the tree, so they sent for Grizzly Bear to claw it and Serpent to strangle and bite it. Manabush withstood these attacks, allaying their suspicion. When the ball play took everyone else far away, Manabush shot and wounded the two Bear chiefs with arrows and then ran away. The underground [earth] Ana Maqkiu soon came back, saw the wounded Bear chiefs, and called for a flood [water] from the earth. Badger hid Manabush in the earth, so the Ana Maqkiu gave up the search just as the water was starting to fill badger's burrow. The underground people took their chiefs to a wigwam and sent for an old woman to heal them. Ma-

⁶⁹ The question whether these North American flood myths could be considered derivations from the Judaeo-Christian-Islamic tradition, I have considered elsewhere and answered negatively; in press.

⁷⁰ This is unmistakably a series of four elements 'fire', 'water', 'earth' and 'wood'.

nabush followed, took the old woman's skin and disguised himself in it. He entered the wigwam, killed the two chiefs, and took the bear skins. The Ana Maqkiu at once pursued; water poured out of the earth in many places. Manabush climbed a great pine tree on the highest mountain. When the waters still rose to threaten him, he commanded the tree to grow. This he did four times, but the waters still rose. He called to Kisha Manido for help, who commanded the waters to stop. Seeing water everywhere, Manabush called to otter to dive down and bring up some earth. Otter tried but drowned before reaching bottom. [earth-diver theme] Mink failed similarly. Then Manabush called on Muskrat, who also returned drowned but had some mud in his paw. Manabush blew on Muskrat to return him to life. Then he took the earth, rubbed it between his hands, and threw it on the water, thus creating a new earth. Manabush told Muskrat that his tribe would always be numerous. He gave the skin of the Gray Bear chief to Badger and kept the skin of the White Bear chief.

Returning now to Africa, possible trace of an 8-element model transferred (cf. the Nkoya) into clan names may be found among the Congolese Bushong people.⁷¹ Here the creator is called Bumba, a white human-shaped being with many parallels in Central Africa (e.g. Luchele among the Bemba; the cults of Chihamba among the Ndembu and of Bituma among the Nkoya, venerate not creator spirits, but still a white being that is a demiurge, sent by the Supreme God, and associated with food crops). Bumba's first work of creation produced eight creatures: beetle, crocodile, fish, goat, heron, leopard, tortoise – very possibly an ancient list of clans, although we need to ascertain whether these are still clan names among the Bushong in historical times.

If we consider the Nkoya clan system (with its six or more clusters of triads, each triad consisting of a Destructor, a Destructed, and a Catalyst, and each triad more or less amounting to a separate natural element) in continuity with the system of directions of the North American Zuni and with the element system of the East Asian Mongolians, and with yi jīng and Taoism, our underlying hypothesis is that these are all surface manifestations of an extended substrate extending from Central Asia into North America and sub-Saharan Africa, in both cases linked to a migration that was initiated in the Upper Palaeolithic c. 20 to 15 ka BP: the trans-Bering migrations that populated the Americas, and the 'Back into Africa' movement that brought major genetic and cultural material from Central and West Asia back into Africa, from where it had initially come at the outset of the out-of-Africa exodus of Anatomically Modern Humans from 80 ka BP onwards. However, there is also an alternative possibility to be considered. For Vedic India a system of caste nomenclature has been described,⁷² where each professional group, in totem-like fashion, is identified with an animal species, as in the following Table:

Table 10. Proposed relations between professional castes and their animal 'totems' in Vedic India

caste's professional status	species
wheelwright, weaver	young buffalo
smelter, trader, turner, blacksmith, trader	tiger, rhinoceros, buffalo, elephant, antelope
merchant's clerk	rhinoceros, antelope
turner	elephant, beehive

⁷¹ Cotterell 1989: 190; cf. 1964 / 1916: 144.

⁷² Anonymous, 'Language'.

Although most of the species mentioned in this Table are not highlighted in the Nkoya clan context, elephant and beehive are, and the turner element so conspicuous among the Nkoya (Sheta) appears here under a different light. There appears to be considerable South Asian influence among the Nkoya royal families: in those circles, personal names circulate that have no Bantu etymology and that appear to have come straight from the major Indian epic the Mahabharata (e.g. Skanda / Shikanda, and Mangala), there are very many close parallels with Indonesia and in general Buddhist South East Asia (iconographic detail suggests especially a link with South East Asian mainland Buddhist in the 13th century CE) which I have analysed elsewhere and which may well have been passed, on their seaborne way to East Africa, via Ceylon and the Indian coast. Nkoya royal traditions trace their origin to a distant land to the North East, 'Kola', which may well be South or South East Asia; the word tiger in Table 10 is 'kola' in the original Vedic language. There are other indications of a possible direct, overseas link between South Asia and the Nkoya: the worldview and cosmogony of the Munda-speaking peoples on the Gulf of Bengal contains interesting parallels with that of the Nkoya, e.g. in flood and tower stories; these however turn out, on closer scrutiny, to be so widespread that they are hardly reason to suppose that their occurrence among the Nkoya can only attributed to South Asian influence in relatively recent times, i.e. in the early second millennium CE. By and large, I prefer to explain the close parallels between the Nkoya clan nomenclature and the East and South Asian element systems in terms of an Upper Palaeolithic connection through the Back-into-Africa migration, but we need to be aware of a much more recent and direct, seaborne alternative.

Meanwhile we must realise that, in addition to an element system that may date back to the Upper Palaeolithic and have a transcontinental distribution, clan nomenclature in sub-Saharan Africa may also have other sources. For instance, among the Ashanti twelve different clans are distinguished,⁷³ just like in Ancient Israel twelve different tribes were distinguished, and in both cases the underlying systematics appear to be those of the zodiac, which was established in Ancient Mesopotamia in the course of the second millennium BCE, and in the first millennium became a standard model for dividing the ecliptic (the apparent but unmistakable path of the great luminaries Sun and Moon, and of the visible planets Mercury, Venus, Mars, Jupiter and Saturn, across the heavens) in all literate civilisations of the Old World; from the Mediterranean, zodiacal notions penetrated deeply into Africa (cf. Pâques 1964), and no doubt influenced Ashanti social classification.

⁷³ Stricker 1963-1989; Rattray XXXX

4. Exploring the long-range history of the transformative cycle of elements

4.1. Explorations into the Middle Palaeolithic prehistory of the transformative cycle of elements

Can we say something about the oldest forms of the transformative cycle of elements, and estimate their antiquity? We may to a very limited extent, on the basis of the assumption that the transformative cycle of elements has, throughout its history, been used for divination purposes. Insight in the prehistory of divination may give us the answer we are seeking.

Divination is certainly to be included in the increasingly long list of near-universals of the cultures of Anatomically Modern Humans. One plausible argument would claim that a trait's ubiquity in historical times, hence a *de facto* status as cultural universal,⁷⁴ makes it likely that the trait in question found itself among the initial cultural package (for which I have proposed the term 'Pandora's Box'⁷⁵) with which Anatomically Modern Humans trickled out of Africa from 80 ka BP on. This would situate the global origin of divination in sub-Saharan Africa between 80 and 200 ka BP. Possibly even before 200 ka BP, if we give in to a recent trend in palaeoanthropology,⁷⁶ and no longer jealously reserve for Anatomically Modern Humans (i.e., ourselves!) the most highly ranked characteristics (conceptual thought, figurative representation, symbolism, articulate speech, music, navigation skills) but admit the possibility that our humanoid predecessors already may have had a certain share of these traits. Situating divination in Pandora's Box, as a general and early achievement of Anatomically Modern Humans, is also in line with the logocentric nature of divination – i.e. that divination aims at an understanding of the world in terms of explicit statements in articulated language; Anatomically Modern Humans are the only variety of humans that can with certainty be said to have been endowed (although not necessarily throughout the full 200 ka of its existence) with articulate speech as an obvious precondition for logocentricity. We might even suggest that it is not only articulate speech that brought about divination, but also proto-divination that helped to produce articulate speech.

⁷⁴ Cf. Brown 1991, where divination appears in a long list of such proposed universals.

⁷⁵ *Pace* Hesiod, *Opera et Dies*, 42-105, where that container mainly contains disasters.

⁷⁶ Cf. Bednarik 1990, 1992, 1995, 1999; however, cf. the sceptical Chase & Dibble 1992 and d'Errico & Villa's 1998 taphonomic critique. Nonetheless, with regard to more recent, Middle Palaeolithic, e.g. Neanderthaloid, contexts also d'Errico advocates some cultural continuity between Anatomically Modern Humans and their predecessors (d'Errico *et al.* 1989, 1998a, 1998b, 2003). If Anatomically Modern Humans emerged in Africa c. 200 ka BP, with faculties that, though still *in nucleo*, were in principle to be continuous with those of their Upper Palaeolithic descendants inside and outside Africa, then of course many relatively sophisticated artefacts produced by Anatomically Modern Humans would have to be counted as Middle Palaeolithic or older, and – also for the prehistory of divination – the Upper Palaeolithic would scarcely represent the break it used to only a one or two decades ago. A case in point is the famous South African Blombos Cave red ochre block (70 ka BP), with complex engraved geometric line patterns (e.g. d'Errico *et al.* 2003).

We have to admit that we have virtually no direct and unequivocal evidence of Palaeolithic divination. However, recent reconstructions in the field of comparative mythology may allow us a glimpse of the oldest history of the transformative cycle of elements (Table 11).

Table 11. The divinatory significance of the reconstructed mythological contents of Pandora's Box, Africa, 80 ka BP

Narrative Complex (nuclear mytheme) (no.) reconstructed to have been in Pandora's Box	possible use of this mytheme in Middle and Upper Palaeolithic proto-divination as suggested by divinatory patterns in historical times	element in transformational cycle
The Lightning Bird (and the World Egg)	lightning as omen fowl as divinatory animals	aether; fire
The stones (as earth; in the Late Palaeolithic / proto-Neolithic revised as the stones as connection between heaven and earth)	psephomancy (divination by pebbles)	earth; aether; metal (e.g. sidereal iron)
The Moon	moon as omen proto-astrology	
The Earth as primary (10 was subsequently revised towards cattle, in the Neolithic)	earth omens proto-geomancy	earth
From under the Tree (subsequently diversified into 12a 'The world and humanity from the tree', and 12c 'the leg-child')	cleromancy with wooden tablets etc.	wood
The Cosmic / Rainbow Snake	snake as divinatory animal, snake omens; confusion with earth possible because of homonymy	aether; earth
The Spider (subsequent transformed into 'the feminine arts' in proto-Neolithic times)	spider as omen and divinatory animal	

Unexpected indications concerning Palaeolithic divination in the African continent come to light when we manage to plausibly reconstruct some of the mythological contents of Pandora's Box (van Binsbergen 2006a, 2006b). Starting with a sample of African cosmogonic myths recorded in historical times, a distributional argument comparing the mythemic nuclei ('Narrative Complexes'), the reconstruction method is a form of distributional triangulation, and has so far been executed and written up entirely without any reference to divination. If a trait occurs in sub-Saharan Africa, New Guinea, Australia, it is likely to have found itself in Pandora's Box, because for reasons of ecological adaptation Anatomically Modern Humans, in their first sally out of Africa, c. 80 ka BP, kept following the Indian Ocean shore and thus reached New Guinea and Australia, but were trapped there without yet populating the other continents – which had to wait till the second sally, c. 20 ka later. The investigation of divination among the aboriginal population of New Guinea, Australia and the Andaman Islands is highly strategic for any argument on of Palaeolithic divination, yet falls outside our present scope. Meanwhile Table 1 suggests that divinatory patterns as recorded in historical times so unmistakably echo the specific contents of Pandora's Box, at the onset of the Middle Palaeolithic, that we may be justified to link the two moments in time, and thus acquire an impression of a surprisingly rich divina-

tory life in the Middle to Upper Palaeolithic, in Africa as well as in other continents where Anatomically Modern Humans gradually took the, divinatorily-relevant, contents of Pandora's Box.

We may even go one step further and suggest that the cosmological classification systems which exerted a major influence upon literate divination systems of post-Neolithic period (e.g. the Taoist five-phase classification in East Asia (Needham c.s. 1956: 五行 *wǔ xíng*, 'five phases'); or the Greek four-element classification of Empedocles (cf. Leonard 1908), with great influence on Hellenistic, South Asian and Islamic astrology) already had detectable roots in Pandora's Box, 75 ka earlier – and therefore could be argued to have played a role in divination, both in Africa and in Asia and the New World, during the Middle and Upper Palaeolithic.⁷⁷

All considered, the case for Upper Palaeolithic divination is theoretically quite plausible, but remains empirically thin – the only truly convincing case being two engraved bones from the Remouchamps caves in Belgium (Dewez 1974), whose detailed discussion is outside our present scope (cf. van Binsbergen 2008). We have to proceed to the Neolithic period, less than 14 ka BP, in order to find archaeological evidence whose interpretation in terms of divination is likely to stand up to further scrutiny: the Early Neolithic of South Eastern Anatolia (from c. 14 ka BP) including the once prototypical Çatal Hüyük (now supplanted by much older finds in the region);⁷⁸ and China towards the end of the Neolithic.⁷⁹ To this we may add, in general, the claims of Early Neolithic proto-writing as referred to above, having reviewed its likely divinatory connotations.

4.2. Between Upper-Palaeolithic Borean and the Late Bronze Age: Connections of the transformative cycle of elements in space and time

There are many indications (Chinese counting rods, Indo-Iranian *barsamen* i.e. sacred twig bundles, Latinic *fasces*, Teutonic and Latinic divination tablets as reported by Tacitus and Cicero, – perhaps even the Maya numerical system in Meso America, likewise based on unbroken lines and dots) that in the Upper Palaeolithic in Central or West Asia⁸⁰ wooden sticks were considered epiphanies of the supernatural, and were used for divination. It stands to reason to look here for the prototypes of the tablets used in the Southern African four-tablet oracle and of many other types of artefacts used in African cleromantic divination. Some of these are likely to have come to the African continent in the context of the Back-into-Africa migration (perhaps in an

⁷⁷ The only major 'element' missing out in Table 1 is *water*. On distributional grounds (notably, consistent association of flood myths with groups characterised by mtDNA Type B, which emerged in Central Asia c. 30 ka BP), I have situated the emergence of a water-centred Narrative Complex (flood myths!) much later than Pandora's Box (van Binsbergen 2006b), but perhaps the systematics of Table 1 will bring us to reconsider such an argument now.

⁷⁸ Hodder 2007: 111, by analogy with belaboured skulls from Neolithic Palestine.

⁷⁹ Nai 1963; Li *et al.* 2003.

⁸⁰ When the ancestors of the later proto-Khoi-San, proto-Niger-Congo, proto-Denē-Sino-Caucasian, and proto-Nostratic/Eurasianic speakers, and their languages and cultures, may be surmised to have displayed considerable communalities as relatively recent offshoots of *Borean, see next paragraph.

extended Eurasiatic/Nostratic context conducive to the use of 2ⁿ as a standard format for divination); others may have had a much older history on African soil, relegating to the (totally unattested) earliest form of divination such as could be argued to have formed part of Pandora’s Box.

In all probability this numerical basis of 2ⁿ is very old indeed and fundamental to counting and divining throughout the Old World. The only numerals that could be reconstructed for *Borean, are 2, 4 and 8. For these, *Borean has several distinct lexical items, one of which, *HVNLV,⁸¹ even stands for all three of these powers of 2:

Hence (Dolgopolski n.d.) proto-Uralic *neljä (*neljä) ‘4’ to be found in Finnish, Hungarian etc., (cf. also Ugric *nalV ‘eight’); Proto-Dravidian: *nāl-, ‘4’; Proto-Sino-Caucasian: *=VnŁe, ‘2, 4, 8’ (found in proto-North Caucasian *būnŁ_e (~-a), proto-Sino-Tibetan *lij (p-), proto-Burushaski *alto and proto-Basque *lau); and in proto-Austriac: *ʔaʔli ‘two, half’; Proto-Austronesian *walu ‘eight’; cf. Tower of Babel 2005, where for individual language families further references are given.

Table 12 gives the data for Borean, and suggests that the overall picture may also be extended to African languages, at least to Bantu.

Table 12. Numerals in *proto-Bantu as compared to *Borean

*Borean	meaning	*proto-Bantu as compared to *Borean	
		Guthrie (1967-1971)	Meeussen (1980)
HVCV	one		
HVRV	one		
HVTV	one		
SVMV ?	one	-mÓ	-moi
TVKV	one, finger		-pókó (?)
HVNNV	one, self		
CVNV	two		
CVRV	two		
TVWV	two	-bàdĚ	-bidi
HVNLV	two / four / eight	-nĚĚ= 4 (?) -náána = 8 (?)	-/nai= 4 (?)
MVLV	two, get in pairs, pair > two		
JVRV	two, pair		
KVKTV	two, pair, one of a pair		
HVMKV	four		

A question mark indicates that the proposed Bantu derivation from *Borean exceptionally uncertain.

The emphasis on four and foursomes, in Upper Palaeolithic *Borean, as well as in North America and sub-Saharan Africa in historical times, contrasts strikingly with the very conspicuous, ‘Dumézilian’ emphasis on cosmological and mythological threesomes / triads throughout the Ancient Near East (including Egypt), South Asia, and Europe, in proto-historical and historical times. *The triadic format therefore stands out as a regional Neolithic innovation*, underneath of which apparently much older dyadic formats persist, for instance such as inform the Ancient Egyptian Her-mopolitan cosmology, the Empedoclean element system of Greek Antiquity, etc. In

⁸¹ Where V is an unspecified vowel, but H, N and L have their usual consonantal value.

their present form, African 2ⁿ-based divination systems (*Hakata, Ifa, Sikidy*) unmistakably have *one major, recent* background in the South West Asian divination system *ilm al-raml*, whose astrological overtones inevitably were informed by Hellenistic, ultimately Ancient Near Eastern astral divination where triadic transformations – groups of three zodiacal signs called *triplicities* – of elemental foursomes (!) play a considerable role (Bouché-Leclercq 1879; Tester 1987), each again with three specific planets as astrological ‘rulers’. More important however seems to be that, in a longer time perspective, *ilm al-raml* in turn was informed by, or has a common origin with, the East Asian divination of *yi jīng*, and that both, along with the African 2ⁿ-based systems, appear to continue an Upper Palaeolithic Old World standard pattern. One can hardly overestimate the revolution that a triadic system constitutes as compared to a classification system based on powers of 2 and therefore on recursion: whereas recursion reproduces, fractal-wise, the same set of relationship over and over again at an ever increasing or decreasing scale, triads introduce the Heraclitan / Hegelian dynamics of dialectics, where the relationship between each two components is essentially shifting and unstable, and informed by the third component; on a formal logical level one can very well understand why a cultural setting dominated by triads has become, from the Neolithic onward, the main growth region for the revolutionary package of writing–state–organised religion–(proto-)science.

4.3. Trying to identify the cradle of the Old World transformative cycle of elements on the basis of the nomenclature of the *pa gua* (eight trigrams)

One may also approach the reconstruction of the Upper Palaeolithic transformation cycle in a different manner: by starting with *yi jīng*, and tracing the antecedents of the names of its trigrams to Borean. The data are presented in the following Table 13:

Table 13. Tentatively proposed etymologies of the names of the 八卦 *pa gua* (eight trigrams)

	1	2	3	4	5	6	7	8
Trigram Figure	☰ (☰)	☱ (☱)	☲ (☲)	☳ (☳)	☴ (☴)	☵ (☵)	☶ (☶)	☷ (☷)
Binary Value	111	110	101	100	011	010	001	000
Translation: Wilhelm, others	the Creative, Force	the Joyous, Open	the Clinging, Radiance	the Arousing, Shake	the Gentle, Ground	the Abysmal, Gorge	Keeping Still, Bound	the Receptive, Field
Image in Nature	heaven, aether (天)	swamp, marsh (澤)	fire (火)	Thunder (雷)	wind (風), wood	water (水)	mountain (山)	earth (地)
Name	乾 qián	兌 duì	離 lí	震 zhèn	巽 xùn	坎 kǎn	艮 gèn	坤 kūn
Karlgren code	0140 c	0324 a-c	0023 f	0455 s	0433 a	0624 d	0416 a	
Preclassic Old Chinese:	ghar kār	Ł(h)ōts;	raj	tərs		khōm?		
Chinese	be creative	to open	be	to shake	to	pit; bury	refrac-	

meaning according to Tower of Babel		a passage through, clear	separated		concede; compliant, soft; modest	in a pit; be sounding kan-kan	tory, obstinate, resist	
comments on Chinese	a)	b)	c)	d)		e)		
Proto-Sino-Tibetan:	*kār, 'dry' f)		*raļ, divide, be separated g)	*t[i]r (~ d-), 'shake, shiver' h)		*kh ^w ēmH		
Borean	KVRV, 'dry'			TVRV, 'to shake'				
Eurasianic	*kVjwV(rV), notably: Altaic: *k'i□ōbarV (~ -jū-); Uralic: *kujwa Khanty (Ostyak): kōjəm- (V), xōjəm- (DN Kaz.) 'fallen, sich vermindern (vom Wasser)' ? ; Chukchee-Kamchatkan: *kьгүъ- (also *kьffa-t-?)			*dVrV, 'to tremble', notably Indo-European: *dhreugh- (BS) Altaic: *dēru (~ -f-) Uralic: *tarV-, *tarkV 'tremble, shake' Dravidian: *tir-i-References: ND 566 *daRugV 'to tremble, shake' (with a very dubious Arab. parallel);				
Afroasiatic :	*kVr-, notably Semitic: *kVr- 'drying' Berber: *k ^w ar- 'be dry' Central Chadic: *kiwir- 'dry season' East Chadic: *kar- 'to make dry (cereals, land)' Low East Cushitic: *kar- 'dry'							
Sino-Caucasian :	*=ixG(w)Ar, notably North Caucasian: *iG_wAr Sino-Tibetan: *kār Yenisseian: *qo(?)r1- (~-l-) Burushaski: *qhar- Basque: *agor□			*dVrV□, 'to shake', notably Sino-Tibetan: *t[i]r (~ d-) Yenisseian: *-tV(?)r		*gñwāmd V 'hole, pit' i)		
Austric				Proto-Austronesian *eter, *terter 'shake, vibrate, tremble'. J)				
African (misc.) :	Bantu *-kàd- 'dry up'.							

*Notes to this table:*⁸²

a) Sch.[identify this name] : ‘perhaps: be associated with the forces of Heaven’. OC [Old Chinese] *ghar is also used as the name for the 1st hexagram in Yijing (‘Heaven’). MC [Middle Chinese] gen is not quite regular in this series (one would rather expect MC gən). For *gh- cf. Xiamen khian2, Chaozhou khieŋ2, Fuzhou khieŋ2. Another frequent (and archaic) reading of the character is OC [Old Chinese] *kār, MC ka^n [FQ 古寒], Mand. [Mandarin] gān ‘to be dry’ - whence, possibly, Viet. [Vietnamese] cạn ‘dry, shallow; on land, on shore’ (although the tone is rather strange and a chance coincidence is not excluded); khan ‘hoarse, husky, raucous; anhydrous’. Note that regular Sino-Viet. for MC ka^n is can.

b) Also read *λ(h)ōts (MC thwa^j, Pek. tui) id.; *Ł(h)ōts ‘glad’ (LZ).

c) Also used for homonymous words: *raj ‘to fasten in a net, get tangled, caught in a net’ (obviously related to 羅 *rāj ‘bird-net’, 籬 *raj ‘hedge’; sometimes written with another character, 罹 - which, however, has also a metaphorical meaning ‘trouble, anxiety, sorrow’ < ‘drag into, involve’); *raj ‘be hanging down’; in the die-sheng 流離 *ru-raj ‘horned owl’. For OC *r cf. Min forms: Xiamen, Chaozhou li2, Fuzhou lie2. There also exists a qu-sheng reading *raj-s, MC lè (FQ 力智) ‘to separate’. Regular Sino-Viet. is ly. Viet. also has rò‘i ‘be separated, separate’ - probably a more archaic loan from the same source.

d) Sag. 51 (Chin.-AN).

e) Chinese: 坎 *khəm?, 垠 *khəm? pit.

Tibetan: gjam a shelter, a grotto.

Lushai: kōm a hollow in the ground, kuam a valley, a hollow, a depression.

Comments: Possibly two roots, but hard to distinguish from each other.

f) Chinese: 乾 *kār dry (cf. also 旱 *ghān? drought, dry).

Burmese: kanh to dry up, kxanh to be dried up, exhausted as liquid.

Kachin: ka2 be dried up (?).

Comments: Mat. [expand] 180; Luce [expand] 52. Loss of final consonant in Jnp. is not clear (Matisoff [expand] cites the form as kan2, which is probably Jnp. [expand] kan2 coagulated, see *kān). Cf. also Gurung *khar, Kaike khar-pa, Rourou ka.44, Bugun gau ‘dry’.

g) Burmese: hrajh to make an opening through a crowd by dispersing and scattering on both sides; to part forever

Kachin: gəran3 to divide, distribute, (H) məran, pəran to separate, ran be apart, separated.

Lushai: rel? to escape, steal with away (cf. also rāl from a distance, rol go into seclusion into jungle).

h) Chinese: 震 *tərs shake; fear; clap of thunder.

Tibetan: ādar to tremble, shiver, quake.

Burmese: tun to tremble, shake, shiver, fear.

Lepcha: tir, tjir, tjār to move, to shake, to curl, as in contempt; to shake, as earth, house

i) North Caucasian: *gfwǎndV (~ -ě-, -ǎ-)

Sino-Tibetan: *kh^wəmH

Yenisseian: *kəʔd- (~g-, -ǰ-, -ǎ-))

Comments and references : Cf. *gwV□ŋtV. [For ST[Sino-Tibetan] cf. rather Bur. [Burushaski] qam / qom ‘hole, cave, grave’]

j) Proto-Austic: *tVr

Meaning: shake

Proto-Austroasiatic: *tVr

Austroasiatic meaning: tremble

Proto-Austronesian: *eter, *terter

Austronesian meaning: ‘shake, vibrate, tremble’

References: Peiros 1989

It turns out that most of the names of the eight trigrams are locally Sino-Tibetan and are remarkably isolated in the etymological sense. The names for the first and the

⁸² Sources: Starostin & Starostin 1998-2008, ‘Long-range etymologies’ and ‘Sino-Tibetan etymologies’.

fourth trigram, however, have a very wide cognates and deep antecedents, and may well reveal something of a constant cosmological schema that could also have been found in the postulated Upper Palaeolithic transformation cycle.

In my first extensive treatment of the transcontinental connections of geomancies and *mankala* board games (van Binsbergen 1997), written when I was barely aware of such long-range approaches in linguistics, genetics, archaeology, mythology and ethnography as were then already gaining momentum, nor of the attending methodologies, I was impressed by the Sinologist's Martin Bernal's suggestion (personal communication) that 坤 *kūn*, the eighth trigram ䷁ in *yi jīng*, commonly interpreted as 'the receptive field, the earth', had no Sino-Tibetan etymology and might be connected with Ancient Greek *χθών khthōn*, likewise meaning 'earth', thus conveying the suggestion of a non-Chinese, possibly Indo-European origin of the *yi jīng* system (cf. Tokharian A and B as far eastern extensions of the Indo-European language family). In this connection we should also mention that, whereas *yi jīng* is 2ⁿ-based, the dominant Chinese (Taoist) doctrine of elements recognised not four but five elements), which therefore suggests that the 2ⁿ-based system is either alien or very ancient and supplanted in historical times.

With state-of-the-art long-range linguistics, we now have the tools available to check Bernal's suggestion, and it proves most valuable. According to the authoritative Tower of Babel etymological database,⁸³ the eight trigram names with the exception of 乾 *qián* ('the creative, heaven') and 震 *zhèn* ('the arousing, thunder') have no etymologies beyond the Sino-Tibetan realm, and as many as four (notably: 兌 *duì* 'the joyous, swamp', 巽 *xùn* 'the gentle, wind, wood', 艮 *gèn* 'keeping still, mountain' and 坤 *kūn*) lack even a proto-Sino-Tibetan etymology. On the other hand, Greek *khthōn* derives⁸⁴ from Proto-Indo-European: *dg'hem-, 'earth' (hardly distinguishable from *g'hem-, 'snake', which is mythologically very significant!). Of the many transformations of this etymon in Indo-European languages only Hittite: *tekan*, *taknas* 'earth', *dagan*, *tagan-* 'down, on the ground' (Friedrich 1932: 204, 220), and Greek *khthōn* come anywhere near Chinese *kūn*, whereas the geographically best qualified languages, Tokharian A and B, remain at a greater distance with A *tkam* B *kem* (Adams 1999: 192; note the n / m problem).

This lends credibility to Bernal's suggestion, but also creates further puzzles. If *kūn*, and perhaps some of the other trigram names, constitute Anatolian linguistics elements, was it because the trigrams originated in West Asia and from there diffused to East Asia; or was these language's original home much more to the East? Before Hrozný's decipherment of Hittite established the Indo-European nature of that language, its speakers were commonly regarded as 'Turanic', and even as downright Chinese, especially in circles of Biblical studies. Movement back and forth across the Asian steppe along an East-West axis has a very long history, and intensified even greatly after the invention of the chariot. Both the Tocharian language and the recently found Tarim mummies suggest that exchanges (both linguistic, and cultural)

⁸³ With Sino-Tibetan etymology, and treatment of Chinese characters, compiled by the lamented Sergei Starostin; cf. Starostin & Starostin 1998-2008.

⁸⁴ Cf. Pokorny 1959-69: I 662 f; Buck 1949: 16.

between Indo-European and Sino-Tibetan may have taken place far east on the steppe. On the other hand, the comparative linguist Karst (1931) suggested – albeit on the basis of far too modern Chinese language forms – that the realm of Sino-Tibetan may have extended into West Asia in the Bronze Age – thus foreshadowing later more systematic explorations into the continuities between Basque, Caucasian languages, Sino-Tibetan, and Na-Denē. In addition to exchanges in a contact area where the two languages groups and their distinctive cultures more or less share a habitat, we may reckon with the simple displacement of people, linguistic elements, and ideas across the great distances of the steppe. Needham & Ling’s path-breaking study (1961 / 1954) gives a long list of East-West technological and intellectual exchanges. In the preceding decades there had been a tendency, partly based on now obsolete paradigms (including pan-Babylonism), but partly also inspired by a long-range awareness which was to become increasingly counter-paradigmatic in the course of the 20th century CE, to see astronomical and astrological knowledge as travelling West-East in (proto-) historical times, i.e. from West Asia to China, by long-range spatial transfer.⁸⁵

Theoretically it is conceivable that both Chinese *kūn* and the superficially similar Greek and Hittite forms derive not from one another but from a common ancestral form. This however turns out not to be the case: there is undoubtedly a genetic relationship, but it cannot have produced *kūn* in the Sino-Tibetan context:

The etymology of the Indo-European words in question is not controversial: via proto-Indo-European *dg’hem- or *dhǵhem- ‘earth’ they derive from Eurasiatic: *DVG- ‘earth’, which has also yielded proto-Altaic: *t’āgo [+ Tungus-Manchu *tuka(la)?] (‘dirt (dust, clay; no reflexes in Japanese); Kartvelian: *diq- - (‘clay, earth’); Dravidian: *TūK- (‘earth’); and Eskimo-Aleut: *taŋŋə- (~ -ŋŋ-) ? (‘black’) (cf. Illich 1967: 342, 1971-1981: I, 220; Dolgopolski n.d.: 551, 2331, 2347. Ultimately Eurasiatic *DVG- derives from Borean (approx.): *TVKV ‘earth’, which appears in other linguistic (macro-) families as follows. *proto-Afroasiatic*: daḳʷ- ‘clay’; *proto-Sino-Caucasian* *[t]VQV, whence – Starostin 1989 – proto-Sino-Tibetan: *dhək ‘clay, mire’ (with Chinese: 埴 *dhək, *thəks ‘clay, clayey’ – not even remotely reminiscent of 坤 kūn, proto-Tibetan: ādag ‘clay; cleaving, adhering’, proto-Lushai: diak ‘mud, mire’), proto-Yenisseian: *təq- , proto-Burushaski: *toq; *Austriac*: Proto Austronesian *bitak, *-tak, *litek ‘mud; earth, ground’, ?, Proto Austroasiatic *tVk ‘sticky’; *Amerind* (misc.): *tVk- ‘dirt’; *African* (misc.): Bantu *-tākà ‘soil’; cf. (Illich-Svitych 1965: 342; Bengtson & Ruhlen 1994: 42).

All this means that Bernal’s long shot appears to be surprisingly well-aimed. It would constitute a project in comparative historical linguistics in its own right to ascertain whether the remaining three apparently exotic trigram names, *duì*, *xùn*, and *gèn*, could likewise be argued to have an Anatolian/Greek background. Meanwhile, we may

⁸⁵ Terrien de Lacouperie 1882, 1888 – specifically claiming a Mesopotamian origin for *yi jīng*, but contested by Legge 1891/ 1988: xix; Warrington Eastlake 1880, making a similar claim; Kugler 1900: 79f; Bezold 1919 (surprisingly sophisticated and apparently little dated); Ungnad 1932-. Ancient Sumerians identified as ‘blackheaded people’ (Kramer 1959: 72 and *passim*), but so has (for better or worse) the classic Chinese expression 黎民 *lí mín* often been translated, as basis for a debate on Chinese-West Asian continuities that has been waged since the times of G. Schlegel (second half 19th c. CE), and that has acquired Afrocentrist overtones in recent decades with the work of Clyde Winters. Archaeologically, the continuity between West Asia and China in Neolithic times in terms of ceramics, food production (agricultural implements, names of domestic animals) and weaponry was found to be remarkable, perhaps with an overall tendency towards West-East movement.

safely assume that at least one of the eight trigram names, *kūn*, has an Anatolian/Greek language origin, which also allows us to date that name to 2nd-3rd millennium BCE. Remarkably, the traditional Chinese account of the origin of the trigrams has been that the legendary ruler / culture hero 伏羲 Fu Xi, mythically dated at the early 3rd millennium BCE, spotted them on the back of a mythical animal (dragon-horse or turtle) emerging from the River Luò 洛河, with which also the invention of the *luò shū* magic square is connected. Conventionally depicted as wearing a leopard skin and/or deer skin, the character of Fu Xi not only has shamanic and steppe connotations but is especially continuous with iconographic patterns attested in Neolithic Anatolia,⁸⁶ classical Greece,⁸⁷ and, not unrelated (Vandenbroeck 2000), in the Neolithic Sahara, where likewise leopard skin clothing has been depicted (Breuil *et al.* 1954), and where an apparent proto-script largely built of horizontal lines and dots has been attested, i.e. reminiscent of geomantic notation (Lhote 1954). The Anatolian / Black Sea region has long been recognised as exceptionally innovative, among the earliest regions of Neolithic domestication of crops and animals and of metallurgy, and arguably the homeland of at least one major language family (Indo-European) while skirting the Sino-Caucasian and the Afro-Asiatic distribution areas, and a major region for the innovation and subsequent diffusion of mythical materials e.g. flood myths. I think we have found serious indications that it was also in the Anatolia / Black Sea region, in Neolithic times, that the very ancient heritage of a 2ⁿ based counting, classification and divinatory system came to be greatly developed and formalised into a proto-geomantic system. The latter subsequently found its way to China as *yi jīng*, to Mesopotamia in ^cAbassid times where (most probably under further Chinese feedback) it became ^c*ilm al-raml*, and also to North and sub-Saharan Africa: certainly after 1,000 CE as a form of diffusion of the then recently formulated ^c*ilm al-raml*, but possibly (and this would accommodate Afrocentrist insistence that geomancy is not a recent import but is genuinely at home in Africa) already several millennia earlier; after all, the classic formulation of ^c*ilm al-raml* is by *shaykh* محمد أَلزَّنَاتِي Muḥammad al-Zanātī (c. 1200 CE),⁸⁸ whose Berber name just might suggest that he formalised a system already in use in the Saharan environment where it is still widely attested.⁸⁹

⁸⁶ A case in point is the famous site of Çatal Hüyük; Mellaart 1967; Kammerzell 1994.

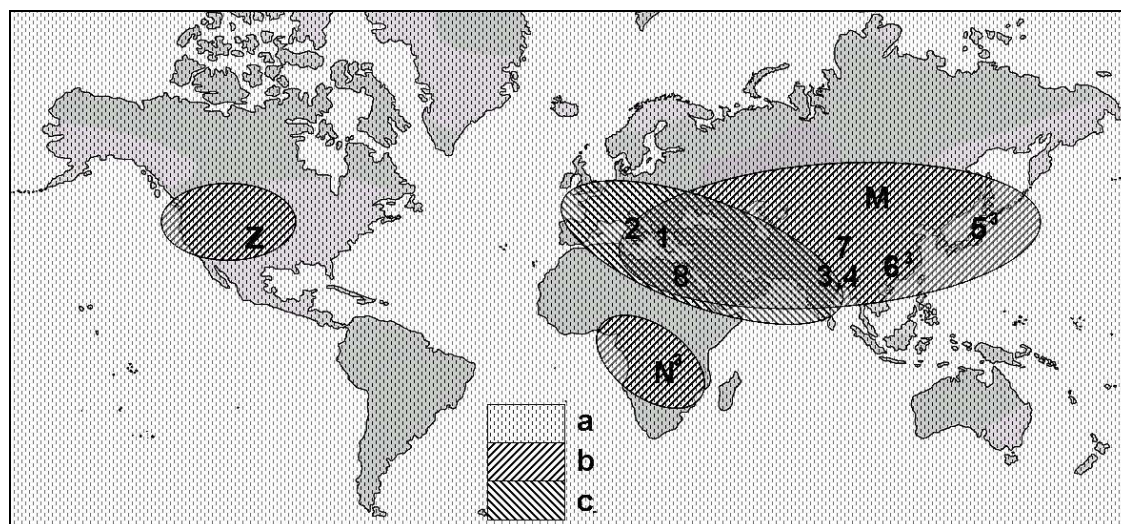
⁸⁷ Dionysus was mythically associated with long-range eastward expansion, and his manifold leopard connotations seem to reappear in the military ranks and the adornment of the Chinese Emperor's chariot.

⁸⁸ Cf. al-Zanātī 1923.

⁸⁹ However, like several other North African groups the Zanata tribe is known for its extensive Jewish influence, and Zanati may simply have relied on Hebrew geomancies, such as have been in existence at least since Ibn Ezra אֲבֵן עֲזָרָא (1092/3–1167 CE) – his geomancy was found at the famous Cairo *geniza*), as unmistakable emulations of Arabic prototypes.

4.4. An overview of the diachronic varieties of the transformative cycle of elements in their global distribution

Fig. 8. Diachronic varieties of the transformative cycle of elements in their global distribution



a. Putative substrate original transformative cycle dating back to the Upper Palaeolithic and even to some extent to the Palaeolithic Africa of before the Out of Africa Exodus (80-60 ka BP)

b. Well-attested transformative cycles with a limited number of elements (³ = triadic system with catalyst)⁹⁰

1 Greek; 2 Latin; 3 Hindu and Buddhist ; 4 Seven Chakras philosophy (combining Hindu and Buddhist themes); 5 Japanese: Godai; 6 Chinese Wu Xing; 7 Bön; 8 Ancient Egypt.

c. The no-longer-transformative, rigid four element system of Late Antiquity, medieval Western Eurasia, and Early Modern times

M = Mongolians; N = Nkoya; Z = Zuñi;

The affinity between East Asia (China, Japan), on the one hand, and South Central Africa, on the other, is striking: these are the only instances where a catalytic transformative cycle has been attested so far. Assuming regional continuity between China and Japan, it is the African case that is puzzling. We cannot directly attribute it to transcontinental continuities in the face of the disintegration of Borean: granted that Japanese (< Altaic < Eurasiatic), Chinese (< Sino-Tibetan < Sino-Caucasian) and even (according to my own reconstructions, but also on the authority of Kaiser & Sheveroshkin 1988) Bantu (< Niger-Congo <? Eurasiatic) are branches of Borean, with their respective macro-phyla displaying from 27% (Bantu) to over 80% (Eurasiatic) of the 1153 reconstructed Borean roots in their proto-vocabulary, but in all likelihood the catalytic system is only a relatively recent elaboration, only a few millennia old, and cannot go back all the way to Borean. Around the turn of the millennium, when I was only beginning to perceive, still very dimly, the transcontinental continuities which dominate the present argument and much of my other recent work, I was struck by a similar rapprochement between East Asia and Sub-Saharan Africa in the field of formal cultural systems. On the basis of the assumption that the formal systems of, mainly animal, symbolism underlying astronomical classifications, divi-

⁹⁰ My interpretation of the Japanese transformative cycle as catalytic is so far only based on my reading of Izanami's plight, in the final section of this argument.

nation systems, clan systems, and toponymical systems (notably the nomenclature of the Ancient Egyptian *nomes*) might have enough in common to treat them as belonging to one corpus whose internal patterns of coherence could be subjected to statistical cluster analysis, I found already close affinity between the Nkoya clan nomenclature (and other African systems of animal symbolism), on the one hand, and the Chinese zodiac and Chinese lunar mansions, on the other hand – whereas Ancient Egyptian, Ancient Mesopotamian and Ancient Greek series of animal symbolism (astronomical, topographical and as attributes of gods) turned out to cluster only at much greater distances from each other and from the African and Chinese material.⁹¹

4.5. Global connectivities in the transformative cycle of elements: Discussion

Having taken brief glances at these various instances from all over the world, we are ready to argue their historical connectivity against a broad canvass informed by state-of-the-art long-range genetics, linguistics, comparative mythology and comparative ethnography.

4.5.1. Long-range connectivities

The distributional ramifications of this widespread transformative cosmology, as well as etymological research of the *yi jīng* terminology, suggest that, far from residing in the innate universal structure of the human mind, this transformative system has a distinct and traceable history going back to Late Neolithic or Early Bronze Age West Asia, ca. fourth mill. BCE⁹² – in a context probably closely related to early metallurgy. From there it was readily communicated towards Central and East Asia on the spur of dramatically increased communications with the Central Asian invention of the chariot (Kazakhstan, 2000 BCE), with the Scythian-Korean-Japanese connecting ensuring that the system ended up in Japan as well as in Shang China (implying therefore that, contrary to popular belief, the system is not indigenous in China).

⁹¹ Van Binsbergen 2002. At the time, I was so enamoured with Afrocentricity that I could not think of a better explanation than a common, African origin for all these systems, which then would have to be situated in the Middle Palaeolithic. I am now aware that the catalytic system is relatively advanced and can only be a few millennia old, so that, next to the Borean hypothesis, we have to reject the overall ‘Back-into-Africa’ movement from Central to West Africa, from c. 15 ka BP on, as an explanation. I would now be inclined to explain the East Asian / South Central African affinity by reference to the cross-model, assuming a West (possibly Central) Asian epicentre in the Early to Middle Bronze Age, with chariot technology as the main vehicle of spread both East and South. However, it certainly remains possible that the influence is even much more recent, and goes back on an overseas influx of Chinese, Korean or Japanese cultural influence on the East African coast during the first or second millennium CE. I can clearly see such influence from Indonesia and mainland South East Asia (cf. Kent 1970; Oppenheimer 1998; Dick-Read 2005; van Binsbergen in press [Sunda] and in preparation b;). The affirmation of Chinese influence on Africa has been the subject of numerous studies (e.g. Duyvendak 1949; Snow 1988; Li Anshan 2000), and the circulation of material objects and forms of symbolism reminiscent of East Asian specifically Taoist divination (divining tablets, numerical symbolism, divining bowls etc., see another footnote) makes it quite conceivable that such relatively recent East Asian influence resulted in the South Central African clan nomenclature as a catalytic transformative cycle of elements in disguise.

⁹² The evidence for this surprising statement will be discussed in the next few sections.


Much through the same mechanism, it spilled over into (parts of now Bantu-speaking) sub-Saharan Africa from the Late Bronze Age Mediterranean (van Binsbergen 2008 and in press b); and into the New World through the trickle of transcontinental migrations which recent research⁹³ has brought to light for periods long *after* a major wave of peopling the Americas via the Bering Strait route was effected.

4.5.2. The ‘cross-model’ of Old-World distributions

Largely due to the proto-globalising effect of chariot technology all over the Old World, the distribution of many cultural traits now can be seen to follow what I propose to call a ‘cross-model’, with ideally attestations (which of course are not always available for all five regions) in West Asia (the centre of the cross), the Celtic world (the cross’ Western extension), the Uralic world (the cross’ Northern extension), the Scythian world / Korea / Japan / Taiwan (the cross’ Eastern extension), and in selected sub-Saharan African situations e.g. among the Nkoya people of Zambia (van Binsbergen 1992, 2008). Apart from the transformative cycle of elements, examples of such ‘cross-model’ traits are, among many others:

- the skull complex particularly the drinking from slain enemies’ skulls (although not attested – so far – for the Celtic world and West Asia);
- circumcision (although not attested – so far – in the Celtic and the Uralic world, and for East Asia only in Korea – in the case of circumcision we see that a ‘cross-model’ trait can continue its expansion beyond the cross, here notably in the direction of South East Asia and Oceania
- the literary/mythical theme of deadly rivalry between a ruler and that ruler’s sibling – so far I have not been able to attest this trait in the Uralic world, but it occurs in all four other regions of the cross, particularly also in Japan (the Susanowo-Amaterasu conflict); a cognate theme, with rather the same distribution, is that of an artificial woman constructed to inflict harm, and deployed as a weapon in this rivalry.
- The cosmogonic theme of a world origin in an original reed clump, encountered in our Japanese texts, and also in Uralic, Ancient Egyptian,⁹⁴ and African (Nkoya,⁹⁵ Zulu) cosmogonies.

⁹³ Cf. Jett 2002.

⁹⁴ Also cf. the Egyptian royal titlature: nswt-bꜣt , ‘The One of the Reed and the Bee’ – to be preferred over the usual ‘Him of...’ since whatever gender is specified her, would be feminine. Is there a link between the Egyptian pair ‘reed’ and ‘bee’, and the Japanese first generation of gods, featuring heaven (with which the bee and other flying insets were associated in the Ancient Near East because of their flying, and especially because of the glittering effects of their wings in the sun light – Draffkorn Kilmer 1987), an intermediate god (Egyptian Shu? cf. Sumerian Enki, ‘Lord Air’), and earth represented by [chrs] Umashi-ashi-kabi-hiko-ji, or ‘Hikoji no Mikoto’ sweet reed-shoot prince elder? That would cast some light on the much debated by still mysterious Egyptian titlature. Incidentally, Japan is traditionally named, in what is reputed to be a sinising manner, ‘the Central Reed-Plain Land’.

⁹⁵ Much to my surprise, the god [chrs] Umashi-ashi-kabi-hiko-ji, or ‘Hikoji no Mikoto’ sweet reed-shoot prince elder, of the first generation of gods in *Nihongi*, has a literal counterpart in the primal Nkoya mythical character Katete ‘Reed Person’, one of a pair of siblings of complementary gender; cf. van Binsbergen 1992. Although I have no explanation for it except premature and rapidly mounting senility on my part, some of the passages of *Nihongi* read like a literal translation of the Nkoya traditional history in Likota Iya Bankoya, e.g.:

- The simple hunting implement known as the spiked wheel trap

But many more examples could be given (cf. van Binsbergen & Woudhuizen, in press). These connections are no longer fantasies of diffusionists or New Age adepts, but solid empirical facts. They form the empirical basis on which the comparative study of Japanese myth may be undertaken, in a bid to bring out, not just formal East-West correspondences of cultural phenomena that yet remain fundamentally unrelated, but genuine, genetic historical connections going back to a common origin followed by millennia of proto-globalised cultural exchange.

5. Implications of the scholarly affirmation of a wide-spread, proto-historic transformative system

Let us finally consider what the scholarly affirmation of this immensely widespread and seminal, proto-historic transformative system means:

5.1. A further corrective of now rapidly obsolescent, Eurocentric views of the history of human thought and science⁹⁶

The Pre-Socratics' search, in the middle of the first millennium BCE, for the *prima materia* was throughout the history of Western thought, and especially during the past two centuries, acclaimed by Western historians of science as the very beginning of philosophy and rational thought. Now we can perceive how their search, however fruitful ultimately in some of its results, in the first place appeared to be based on the total miscomprehension (reification, compartmentalisation, and immobilisation), in a

'After this Ama-terasu no Oho-kami united Yorodzu-hata Toyo-aki-tsu-hime, the younger sister of Omohi-kane no Kami to Masa-ya-a-katsu-katsu-no-haya-hi no Ama no Oshi-ho-mimi no Mikoto, and making her his consort, caused them to descend to the Central Land of Reed-Plains.' (*Nihongi*), cf.

'Mwene Mutondo lived in her capital on the other side of the Lalafuta river, 3 in the valley of Kalimbata; between Kalimbata and Mulalila, that is where she had her capital. There she died and there her grave has been to this day. In the time of her kingship her sisters Nahonge and Kabandala were residing with her; the Ladies Myene shared with her in the kingship. 4 Mwene Nahonge gave birth to the following children...' (Likota 26: 2f, van Binsbergen 1992)

'Kabongo II took over the kingship from his mother. She⁹⁵ left with the Ladies Myene Lipepo and Nkulo. Mate Shinkisha belonged to the Nkomba clan, going back to the matrilineage of Mashiku. Their father however, Mukwetunga [= the Royal Escort] Mulyata, was a member of the Shungu clan, and it was this man who begot all the children of Mwene Manenga.⁹⁵ When Mwene Manenga died, Kabongo II inherited the kingship.' (Likota 18: 4, van Binsbergen 1992)

Probably these very superficial, apparent parallels are mere red herrings. Impressed by the work of Oppenheimer and Dick-Reed, and struck by the Asian overtones in the court culture of the Nkoya dynasties in Zambia (of which I am an adopted member), I have for some years played with the idea of an Indonesian, South East Asian mainland, or South Asian origin for this complex. The case for East Asian, Japanese/Korean/Chinese influence however will be opened in one of the footnotes below.

⁹⁶ Cf. the *Black Athena* debate initiated by Martin Bernal (1987-2006)

remote Western backwater peripheral to the Asian and African centres of civilisation, of a profoundly dynamic cyclical transformation system of elements that by the time of the Pre-Socratics was already several thousands of years old. It looks as if we must add several millennia to the starting date of philosophy, and move its place of origin one or two thousand kilometres to the East, and South, of Ionia, Ancient Greece (now Western Turkey).

5.2. Comparative mythology and long-range linguistics as tools for the retrieval of the oldest history of modes of thought

Analytically interesting and artistically/emotionally moving as many mythological narratives may be, they also present, at a more abstract and formal level, specific *modes of thought* that have archaic characteristics, and that seem to lead us back to the remote past even though these modes are usually enshrined in texts that are only a few thousand years old maximum. Such reconstruction is now in the forefront of the work of comparative mythologists, as in Michael Witzel's work (2001 and in press). In recent work I have also myself attempted to reconstruct the oldest narratives contained in the cultural package that was evolved by Anatomically Modern Humans in Africa, 200,000-80,000 Before Present. This package (whose empirical basis is accessible to us – though not, of course, without great difficulty – in the form of frequently recurrent, often even near-universal, traits in the mythologies and other cultural features of the cultures of Anatomically Modern Humans in historical times up to today) was subsequently transmitted, transformed, innovated, the results transmitted further and further outside Africa, and finally⁹⁷ fed back into Africa. Each of these narratives and their innovations can be conceived, not only as a narrative, but also as a particular type of logical relation which the narrative makes thinkable, however tentative at first.

Mythological and (archaeological) iconographic material can help us some way in this over-ambitious endeavour, and so can long-range linguistics, with its reconstruction of Borean. Whereas Borean has an extensive repertoire of expressions for 'wet and dry environments', it has only one word for 'sky', and the usual words for 'heaven' in historic languages cannot be considered reflexes of Borean parent forms. This suggests some confirmation for a reconstruction I had already reached by distributional and hermeneutical analysis (van Binsbergen, in press): in Eurasia between the Upper Palaeolithic and the Early Bronze Age, two dominant cosmogonies succeeded:

- the older one based on the separation of Land and Water (Flood myths are their typical implication – if the separation of Land and Water cosmogonically establishes the cosmic order, the annihilation of that separation through total flooding annihilates that order),
- the more recent one based on the separation of Heaven and Earth; typical for this cosmogony is emphasis – now absolutely dominating cosmologies, rituals and mythologies throughout the Old World – on the natural connections between heaven and earth (through mountains, trees, rain, the rainbow, meteorites, food crops), and on the human attempts to reconnect heaven and earth, in

⁹⁷ Through a feed back movement – recently discovered by molecular geneticist – from Central to West Asia, into sub-Saharan Africa, from 15 ka BP on, and leaving traces in Southern, Eastern and Northern Europe; cf. Cruciani et al. 2002; Coia et al. 2005; Hammer et al. 1998.

and ritual – altars, temples, poles, sacrifice – , religious representations – demiurge, angels – and through human roles – shaman, king, priest, twin, prophet.

And Borean also offers us clues as to the specific format of thought. Borean reconstructed roots are mainly of the form *CVCV, where C is a specifically reconstructed consonant, but V is an unspecified vowel. Now looking at the Borean repertoire for ‘wet’ and ‘dry’, we see to our amazement that many reconstructed words which have the same specific consonantal structure (although, admittedly, the underlying vowel structure remains undefined), in their semantics relate to both ‘wet’, ‘intermediate, swampy’, and ‘dry’. It is as if the Borean word (or, to be more precise, the vowel-unspecified word cluster with the same consonantal structure) had a meaning that is not calibrated at one specific point in the semantic range between ‘wet’ and ‘dry’, but that indicates the entire range, leaving it to context to determine which position on this range is meant.

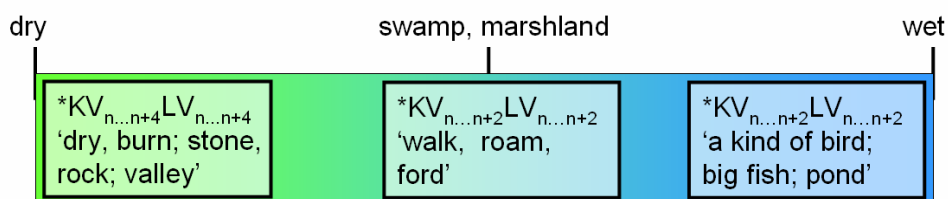
*Table 14. *Borean reconstructed words of dryness and wetness*

Cells with a grey background present the isolated words, i.e. those that are not paired with an opposite or intermediate form displaying the same consonantal structure

WATER		INTERMEDIATE (note: a vessel is solid, contains fluid)		LAND	
				CVCV _{1,2,3}	dry; stone; tip, spout
CVKV	bird			CVKV _{1,2}	hard; stand
		CVLV _{1,2}	fish trap, fence; slime, dirt	CVLV	steppe, valley, meadow
CVLV	water, pour				
CVMV _{1,2}	a kind of bird; fish			CVMV	marsh, uncultivated land
				CVNV	stone, mountain
CVPV	to sink				
CVRV	to flow, drip			CVRV _{1,2,3}	dirt; to dry; to stand
CVTV	drink, liquid				
CVWV _{1,2}	liquid; sea, water				
				HVHV	to stand up, move upwards
HVKV	water				
HVLV	wet				
				HVMCV	stone
				HVMGV	dirt, earth ?
HVMV	drink, swallow				
				HVNLV	stone
HVNV	water				
HVRCV	rain, pour				
HVRV	liquid			HVRV	stone
HVWV _{1,2}	bird; stream, flow of water				
JVMV	sea, water				
				JVNV	to live, stand
				KVCV _{1,2}	dry; sand
KVHNV?	water				
				KVKV	dry
KVLV _{1,2,3}	a kind of bird; big fish; pond	KVLV	walk, roam, ford; vessel	KVLV _{1,2,3}	dry, burn; stone, rock; valley
KVMCV	a kind of fish				
KVMV	a kind of bird			KVMV _{1,2}	dry; hard
				KVNTV	corner, enclosure ?
KVNV	a kind of bird			KVNV _{1,2}	burn, roast, dry; hill

KVPV	a kind of bird				
				KVRTV	enclosure
KVRV _{1,2,3}	a kind of fish; a kind of gallinaceous bird; crane			KVRV _{1,2,3,4}	dry; dung, mud; enclosure; mountain, hill
KVTV _{1,2}	water, to submerge; a kind of bird			KVTV	dirt
				KVWV	stone, mountain
LVJV	liquid, flow				
LVKV _{1,2}	a kind of bird; goose	LVKV	pool, low ground	LVKV	dirt
LVLV	boat				
LVMV _{1,2}	large fish				
		LVMV	swamp (land / water)		
LVNV	to wash, pour			LVNV	stone
LVPV	soft, wet				
LVTV	liquid				
LVWV	to pour				
MVCKV	wash				
MVKV	wet				
				MVLV	mountain
MVRV	wet				
MVTV	moisture				
MVWV	water, wet				
				NVHV	to stay, be, stand
NVNV	a kind of fish				
NVRV	flow				
PVCV	sprinkle				
PVHV _{1,2}	bird, fly; to pour			PVHV	hill, rock
PVKV	to pour, wash			PVKV _{1,2}	dust, dirt; hard, firm
				PVLV _{1,2}	ashes, dirt; mountain, hill
				PVMV	earth, mound
PVNV	water			PVNV _{1,2}	clay, mud; stone
				PVRV	mountain, top
				PVTV	ashes, burn
				RVMCV	stone
				RVNKV	dry
				RVPV	stand
SVKV	a kind of bird				
TVHV	spit, spittle			TVHV _{1,2,3}	bottom; earth; stone
TVKV _{1,2,3}	a kind of duck or hen; fish; to pour, drop	TVKV _{1,2,3}	vessel, boat; vessel, to scoop; water, pond	TVKV _{1,2}	earth; mountain, high
				TVLV _{1,2}	hill; stone
TVNV _{1,2}	pot, vessel; to melt, flow			TVNV	top
				TVPV	hill
TVRV _{1,2}	a kind of bird; to drink, flow			TVRV _{1,2}	earth, dust; enclosure, yard
				TVTV	dust, ashes
				WVCV	enclosure
				WVRV	mountain
WVTV	water				

Fig. 9. The semantic field of the cluster of Borean words $*KV_{n\dots n+10}LV_{n\dots n+10}$



Note: in many ancient cosmologies, birds are regarded as fishes of the 'waters above'

Where $-9 \leq n \leq 1$: the number of *different* vowels involved in these 10 reconstructed Borean words of the general form $*KVLV$ is minimum 1 and maximum 10. For each of the dry, intermediate and wet clusters, n is to be determined in the same way.

A case in point is the semantic field of the cluster of Borean words $*KV_{n\dots n+10}LV_{n\dots n+10}$, which I present in Fig. 9. Appendix Table 1 indicates that this phenomenon occurs throughout the Borean reconstructed roots for 'wet and dry'. The example does not stand on its own – I ascertained the same phenomenon for other semantic complexes, notably for 'light and dark' words (the following Table shows that similar effects attend the Borean reconstructed roots for 'light and dark').

Table 15. **Borean reconstructed words of lightness and darkness*

Cells with a grey background present the isolated words, i.e. those that are not paired with an opposite or intermediate form displaying the same consonantal structure

'light' words	'dark' words	'light' words	'dark' words
CVCV 'fire'		HVLTV 'burn, boil'	
CVJV 'to blink, shine, shade'	CVJV 'to blink, shine, shade'	HVLV 'light, shine'	
CVKV1 'white'; CVKV2 'morning, evening'; CVKV3 'fire, to strike fire'	CVKV4 'dirt, faeces; CVKV5 'morning, evening'	HVMV1 'fire, burn'	HVMGV 'dirt, earth?'
CVLV1 'to flash, shine'	CVLV2 'black, dark'; CVLV3 'coals, soot, burn'; CVLV4 'slime, dirt'	HVNKV 'fire, burn'	HVPV 'black'
	CVMV 'dark, black'	HVRV 'light, burn'	
CVNV1 'burn, shine'	CVNV2 'night, sleep'; CVNV3 'black'; CVNV4 'cold'	JVKV 'light, shine'	
	CVPV 'evening'	KVCV1 'warm'	KVCV2 'night'
	CVRV1 'dirt'; CVRV2 'grey'; CVRV3 'evening'; CVRV4 'cold'	KVJV 'to burn, boil'	
CVWV1 'to burn'; CVWV2 'sun'		KVLV 'dry, burn'	
HVCRV 'star, shine'		KVMV1 'sun, burn (?)'	KVMV2 'winter, cold'; KVMV3 'black, dark'
HVCV1 'to burn'; HVCV2 'bright'		KVNV1 'dawn, light'; KVNV2 'burn, roast, dry'	KVNV3 'brown, dark'
	HVDV 'night, sleep'	KVPV 'to burn, heat'	
HVHV 'fire'		KVRV 'burn, hot coals'; KVRV1 'to burn, bake'	KVRV2 'black'; KVRV3 'cold'
HVKV1 'light, fire'; HVKV2 'day, sun'	HVKV3 'ice, cold'	KVTV1 'burn, fire'	KVTV2 'dirt'
		LVKV1 'shine; burn'	LVKV2 'dirt' LVLV 'night'
		LVMV1 'warm'	LVMV2 'dark'
		LVNV1 'dawn, light'	LVNV2 'dark, black'
		LVPV1 'to shine, glitter, flash'	LVPV2 'dusk, dim, cloud'

Etymologists are aware that many recent languages display (I suggest: have retained) this aspect of semantic range, so that terms that are semantically each other's opposite, yet may be represented by the same lexical item. The (post-)modern philosophical expression is to be found in post-structural philosophy, e.g. in Derrida (1967a, 1967b; the latter book contains a long critique of Lévi-Strauss on binary opposition), whose insistence that every concept contains its very opposite allows him to defer difference (with a French neologism '*différance*'), and thus to think away from the logocentricity of modern academic language use based on the Aristotelian logical principle of the excluded third ('it is impossible for A to be, and to be not, at the same time'), and modern life in general, and to revive Borean modes of thought tens of thousand years old.

Let us agree that Borean seems to have had considerable difficulty in thinking absolute difference, in other words in thinking the kind of binary oppositions that Aristotle has planted as the hallmark of rationality and proper thinking in the Western philosophical tradition. Let us also agree that Lévi-Strauss (following de Saussure), in his explorations of 'undomesticated thought',⁹⁸ against the background of the proverbial French academic rationalism, grossly overplayed his hand by claiming universal and perennial application for the binary opposition as a mode of thought. In fact this appears to be merely a rather recent, Middle Palaeolithic achievement (articulated speech) of Anatomically Modern Humans worldwide; which in turn was greatly enhanced again in the Late of Post Neolithic (the civilisation package) within the Extended Fertile Crescent – a belt stretching across the Old World from the then fertile Sahara to China.

This raises the question as to how the transition was made from the range-like logic implied in Borean reconstructions, to the binary oppositions that today govern our lives, technologies, and knowledge production.

In my opinion the binary opposition came to be installed as the norm, in the first place as a result of articulated speech (which – de Saussure was right – is predicated on binary opposition between phonemes), and subsequently and even more formidably, as a result of the package of post-Neolithic civilisation, containing writing, the state, organised religion and proto-science, that has raised domesticated, binary thought to the norm and has banished undomesticated thought to the (fortunately still very extensive) non-specialised, non-academic, non-formal domains of everyday life. The capability of transcendent thought is also implied in binary oppositions. In a logic based on range-like semantic, no firm binary opposition and no genuine transcendence can be thought. It is my contention that not transcendentalism, but immanentism is the default option of the world-view of Anatomically Modern Humans. Only occasionally, under very specific historical and statal conditions which happened to be met in sections of the Extended Fertile Crescent since the Early Bronze Age, does immanentism give way to transcendentalism. The typical implication of immanentism is repetition, when it is fundamentally impossible to escape from the here and now, and all appearances to the contrary are ultimately a disguise of the idea of an '*Ewigen*

⁹⁸ French *pensée sauvage*, but as an enlightened modern anthropologist Lévi-Strauss (1962; 1969-1978) attached no subordinative evolutionary implications to this term: all people all over the world, all Anatomically Modern Humans throughout the 200 ka of our existence, engage in 'undomesticated thought' most of the time.

Wiederkehr des Gleichen' (Nietzsche 1973a, 1973b; Eliade 1954 / 1971). In ancient cosmologies, two complementary forms of repetition are conspicuous:

In the first place the cyclical repetition implied in a transformative cycle of elements, which we have already encountered,

And in the second place the process which the ethnomathematician Ron Eglash (1997, 1998, 2005) in his studies of African formal systems in divination and ornamentation, following common mathematical usage, has discussed under the heading of recursion: the endless repetition through bifurcation of the same phenomenon at successive levels, like a binary dendrogram unfolding endlessly. Here the binary opposition is not a real one, because it is not conclusive nor stable in itself but – for fear of the absolute difference implied in the real binary opposition – it keeps repeating itself, it is merely an invitation to further and further bifurcation.

Typically, man-made (cultural) formal systems based on recursion tend to rely on series of 2^n : 1, 2, 4, 8, 16, 32, 64. In this sense the classic Chinese *yi jing* cosmological and divinatory system based on eight trigrams combined two by two (yielding 64 configurations), and the same is true for the great divination systems of the Islamic world (*'ilm al-raml*, علم الرمل) and of Africa (Ifa, Sikidy, Hakata, etc.). But the applicability of 2^n recursion goes much further, and I suspect that here we have one of the principal intermediate modes on thought between range semantics and the binary opposition. Significantly, the only numerals attested among the 1153 reconstructed Borean roots are 1, 2, 4 and 8, which seems to confirm that recursion was a standard mode of thought 20 ka BP.

The transformation cycle is also intermediate between range semantics and the binary opposition, but it is far more advanced than recursion (note that the Old World correlative systems referred to in the first half of this argument, tend to combine recursion in the form of reliance on 2^n , with a cyclic structure of elements.). In a transformative cycle of elements, an ontological position is still not totally fixed: the element may be Fire, and as such it is fixed in a number of unmistakable and unique characteristics or attributes, but being Fire is only a more or less ephemeral state, and may under specific conditions give way to e.g. Earth, just as it may have resulted from an earlier state as Wood. It is the powerful combination of a well-defined ontological state, and the ephemeral, transient nature of that state, which makes the transformation cycle a great improvement upon sheer recursion, yet still greatly falling short of binary opposition. We may now pinpoint what the 'peripheral miscomprehension' of the Pre-Socratics consisted in, and why it was essentially felicitous after all: unable to appreciate any more the cyclical nature of the elements, they essentialised them into frozen, discrete, parallel ontological states, applying the logic of binary opposition (which by that time had become a standard tool) to a much older mode of thought.

6. Return to Izanami's plight

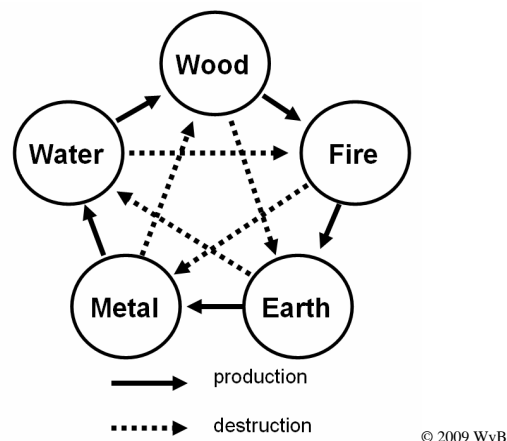
After this very extensive digression illuminating us on the point of the transcontinental distribution of a transformative cycle of elements, usually dyadic but triadic some

case (Taoist China, Nkoya of Africa), we are properly equipped to return to our myth of Izanami giving Birth to Kagutsuchi / Fire.

Fire, of course, has been among the basic elements or positions in this cyclical transformative cosmology for many millennia, and so have water, earth, air (though not included in the Taoist scheme), probably also metal and wood, thunder and aether (the latter two again not included in the Taoist scheme). Being destroyed by Kagutsuchi / Fire, and (see my initial numbered series, Register 1) being situated in a cultural context where the peripheral influence of the Taoist scheme is *consciously* present among the contemporary actors, one would be tempted to equate Izanami with Metal. In this connection let us recall Fig. for which however the details of the text provide hardly any basis.

6.1. Kagutsuchi / Fire within a transformative cycle of elements

Fig. 1 repeated. Basic transformations in the classic Taoist cycle of elements



A more abstract approach may be called for. Being involved in the total process of (re-)production of the world, Izanami cannot in herself be totally equated with any of the handful of constituent elements, but should rather be conceived as some underlying *prima materia*, or better still, as the overarching ontological framework within their transformations take place. Significantly, the gods that emerge in the process of Izanami's fatal confinement, her death, and the (almost alchemical) killing of Kagutsuchi / Fire, evoke a range of other elements – earth, wood, air/storm, thunder etc. (the latter two indicating that a more comprehensive, and older, locally Japanese, system is at work and not the imported Taoist one).

These clusters of elements are unmistakable. Already the first gods to be born after Izanagi and Izanami had produced the islands, were clusters of wind/'air', rock/'earth' and ocean/'water' gods, soon to be followed by vegetation/'wood' gods. When Izanami lies dying,

'The names of the Deities born from her vomit were the Deity Metal-Mountain-Prince and next the Deity Metal-Mountain-Princess ['metal'] The names of the Deities that were born from her faeces were the Deity Clay-Viscid-Prince and next the Deity Clay-Viscid-Princess. ['earth'] The names of the Deities that were next born from her urine were the Deity Mits-

hanome [‘Water-snake-woman’] [‘water’] and next the Young-Wondrous-Producing-Deity. (Chamberlain 1919: [add page], my interpretation between brackets).

A crucial passage here is the lament Izanagi makes when his spouse/sister has died in childbirth, rendered in the Chamberlain translation as:

‘Oh! Thine Augustness my lovely younger sister! Oh that I should have exchanged thee for this single child!’

Single child?⁹⁹ Not in the sense of having no siblings – numerous were already the children of Izanagi and Izanami, and more will be born from her decaying body. Neither single in the sense of the only element to be explicitly mentioned as the child of this union, for we have already seen how the other clusters of gods can be interpreted as evocations of the other elements.

The un-integrated recourse to this 6th register on my above numbered series, within the evolving flow of the mythical narrative, and the fact that the contemporary authors themselves no longer had a grasp on the full dynamic logic of the transformative cycle as part of Japan’s prehistoric heritage but only knew the imported Taoist and *yi jing* versions, explains the one-sided drama of Izanami’s *Giving Birth to Kagutsuchi / Fire* – a one-sidedness which has fortunately given us one of the finest narratives in world mythology. The one-sidedness exists in the fact that, with Izanami’s death, the cycle is broken: although various elements are evoked, the thread of the personalised narrative is taken up again before the implication can be taken into account that, under the transformative cycle, whatever is destroyed also produces something new and lives on in that new form. However, Izanami is dead and remains dead – she even becomes death *par excellence*, the Death Goddess. At this point Register 6 is gives way to the other registers again, and cosmological and narrative reasons that are not in the least dictated by the notion of the transformative cycle, Izanami returns and remains in Yomi, Izanagi kills their last child Kagutsuchi / Fire and goes purify himself, and although again a dazzling fireworks of element-related theogony is triggered by both acts, the thrust of the narrative is then dominated by Register 5, natural phenomena, notably the struggle between Rain-storm and Sun.

6.2. Cosmic order through firm and lasting boundaries

The struggle to establish firm and lasting boundaries is a central theme in our Japanese myth. The initial word is chaotic, fluid, dripping, cloudy, even the cosmic egg is

⁹⁹ Chamberlain at length comments on the very unusual phrasing of the Chinese text (Kojiki was written in classical Chinese), which scarcely offers the standard way of expressing ‘single child’ and instead seems to make allusion to ‘tree’ (木, modern Beijing pronunciation *mù*) or ‘hair’ (毛, modern Beijing pronunciation *máo*). So Kagutsuchi / Fire himself is named by the element from which it is supposed to be produced, in reality, and also according to the Chinese version of the transformation cycle.

Incidentally, there are two *Borean roots with the same consonantal structure *PV_{n...n+1}HV_{n...n+1}, one of which means ‘tree’, the other ‘fire’ (Starostin & Starostin 1998-2008, section ‘long-range etymologies’). Do we have here already an Upper Palaeolithic indication of the link (so obvious at the level of everyday reality) between ‘tree’ and ‘fire’, later to be enshrined in the correlative systems of the Bronze Age?

said to have only blurred boundaries, and the order which the creative process of Izanagi and Izanami establishes, is one of firm boundaries – the outlines of the Japanese archipelago as bounded by the sea, the definition of the male and female body by its respective anatomical features, the demarcation of the land in the form of the Amaterasu's carefully tended, dyked rice-fields, which Susanowo (the impetuous attacker and destroyer of boundaries) does not succeed in permanently upsetting. And most of all the boundary between life and death. While Izanami is still in an intermediate, ambivalent state (eager to return to the land of the living, prepared to ask the Yomi authorities for permission, her condition still invisible in the darkness, yet having to admit that – by an almost universal fairy-tale logic – she has already partaken of the food of the dead) Izanagi *virtually brings about her death* by casting light in the darkness attending Yomi. Finally and most dramatically, pursued by Izanami and the eight Thunder gods that have arisen from her putrid (boundary-effacing) dead body, Izanagi particularly effects the boundary between life and death, in fact *creates* death once for all as a permanent irreversible and non-negotiable state (in total departure from the range semantic of Borean thought), first by a number of partly ineffective measures (throwing peaches, his staff, urinating a boundary river, etc.), and finally by erecting an incredibly large boundary stone, at which point Izanami has no option but to give up, they separate.

That Izanagi, and not Kagutsuchi / Fire is, in the last analysis, responsible for Izanami's death appears to me a valid and highly significant point. In the narrative the polluting environment of Yomi is cited as the reason why Izanagi must purify himself after his return in the land of the living. Such post-funerary purification through washing has many comparative parallels, some of which are cited by the commentators.¹⁰⁰ However, the most common form of post-mortem purification concerns the person who has actually caused the death, the killer. With triangulation points in sub-Saharan Africa (Nilotic-speaking Nuer,¹⁰¹ Bantu-speaking Nkoya and other inhabitants of South Central Africa,¹⁰² where the custom also applies to hunters of big game after making their kill), and the Aegean (in whose mythology Heracles and Peleus, among others, must make great efforts to find purification after killing, and in the process pollute themselves by further killings), and possibly early Japan, this may well be another 'cross-model' trait. This makes me suspect that, in the underlying mythical logic of the Japanese narrative, Izanagi killed not only Kagutsuchi / Fire, but also Izanami.

Thus the absolute difference between life and death has become thinkable – a binary opposition that has always been a part of human life, but that funerary rites and representations of an afterlife, of reincarnation, etc. have managed to obscure from consciousness because firm, lasting and total binary oppositions could not yet be thought. The boundary stone that Izanagi erects is at the same time a milestone in human

¹⁰⁰ I can add a few from personal fieldwork: North African Muslims returning from a funeral must first solemnly wash their hands and face in a collective wash basin before they can partake of the funerary meal (1968); and Southern African spirit mediums returning from the funeral of one of their midst must first wash their entire body near the river before returning to society (1989).

¹⁰¹ Cf. Evans-Pritchard 1967 (1940).

¹⁰² Marks 1976; author's field-notes 1972-1996.

thought – and like a typical male thing, such achievement in thought could not care less for his wife’s and sister’s sensitivities and her love of life.¹⁰³

Table 16. Old-World mythological and religious development: Towards male celestial gods

Region and period	Mother goddess of early times	Subdued by male god of subsequent times	Reduced to a secondary role as
Ancient Mesopotamia	Spider goddess Uttu	Raped by Enki ‘Lord Water’ (has usurped the sea, as one of the domains of the Mother of the Primal Waters)	Uttu, goddess of weaving and clothing Ninhursaq, Earth and Underworld goddess
Ancient Iran	Anahita	?	Anahita largely reduced to domestic and subservient function, but still weaving virgin and control over waters
Ancient Egypt	Neith in the 1 st dynasty (3100 BCE), goddess of warfare and hunting	Horus, Re ^c	Goddess of weaving and funerary goddess in the New Kingdom c. 1300 BCE (but continues to rule the waters and to have a final say in the assembly of gods)
Ancient Greece	Athena, Hera	Zeus, Poseidon, Hades	Demeter, Persephone, Athena as goddess of handicrafts and weaving,
Ancient Rome	Magna Mater	Jupiter	Juno
Ancient Judaism	El, Elohim, Yam	Jahweh	Names of Jahweh; Leviathan
Ancient Arabia	The pre-Islamic female goddesses at Mecca	Allah	Names of Allah
Early Japanese society	‘X’ / Izanami, giving birth to the entire world and to the elements is her epiphany	Izanagi, Susanowo	Izanami as death goddess; but the celestial realm remains under female rule, notably that of the Sun goddess Amaterasu, who is mainly a weaver

In a way, Izanami also represents a (woman-centred) cosmology that Izanagi’s boundary erection (with all its phallic implications) renders painfully and nostalgically obsolete. In my opinion, it does not go to far to claim that, at one level of analysis, Izanagi and Izanami stand for successive and irreconcilable worldviews: the world view of the terrestrial mother goddess, and that of celestial male god.¹⁰⁴ If we may invoke here my hypothesis of the succession of dominant cosmogonies (first the Separation of Land and Water, then the Separation of Heaven and Earth) between the Upper Palaeolithic and the Early Bronze Ages, then what seems to be involved is the following: in the Upper Palaeolithic a putative ‘Mother of the Primal Waters’ held sway over the waters above (the sky, although he conceptual elaboration of heaven had not yet taken place), in the horizontal plane (the sea), and below (the underworld,

¹⁰³ Meanwhile we must be careful lest we attribute too much of an advancement in thought to Izanagi’s articulation of death. At a different level of analysis and comparison, Izanagi’s actions at the boundary between life and death simply amount to a myth explaining the origin of death – and such myths, as has been argued convincingly by the comparative mythologist Yuri Berezkin, belong to the oldest mythical repertoire of humankind, almost certainly to be included in the original package before the Out of Africa exodus, and still one of Africa’s most cherished and most widespread myths. On the basis of Berezkin’s authority, I have now revised my earlier reconstruction of this package so as to include this type of myth. Oppenheimer’s suggestion (1998) that the myth of the origin of death originate from South East Asia, cannot be taken seriously, for reasons I have set out elsewhere (in press).

¹⁰⁴ Cf. Ishida 1955 for a discussion of related themes from a Japanese perspective; and on China, Ye Shuxian 2003.

chaos, Sumerian *apsu* etc.); essentially horizontalist, these three watery realms were supposed to be continuous, in line with the ‘range semantics’ which we have suggested to exist for Borean, spoken at that time. When (in a combined effort also leading to the emergence of shamanism and of naked-eye astronomy) this cosmogony was replaced by that of the Separation of Heaven and Earth, the three watery realms lost their earlier continuity, and heaven was conceptually and ritually detached from earth-underworld. A general tendency towards masculinisation, noticeable in several ancient civilisations, led to the installation of male celestial gods as rulers of the universe, and the degradation of formerly omnipotent creation goddesses (‘Mothers of the Primal Waters’) to become mere underworld goddesses, or worse still, mere domestic and subservient female goddesses in a pantheon otherwise dominated by male gods, cf. Table 16.

In this perspective, Izanami, whatever her other trappings as the female sibling in a pair of paradisiacal flood surviving twins, is also an epiphany of the Palaeolithic and Neolithic mother goddess, and her divorce from Izanagi and her subsequent fate as a death goddess brings out the triumph of male-dominated celestial relation.

In such a context, we can begin to understand why the references to, and the systematic implications of, the essential archaic and obsolete, recursion-based transformative cycle of elements, although surfacing many times in the narrative, yet could not be acknowledged and pursued by the early 8th century CE historical actors that were the authors of the *Kojiki* and the *Nihon Shoki*.

6.3. Flood myths as a possibly implied background of Izanami’s Giving Birth to Kagutsuchi / Fire

The above does far from exhaust the possibility of casting light on the Izanami’s Giving Birth to Kagutsuchi / Fire myth from a perspective of recent developments in comparative mythology and its long-range auxiliary sciences such as molecular genetics and linguistics. The narrative has too many resonances with the global corpus of flood myths not to mention a few of the most striking parallels and implications, even though we cannot pursue this point any further. We have already touched on flood myths because their North American exponents (which make up nearly half the global corpus!) show evidence of the same transformative cycle of elements whose discussion has cast some additional light on our narrative. But the applicability of the flood myth model goes much further. Without wishing to reduce the enormous, creative variety of flood myths to a handful of fixed formulae, my painstaking statistical analysis of the global corpus brought up a number of frequently recurrent models:

1. the discovery of sexuality (often with connotations of incest) as the likely origin of the flood;
2. the tower, bridge, etc. rainbow that used to connect heaven and earth before the flood, that is destroyed in the flood, but replaced by analogous devices (god-made, natural, or man-made) after the flood
3. the complete extinction of fire as a result of the flood (in other words, Water taking over completely and destroying Fire), hence the difficulties, rites and taboos attending the lighting fire after the flood (the Prometheus myth is only one case in point)

4. similar difficulties attending sexuality (often cosmologically equivalent to fire), which had ceased during the flood and is only reluctantly (see point 1 of this series!) resumed after the flood – yet repopulation of the world through procreation is imperative, and often a compromise is reached where the first act of procreation is not of a genital but rather of a vegetal nature: a featureless, smooth gourd-like product is at first produced (sometimes by human intercourse, sometimes by human-plant or human-animal intercourse or through no physiological act at all), from which later true humans emerge; a fairly typical example from East Asia is the following, from the Yao people of Northern Vietnam:

Chang Lo Co built a house roofed with banana leaves. The thunder chief, wanting to destroy the house, transformed himself into a cock and landed on it, but he fell from the slippery roof and was caught and caged by Chang. Chang planned to slaughter the cock for a party and went to buy some wine. While he was away, his son Phuc Hy saw a man now in the cage and went to investigate. The thunder chief asked for a drink of water, which the boy fetched for him. The water gave the thunder chief his strength back, and he broke from his cage. Grateful to the boy, he gave Phuc Hy a tooth, telling him to sow it, and it would grow into a gourd in seven days. He warned the boy to take refuge inside the gourd then. Phuc Hy did as he was instructed. On the seventh day, the gourd was mature, a heavy rain had begun, and he and his sister entered the gourd and sealed the opening with beeswax. They also brought food and a pair of each species of domestic animal. Chang Lo Co was also aware of the thunder chief's vengeance. He built a raft and sailed on the flood to the gate of heaven to fight the thunder chief, but the flood withdrew too quickly. Chang's raft crashed on a mountain, killing him. The gourd carrying the siblings landed on Con Lon mountain. Each sought a spouse, but all other people had been killed. One day, Phuc Hy met a tortoise which told him to marry his sister. Angered by this, he threw a stone at the tortoise, breaking its shell. The tortoise regained its form immediately, but with marks where it had broken.¹⁰⁵ Later, a bamboo told Phuc Hy the same thing, and he cut the bamboo to pieces. The bamboo regenerated, albeit with marks where it had been cut. Seeing these omens, Phuc Hy told his sister that they should marry, but the sister refused. That night, they slept on opposite sides of a stream. Two trees grew from their bellies as they slept and entangled together. Three years, three months, and three days later, she gave birth to a gourd. Phuc Hy told her to cut it open and sow the seeds, which grew into people. She began sowing in the lowlands and had just a few seeds left when she reached the uplands, which is why the population is greater in the plains.¹⁰⁶

In this connection it seems highly significant that much of the reproduction depicting in the beginning of our Japanese classics, is not of a sexual and genital nature either: individual gods or clusters of gods emerge from separate body parts, or from implements such as spears, from clothing, etc. Note that it is particularly the god Izanagi – whose male body lacks the anatomy and physiology to produce recognisable and viable life from his own body – who produces gods, not from his body but from his material attributes. Here there is a very striking parallel with the male sun god Marduk of Babylon, who prior to engaging in battle with the watery chaos goddess Tiāmat (cf. Table 15, Yam, Neith, etc.), has to prove his superior creative powers by creating a gar-

¹⁰⁵ Probably an oblique reference to the *pa gua*, which Fu Zi is reputed to have discovered in various situations including on the back of a tortoise.

¹⁰⁶ [add ref]

ment (a typical product of the *female labour* of spinning and weaving), not by any physical effort but with the sheer, disembodied power of his word.

5. the resuming of normal, genital sexuality between humans is not the only hurdle to be taken for post-flood repopulation, for very often the only flood survivors are siblings of complementary gender, and the incest taboo needs to be lifted or relaxed before the future of humankind will be assured again.

One cannot help to perceive the many parallels between these points, and our Japanese myth. No mention is made of a global or total flood, but many of the ingredients are there – enough to make us wonder how illuminating it would be to consider the narrative of Izanami and Izanagi as re-assembled from the detached elements of an earlier flood myth, from which however the very flood element had been taken away – as another obsolescent idiom, after all – at least, so is my claim – the Cosmogony of the Separation of Land and Water had been largely supplanted by the Cosmogony of the Separation of Heaven and Earth already thousands of years earlier. The rainbow only appears in the beginning, clearly reminiscent of the ubiquitous bridge or tower into heaven (Judaism and Christianity know it from the narrative of the Tower of Babel, immediately following the biblical flood story). Izanami and Izanagi are the typical sibling spouse destined to populate the world. The incestuous nature of their union apparently does not upset them – Izanami explicitly refers to their close consanguinity as a reason why her dead body cannot be seen by her brother, but sexuality is obviously a very different matter – and¹⁰⁷ the same term *imo* denotes ‘wife’ and ‘[younger] sister’ in the context of these ancient Japanese narratives. Sexuality is new to our two siblings, so much so that they question each other about the details of their respective bodies, and in one version need to learn about sexual practice from the wagtail, with its tell-tale rhythmic movements of the lower body. Although the various versions differ significantly as to the sequence of Izanami’s births, at one stage she produces Hiruko 蛭子, Leech, later known as a popular fisherman god Ebisu (恵比須, 恵比寿, 夷, 戎) – and the type of leech common in Japan has exactly the featureless, smooth appearance we know from the flood stories.¹⁰⁸ Like all leeches, it is hermaphroditic. Hiruko is the only character in our Japanese mythical complex to come close to a flood hero: after birth, he is put in a reed or rock-camphor-tree boat (according to one version Izanami first had to give birth to that boat),¹⁰⁹ and put out to sea, later to be instated as a popular fisherman god – the parallels with the magical birth and early infancy attributed to Moses and Sargon II have not been lost on the commentators.

Less obvious is the other miscreant, which some authorities have identified as the placenta, although the Chinese character for ‘foam’ is often used in this connection, and connected with the name of the island of Aha. Foam or forth can be issued as a result of an early miscarriage. Placed at the beginning of the series of birth, as most versions do, hardly the placenta can be meant: apart from the nature of her children,

¹⁰⁷ Like in many African and West Asian societies including those of Ancient Egypt and (cf. the *Song of Songs*) Ancient Israel. This is another instance of a ‘cross-model’ trait.

¹⁰⁸ Also the ‘tree’ 木 connotations of Kagutsuchi / Fire, alluded to in Izanagi’s lament as discussed in a footnote above, carry the suggestion of an intermediate, vegetal birth product of the kind known from many flood stories world-wide when it comes to first attempts at repopulating the world after the flood.

¹⁰⁹ The Celestial Boat is a central theme both of Mesopotamian and of Egyptian cosmologies. Recent research draws a direct link between such boats, and flood heroes in their arks (e.g. McHugh 1999).

Izanami's confinements follow the usual obstetric pattern, and with usual pre-20th century CE medical technology except perhaps a very expertly executed and early caesarean operation, it would be virtually impossible to survive a confinement, and to continue to produce healthy children, after a *placenta praevia* condition, which neither mother (for haemorrhage) nor child would survive. What probably caused this particular obstetric problem is that in Japanese the homonyms *ye* (or is it one word with an extended semantic field?) are used for both 'placenta' and 'elder brother', i.e. the one born *before*, and not *after*, Ego.

In many versions of this episode, the miscreants are attributed to the defective execution of the marriage rite: Izanami is reproached for having spoken first, which is a male prerogative. In view of the comparative flood-story background of such miscreants, I am inclined to consider this ritual explanation a rationalisation imposed on archaic mythemes (notably, the non-human, asexual variants of post-flood procreation) that were no longer understood at the time these classic texts were compiled.

I believe I detect another such rationalisation when it comes to the complex dynamics of Izanagi's and Izanami's dealings in Yomi. The versions are quite divergent, to complicate matters. In some Izanami reproaches her brother/husband for being too late, she has already eaten from the food of the dead and there cannot be retrieved to the land of the living. The *Kojiki* version, at least in Chamberlain's translation, can be read to suggest that Izanami is mortally disappointed by Izanagi and sets her thunder gods upon him, not because (the usual explanation) he lights the end tooth of his comb (another 'male pillar, according to Aston 18XX: ...) and thus, against her injunction, is able to see the putrefying body of Izanami, but because he flees at the onset of the thunder demons. Apparently, Izanami appeals to a rule according to which it is not permitted for close relations to see each other in a dead or decaying state. In the light of comparative ethnography this rings a bell: many societies, e.g. in sub-Saharan Africa, have developed institutions of funerary obligations between more or less strangers, so as to prevent close kin to handle a dead body. If such a rule applies here, then the episode could be explained by reference to a breach of etiquette, just like the ritual blemish on the wedding rite. However, Izanami's parting words suggest (at least, for the West European reader of the English translation, i.e. an admitted outsider to Japanese historical cultural codes) that it was not so much Izanagi's seeing her, but his failure to bring his beloved sister-spouse back from the dead, which was the greatest source of the latter's distress. Her eagerness to return to the land of the living is clear from how she devours (after Izanagi has tried to buy time by throwing three peaches – e.g. the apples of the Hesperids which were likewise at the boundary of the Western realm of the dead [add refs] ; and the golden apples by which Atalanta was lured in her running-match with [add refs] , the grapes and the bamboo shoots that come into being as Izanagi runs for the way out of Yomi: food of the living, by consumption of which Izanami may hope to reverse the effect of the food of the dead of which she has already partaken. What is the rationalisation here, what the underlying cultural truth? The extensive flood-myth parallels that I draw suggest that already the contemporary editors may have concealed that cultural truth under so many layers of censorship, 'sinising' and otherwise, that we may be forever unable to retrieve it. Comparative mythology would be our best strategy to retrieve at least some of it. Above I suggested, on comparative grounds, that the real reason for Izanami's reproach to Izanagi is that he, structurally and perhaps factually, kills her. One passage in *Nihongi* even may be read to suggest how he killed her:

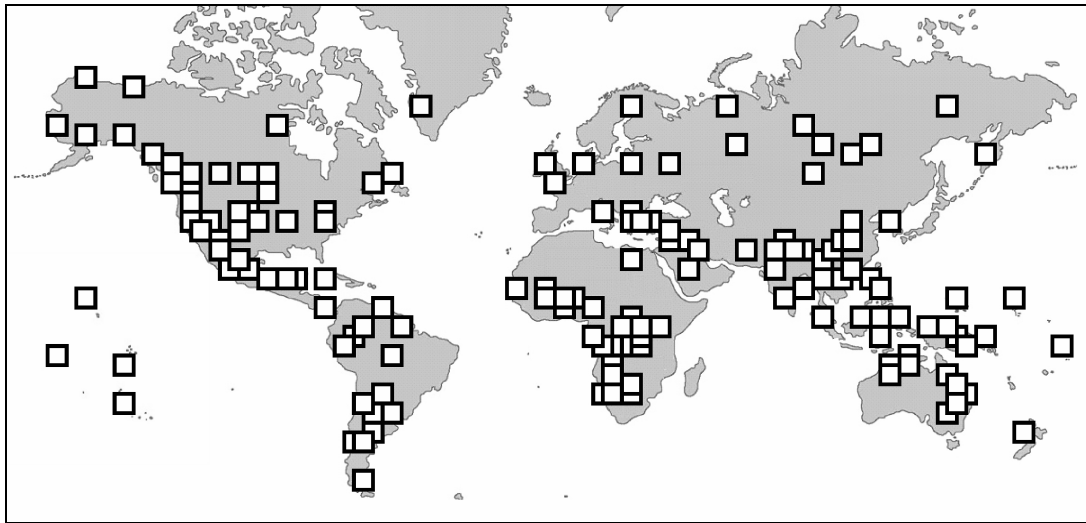
‘My lord and husband, why is thy coming so late ? I have already eaten of the cooking-furnace of Yomi. Nevertheless, I am about to lie down to rest. I pray thee, do not thou look on me.’

At this point we may realise *that if Izanami, Kagutsuchi and Izanagi represent a transformation cycle of elements, it is not in the basic form of dyadic relationships, but in the advanced form of the triadic relationship involving a catalyst.* Further reflection is to decide whether, in Izanami’s destruction, it is Fire which is the catalyst and Izanagi who is the destructor, or the other way around. If Fire is to be the catalyst, the destruction is to be of Wood by Metal, which refers to the clearing of forest for fields – which may well be taken to stand for the entire Earth in her maternal generosity and fertility – the Mother Goddess par excellence. This makes more sense than to have Fire as destructor, notably of Metal. Izanagi, with his Jeweled Spear and the sword with which he kills Fire, has all the connotations of Metal. Thus it is not Fire at all who kills Izanami! And we need not resort to the somewhat artificial construction where Izanami, although mentioned in a context reminiscent of the transformative cycle of elements, is not an element, but merely the overall matrix. She is both the overall matrix, and an element. And of course, by ‘killing’ her, Izanagi does nothing but to create order in the unbridled creative principle she represents.) What did it mean in ancient Japan if a husband looked upon his wife lying down? Could it not be that Izanami succumbed under Izanagi’s untimely sexual demands on her? In several societies belonging to the ‘cross-model’ (e.g. among the Zambian Nkoya), a husband’s sexual overtures for which the wife has not explicitly given her permission, is a most serious offence, reason for divorce. Could this not be at the root of Izanami’s disappointment and anger? Something to this effect is also suggested by the following variant:

‘Izanagi no Mikoto followed after Izanami no Mikoto, and, arriving at the place where she was, spoke to her and said : ‘ I have come because I sorrowed for thee.’ She answered and said, ‘ We are relations. 3 Do not thou look upon me.’ Izanagi no Mikoto would not obey, but continued to look on her. Wherefore Izanami no Mikoto was ashamed and angry, and said, ‘ Thou hast seen my nakedness. Now I will in turn see thine.’ Then Izanagi no Mikoto was ashamed, and prepared to depart. He did not, however, merely go away in silence, but said solemnly, ‘ Our relationship is severed.’ 4 Again he said, ‘ I will not submit to be beaten.’

Which takes us back to the idea of the confrontation between Izanagi and Izanami as a power struggle between two rival cosmologies, one in which women are equal or superior to men, the other, later one, in which women are subordinate to men, and sexually submissive. Gimbutas nostalgically associates the latter situation with the Bronze Age, bringing male violence into the peaceful Neolithic society of gender equality).

Fig. 9. Flood myth attested in historical times (all types and sources aggregated; sources include Frazer 1918; Dundes 1988; Isaak 2006)



So, considering the fact (for which I have Chamberlain's authority, 1919) that the 'Sinising' register is particularly dominant in the first pages of the two ancient Japanese histories, before we reach Izanami and Izanagi, makes it attractive to think that originally the stories of Izanami and Izanagi was a standard flood story, with them as the typical twins of complementary gender, sole flood survivors in a paradisiacal post-flood situation where the incest taboo is unknown, and that, before this post-flood situation was reached in the narrative the flood story itself had been deleted and replaced by a standard Chinese cosmogonic account inspired by the P'an-Ku myth, etc. There is no shortage of flood stories in China and Korea (cf. Isaak 2006; in Southern China and its ethnic minorities they are usually connected with the mythical figure of Nu Wa 女媧 'Lady Gourd' (although this may be a popular etymology), sometimes also with her spouse Fu Xi 伏羲), and in fact the taming of the waters is the central image of the creation of socio-political order in early China. In this regional environment, the remarkable absence of flood stories in Japan might be explained as the result of deliberate censorship – perhaps in order to deny the Rain-storm-Ocean god Susanowo even a temporary victory over his rival and sister, the Sun goddess Amaterasu who in many ways is the emblem of Japan itself. Nonetheless, an oblique reference to Nu Wa may be detected in the *Nihongi's* statement about the dying Izanami:

'She also brought forth the gourd of Heaven.'¹¹⁰

¹¹⁰ In what I would call a presentist, anti-humanities and scientific approach, Graham Hancock (2002) offers a very different explanation, which Young (2003) summarises as follows:

Japan was not covered by an ice cap, had naturally precipitous coastlines and few low-lying plains, meaning that it largely escaped the ravages of the Ice Age cataclysms. If Japanese mythology is grounded in the myth-memories of the Jomon, it is not surprising that Japan has no indigenous flood myth. Underworld presents the idea that the Jomon lost their 'beachfront' properties only, including coastal temples and other sacred and functional sites that now lie 30 meters under water. The recurring Japanese myth of the Kingdom of the Sea King connects closely with Japan's undersea ruins in two ways: that of the kingdom remembered as an island, and as an underwater sanctuary of walls, palaces, and mansions. In Hancock's words,

These parallels offer more food for thought than I can begin to consume at the end of my present argument. They must be left for further research. *It looks as if, in the truncated and fragmented flood theme, we have discovered a seventh register* to inform, in a selective and oscillating manner, the flow of narrative in the beginning of the two early Japanese histories. However, considering the dominant place that the extinction and production of fire occupies in the flood context, it is quite conceivable that here lies an additional answer to the central question of our argument, as to why giving birth of Kagutsuchi / Fire should make so much of a difference to the seasoned mother that Izanami certainly was at that point of our story. Has the order of events been reversed, and was (like in some Graeco-Roman version of the Prometheus story) the unmentioned (unmentionable?) flood triggered by the human appropriation or misuse of fire?¹¹¹ Is Izanami's death then, at the moment of her giving birth to fire, at one level simply a celestial punishment for human *hubris* comparable to Prometheus' being chained onto the rocks of the Caucasus? What makes this a very interesting suggestion from a point of view of comparative mythology, is that the theme of the theft of fire has a distribution very well comparable with that of the transformative cycle of elements: West and South Asia, Graeco-Roman Antiquity, Oceania, and North America – which suggests it to be of such antiquity that it may well have left implicit traces in the oldest Japanese traditions.

7. Conclusion

Thus, applying the lessons of these parallels to Japanese cosmogonic and theogonic myths will make us look with new eyes at the Japanese material, realise its many-faceted transcontinental and temporally long-range connections, and also arrive at new interpretations informing the close-reading of its specific local details.¹¹²

‘could it be a memory that great structures with ‘turrets and tall towers of exceeding beauty’ once stood above water but are now beneath waves?’ ([Hancock 2002:] 594).

This explanation is utterly unconvincing, because it is predicated on the obviously wrong assumption (not unlike Oppenheimer's, 1998) that flood myths occur there, and only there, where they reflect the local collective memory of a local flood that has actually occurred in the distant past. For the near-global distribution of flood myths, cf. Isaak 2005, and for a distribution map, cf. van Binsbergen c.s. in press, which I reproduce here as Fig. 9.

¹¹¹ Other images come to mind, which may also have informed the productive relation between Earth and Fire in the East Asian transformational cycles: if Fire produces Land, this could be the volcanic fire that, after the eruption has cooled down, produces notoriously fertile land; or simply the logic of slash-and-burn (most probably in prehistoric use also in East Asia), where fire burns wood so as to produce fields.

¹¹² This paper was written in May 2009, half a year after I drafted a book-length manuscript with the less satisfactory working title (which perhaps undeservedly smacks of epigonism; cf. Bernal 1987-2006) *‘Black Vulcan’ ? A long-range comparative mythological and linguistic analysis of the complex relations between the Greek god Hephaistos and the Egyptian god Ptḥ? - Exploring the Pelasgian realm and its African connections c. 3000 BCE - c. 400 CE*. Unlike Ptḥ (pace Blažek 2008), the Greek God Ἥφαιστος Hēphaistos is identified with Fire, and can be seen as a reflex (surprisingly, in the context of Berber < Afroasiatic), of a Borean root **PVHV*, ‘fire’, also with extensive reflexes in Eurasiatic > Altaic > Proto-Japanese: **pi* ‘sun, day’, > modern Tokyo Japanese: *hi* (Martin 1987: 404;

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Starostin & Starostin 1998-2008, section ‘Japanese etymology’). In view of the very extensive trans-Eurasian connections that exist, especially via the Scythian-Korean-Japanese branch of the ‘cross-model’, it is obvious that we also need to consider the Japanese myth of the origin of Kagutsuchi / Fire in the context of Western Eurasian mythical and ritual elaboration of the fire complex. Perhaps the dramatic birth of Kagutsuchi / Fire in the Japanese myth can be compared with the unusual birth of Hephaestus in Greek myth – although sometimes affirmed as the son of Zeus and Hera (e.g. *Cicero, De Natura Deorum* 3. 22), the more dominant story is that Hera produced Hephaestus parthenogenetically out of spite over her husband’s producing Athena in similar manner (Hesiod, *Theogony* 924 ff, 929a ff; Pseudo-Apollodorus, *Bibliotheca* 1. 19 ; Pseudo-Hyginus, *Preface*; an alternative father for Hephaestus is mentioned by Pausanias, *Description of Greece* 8. 53. 5: the Cretan sun god and guardian of the island, Talos). There is no suggestion in the Japanese story that Kagutsuchi / Fire was only the child of Izanami, although Izanagi hates him and kills him. However, that Kagutsuchi / Fire in that context is and outsider to the extent of being killed, may have a parallel in Hephaestus’ being kicked out of heaven, by his mother (Homer, *Iliad* 18. 136 ff ; *Homeric Hymn* 3 to Pythian Apollo 310 ff ; Pseudo-Apollodorus, *Bibliotheca* E2. 9; Pausanias, *Description of Greece* 8. 41. 5; Quintus Smyrnaeus, *Fall of Troy* 2. 549 ff) as well as by his father (Homer, *Iliad* 1. 568 ff Plato, *Republic* 378d; Pseudo-Apollodorus, *Bibliotheca* 1. 19 ; Pausanias, *Description of Greece* 3. 17. 3) (I acknowledge Aaron J. Abma splendid website www.theoi.com – Abma 2008 – which gives, for nearly all Graeco-Roman gods, the principal primal sources and iconography in a most useful way.) Perhaps further connections may be pointed out, for instance: the exception and ominous birth of fire in our Japanese myth, has a close parallel in the Graeco-Roman account, not of the birth of Hephaestus / Fire, but of Dionysus: the young woman Semele has become the lover of the Supreme God Zeus, without knowing his true identity; then Zeus’ lawful wife Hera incites Semele to ask her lover to appear to her in his true splendour – which he cannot refuse, only to burn Semele to death with his lightning force (cf. the thunders that emerge from Izanami’s body), so Zeus has to take the unborn Dionysus from his mother’s dead body and sew it into his thigh, from which it will later be born as one of the puzzling legchildren of comparative mythology; however, there are strange correspondences between Hephaestus and Dionysus in Greek mythology. However, the obvious task of systematically confronting the Japanese fire god with Hephaestus must be reserved for a later version of the present argument, or for a different argument.

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