

Before the Presocratics

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EDITORIAL

Since early 2009, when the last three annual volumes (XX, XXI, XXII, 2006, 2007, 2008) of *Quest: An African Journal of Philosophy / Revue Africaine de Philosophie* were published, our journal has gone through a bumpy patch. The same year saw the end of the five-year hospitality agreement between this journal and the African Studies Centre, Leiden, the Netherlands. The Editor had negotiated this agreement in 2004 (as the only successful outcome of a long series of international applications for subsidy), and though it had failed to bring the secretarial and administrative assistance so badly needed, it had at least paid for printing and postage. We take this opportunity to thank the African Studies Centre for its loyal support over these five years. Against the background of the international financial crisis from 2008 onward, revenue from subscriptions, sale of back issues, and reprint fees dwindled, and costs of printing, web design, hosting and postage were mounting. Meanwhile *Quest* was enjoying ever greater popularity on the part of established and junior contributors, and also the quality of the articles submitted went from strength to strength. Under those circumstances the Editorial Board saw no alternative but to sit back and wait until the financial situation would clear up sufficiently to produce, dispatch and host new annual volumes. In 2012 the felicitous reprint of three *Quest* articles in the Eboussi Boulaga Festschrift, and the fees secured in that connection through the good services of Professor Valentin Mudimbe (Member of the Advisory Editorial Board) seemed to bode better times for our journal; but then the Editor went down with serious illness (2011-2012). By the end of 2012, these medical hurdles had finally been taken, and three new annual volumes are now lined up for publication before the middle of 2013 – one under the guest editorship of Professor Thaddeus Metz from South Africa. A cheaper production process yet more attractive format were meanwhile initiated, of which the present volume is the first implementation. Rather than already bringing out these three volumes, we decided that we should first devote the present combined annual volume XXIII-XXIV (2009-2010) to a long-standing book project of the Editor, in honour of his 65th birthday, and in recognition of his contributions to *Quest* and to the sake of African philosophy over the past decade. The book's anti-hegemonic, anti-Eurocentric approach to long-range transcontinental philosophy from an African perspective is a fitting expression of the spirit of *Quest*, and a significant contribution to the global history of philosophy.



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QUEST

*An African Journal of Philosophy /
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Before the Presocratics

Cyclicality, transformation, and element cosmology: The case of transcontinental pre- or proto-historic cosmological substrates linking Africa, Eurasia and North America

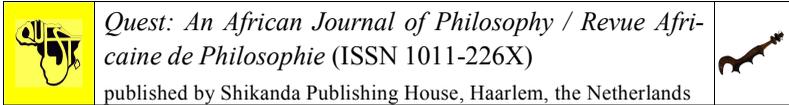
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For details on *front cover illustration*, see Fig. 4.3 below, p. 127; *back cover illustration*: ‘Man as dwelling at the bottom of the sky’ (thought to represent Empedocles, in an apparent Renaissance print of doubtful authenticity published by Camille Flammarion, late 19th c.)

*‘...Alleen die in zijn engte de elementen telde
Buigend bevend als geselslagen geeft het laatste geluid
Het lied heeft het eeuwige leven.’*
Lucebert (2002)

*[‘Only he who, in his anguish, counted the elements
Like a scourge bending, trembling, offers up the last sound
Song has life eternal’]*

To the memory of Douwe G. Jongmans (1922-2011),
my beloved teacher of ethnohistorical and ethnographic field research

Chapter 0. Preface, acknowledgments, and overall orientation

0.1. Background of this book in the context of the author's research

This argument, while coming from an author who is an Africanist anthropologist by training and an Africanist intercultural philosopher by profession, yet is rooted in my life-long fascination with the Presocratics and with cosmology in general, but was particularly prompted by a number of specific intellectual adventures.¹

In the late 1960s I did my first ethnohistorical and ethnographic field-work, on popular religion in the highlands of Northwestern Tunisia – under the greatly inspiring supervision of (among several others to whom I am almost equally indebted) the North Africanist Douwe Jongmans, to whose memory the present book is dedicated; in preparation I studied introductory Arabic with Muḥammad Suʿudi, and sufficiently acquainted myself with the intellectual world of Islam to recognise and track its traces when, much later, I came across the latter in Southern Africa. In 1972, while teaching theoretical sociology at the University of Zambia, South Central Africa, I inherited the Golden Retriever dog Leeza from one of my Indian colleagues departing for Australia; a domestic servant who was conversant with the dog's ways came with it, and this was the haphazard, in hindsight scandalous, beginning of my productive ethno-

¹ In order not to burden already the beginning of this book with the excessive and regrettable self-referentiality that yet is very difficult to avoid given both the pioneer nature and the sustained, accumulative nature of my research over the past two decades, I have largely refrained from referencing this Preface. The bibliography at the end of this book gives a chronological overview of my publications in question.

graphic and ethnohistorical collaboration, and soon close fictive kin relationship as adoptive brothers, with Mr. Dennis Kawangu Shiyowe of the Nkoya people of Western Zambia. Together we have intensively explored, over the next four decades, the ethnography and history of the Nkoya. Here I came across a complex clan system, whose apparently muddled and contradictory nature presented puzzles which no living Nkoya could elucidate and which only the present book's argument will solve to at least my own satisfaction. Then again, in 1988, during ethnographic fieldwork on globalisation and culture in the booming town of Francistown, North-eastern Botswana, Southern Africa (but I never gave up on the Nkoya), I was introduced (first as a researching outsider, soon as a practicing insider) to one of Southern Africa's major divination systems. Known as *Dithlaola* (Tswana) or *Hakata* (Shona), it is based on four tablets which, when cast (and given the fact that they are marked to be different from one another, and to have different fronts from backs) can assume 2⁴ different configurations, each named and each to be interpreted by reference to an extensive, multidimensional (but orally memorised) divinatory catalogue. I soon learned that very similar systems existed elsewhere, in West Africa, in Madagascar and the Comoro Islands, throughout the Indian Ocean realm, and in Medieval and Early Modern Europe, while the prototype of this proto-globalised, *geomantic* family of divination systems appeared to derive, under the names of علم الرمل *ilm al-raml* ('Sand Science') or خط الرمل *ḥatt al-raml* ('Sand Line, Sand Calligraphy') from late first-millennium, Islamic Iraq.² Early

² In the present study, as in my other recent work, an effort is made to render the world's specific cultural / intellectual traditions, as much as possible, in their original form including their original script, if any. This is not in order to pretend a philological competence I do not possess (in fact, I am aware that my adopted practice is prone to serious error disqualifying the argument in the eyes of regional specialists), but, on the contrary, to remind the reader – in the best anthropological fashion – of the fact that all regional traditions deserve to be met on their own terms; that all transcontinental rendering involves massive translation and interpretation and therefore is inherently uncertain and distortive; and that the habitual equation of global scholarship with a North Atlantic, early-21st-century-CE perspective amounts to a gross error of ethnocentrism. As a rule, the non-European original script will only be given the first time a name or term is being used. In this connection, the rendering of personal proper names from Ancient Egypt, Greece and Rome presents special problems due to the habit, particularly in the Anglo-Saxon contexts, of adopting rather distortive versions of the original names in Modern scholarly and popular discourse; thus Isis instead of ʾst, Chemmis instead of ḫ-bīt, Horus instead of Ḥr (Ancient Egyptian); Hephaestus

on, I was struck by the parallels in notational system and internal formal structure, between these systems and the famous, 道 Taoist Chinese 易经 *Yi Jing* ('*I Ching*') system of wisdom divination, to which my elder sister Else Oeseburg-Broers, an experienced practitioner, had introduced me and which was becoming popular in the North Atlantic region on the wings of the esoteric and New Age movement, from the 1970s CE on. The determination to trace the antecedents of Southern African geomantic divination in space and time was to dominate my empirical research from 1990 on. The 1990s were the time when the *Black Athena* debate, as initiated by Martin Gardiner Bernal, reached its culmination. By the same time we saw the coming of age of Afrocentrism, which had been among Bernal's inspirations in addition of the Egyptological fascination he had inherited from his grandfather (*i.e.* Alan H. Gardiner; along with the latter's library). Finally, in that decade, globalisation seemed to offer a new paradigm for the re-organisation and rethinking of regional studies which until then has been on a strictly one-continent footing. Having traded my chair in the anthropology of ethnicity (Free University, Amsterdam) for one in the foundations of intercultural philosophy (Erasmus University Rotterdam), I came to focus my attention at the epistemology and global knowledge politics of interculturality, and – repeatedly using the geomantic case as an empirical illustration – at first believed that Strong Afrocentrism could be a leading paradigm in this field; until sustained theoretical and empirical reflection, notably as first co-author of a massive book on *Ethnicity in Mediterranean Protohistory* (2011), in addition to affording me empirical and methodological experience with genetic and long-range linguistic analysis indispensable for the present book, brought home to me the limitations of the Afrocentrist perspective. The Francistown fieldwork introduced me not only to geomantic divination but also (at the moment of my graduation to the full status of *sangoma* diviner-healer) to leopard-skin symbolism; the world-wide puzzles this introduction presented to me brought me in close and prolonged contact with the recent movement to revive comparative mythology – initiated by and subsequently led by the prominent Sanskritist Michael Witzel of the Department of Sanskrit and Asian Studies, Harvard Univer-

instead of Hephaistos or better still Hefaistos, Achilles instead of Achilleus (Ancient Greek); Ovid instead of Ovidius, Homer instead of Homerus or Homeros (Latin). The present author is not to be blamed for the gross inconsistencies springing from this cultural practice; further see the *Index of Proper Names* at the end of this book.

sity, Cambridge MA, USA. It has been in the context of this collaboration, and as a founding member of the International Association for Comparative Mythology, that I came to formulate an Aggregative Diachronic Model of World Mythology, towards whose consolidation my study of Flood myths world-wide has occupied an increasingly central role. It was in this context that I accidentally hit on the indications of a cyclic transformative system contained in North American Flood myths. In 2007 I drafted a first rough version of the present argument, concentrating on cyclic transformative element cosmologies, and attempting to bring together the Nkoya, geomantic, Taoist, Flood-myth, and *Borean, data. In the following years, I sought to complement my study of element cosmologies from Asia, Africa and North America, with a return to Presocratic philosophic texts and their Ancient commentators – in an attempt to lift the present argument above its transcontinental empirical limitations, and make it more directly recognisable as a contribution to the History of Philosophy. Meanwhile my contacts with, and field trips to, East, South East and South Asia greatly intensified, and my ongoing research concentrated on transcontinental continuities in pre- and proto-history, especially those between sub-Saharan Africa, and Asia. As so often in my life as a scholarly author, one additional Chapter (devoted to the transcontinental mechanisms that might have produced the empirical distributions of element cosmologies) tyrannically grew out of its original context and scope, and spawned several major articles, a draft book, an international conference, and another book based on that conference – enough to unburden the present book from that detailed transcontinental argument, to which instead only passing reference is made now. However, a recently drafted Chapter on West Asia and *Yi Jing* reflects the same research orientation, and was the last to be added to the present book's argument.

This argument, then, seeks to contribute to the study of the global history of human thought and philosophy. It calls in question the popular, common perception of the Presocratic philosophers as having initiated Western philosophy, and particularly of Empedocles as having initiated the system of four elements as immutable and irreducible parallel components of reality. Our point of departure is the puzzling clan system of the Nkoya people of South Central Africa, which turns out to evoke a cosmology of six basic dimensions, each consisting of a destructor, some-

thing that is being destroyed, and a third, catalytic agent. This is strongly reminiscent of the East Asian correlative systems³ as in the *Yi Jīng* cosmological system of changes based on the 64 combinations of the eight trigrams⁴ taken two at a time; and particularly of the five-element cosmology of Taoism in general, in which the basic relations between elements are defined as an unending cycle of transformations by which each element is either destructive or productive of the next. Further explorations into Ancient Egypt, India, sub-Saharan Africa and North America suggest, as a

Working Hypothesis (1) that such a transformation cycle of elements may be considered a prehistoric substrate, possibly as old as dating from the Upper Palaeolithic, informing Eurasian, African and North American cosmologies.

However, immediately an alternative presents itself:

(2) that the transformation cycle of elements is only as recent as the Bronze Age, and was transmitted transcontinentally only in (proto-)historical times.

With our Working Hypothesis (1) and our Alternative Working Hypothesis (2) our argument turns to the Presocratics and especially Empedocles, whose thought is treated in some detail. Here we find that the transformative and cyclic aspects of the putative substrate system also occasionally surface in the work of these philosophers and in that of their commentators (especially Aristotle and Plato), but only to be censored out in later, still dominant, hegemonic and Eurocentric interpretations. This then puts us to a tantalising dilemma: (1) Can we vindicate our Working Hypothesis and argue that the Presocratics have build upon, and transformed (as

³ Cf. Fiskejo 2000; Graham 1986. The fundamental idea of a correlative system is that each of its constituent parts can be considered in terms of a *number* of dimensions at the same time (kinship term; direction of the compass; profession; fortune; social status; colour; the animal world, etc.), in such a way that the parts correlate systematically with one another along each of these dimensions, e.g. A = brother–northwest–butcher–small misfortune–low status–red–hyena, parallel to B = father–south–priest–great fortune–highest status–golden–lion, etc. (the example is fictitious), etc.

⁴ Trigram: in a notational system, an item consisting of three basic graphic elements; thus also hexagram: an item consisting of six basic graphic elements.

well as misunderstood!), a cosmology (revolving on the cyclical transformation of elements) that by their time had already existed for a dozen millennia or (alternatively) at least for several millennia? Or (2) must we altogether reject our Working Hypothesis, give up the idea of very great antiquity and transcontinental distribution of a transformative element system as an Upper Palaeolithic substrate of human thought, even reject our Alternative Working Hypothesis, – and revert to a Eurocentric position, where the attestations of element systems world-wide are primarily seen as the result of the recent transcontinental diffusion of Greek thought? These alternatives will be considered, in the light of an attempt to define important steps in the development of human thought procedures since the Upper Palaeolithic – thus challenging the widespread⁵ tacit assumption that these faculties have remained essentially unaltered since the emergence of Anatomically Modern Humans, in Africa, 200 ka BP. Typologically, but with considerable linguistic and comparative mythological support, our argument then identifies essential consecutive steps (from ‘range semantics’ to binary oppositions to cyclical element transformations and dialectical triads), in humankind’s trajectory from Upper Palaeolithic modes of thought towards Modern⁶ forms of discursive thought. It is here that the present argument seeks to make a substantial contribution to the theory and method of studying the prehistory of modes of thought worldwide. On the one hand we will present considerable linguistic and mythological arguments for the claim of great antiquity of the most rudimentary forms of element cosmology. On the other hand, we

⁵ Yet far from universal. Several psychologists and students of literacy (*e.g.* Jaynes 1990 / 1976; Vroon 1992; Ong 1982) have claimed massive changes in thought processes and even brain structure as a result of literacy and other socio-political conditions emerging during or even after the Bronze Age. However, their time perspective appears to be much too shallow to be credible. In recent decades, the reflection on the long-term evolution of human thought faculties has become a major branch of palaeoanthropology, *cf.* Aitchison 1996; Anati 1999; Bednarik 1995; Carruthers & Chamberlain 2000; Chase & Dibble 1987; Corbey & Roebroeks 1997; Donald 1991; Harrod 2004; Lewis-Williams 2002; Marshack 1972; Mithen 1996; Noble & Davidson 1996; Oakley 1981; Renfrew & Zubrow 199; Robb 1998.

⁶ In this book, I use ‘Modern’ (and ‘Early Modern’) in the technical sense of: ‘Enlightenment and post-Enlightenment philosophical, cultural and political expressions in the North Atlantic region and, eventually, world-wide’; and ‘modern’ in the everyday sense of ‘relating to the last few centuries’. Anatomically Modern Humans constitute the sub-species to which all humans now alive belong, and which arose in sub-Saharan Africa c. 200 ka BP (ka = kilo years = millennium; BP = Before Present).

will apply linguistic methods to identify the origin, in West Asia in the Neolithic to Early Bronze Age, not of the postulated substrate system as a whole, but at least of part of the nomenclature of the Chinese *Yi Jing* system. The region indicated constitutes a likely environment from where the ‘cross model’ as a mechanism of ‘Pelagian expansion’⁷ might allow us to understand subsequent spread over much of the Old World and part of the New World – including the presence of the transformative element cycle among the Nkoya. However, towards the end of the argument a strong alternative case will be presented: that for direct, recent *demic diffusion*⁸ from East or South Asia to sub-Saharan Africa in historical times. We shall argue that this is not a matter of either / or, but that three complementary mechanisms have contributed to the distribution pattern of element cosmologies we are perceiving in historical times: one substrate going back to the Upper Palaeolithic, another, ‘Pelagian’ one to the Bronze Age, while the rest – which is the most conspicuous part – goes back to transcontinental transmissions in recent centuries. Exit, apparently, the Presocratics as unprecedented philosophical innovators of genius.

0.2. Acknowledgements

I am grateful to *Quest* for celebrating my 65th birthday with the publication of the present book. This book is a greatly revised and expanded version of my paper presented at the Third Annual Meeting of the International Association for Comparative Mythology, 國學院大學 Kokugakuin Shinto University, Tokyo, Japan, 23-24 May 2009 (van Binsbergen 2009). I hope to publish the specific Japanological argument elsewhere (van Binsbergen, forthcoming). I am indebted to Michael Witzel and to

⁷ Cf. van Binsbergen 2010a and in press (a); van Binsbergen & Woudhuizen 2011: 372 f; and below, p. 36 f., 46 f.

⁸ The archaeological expression ‘*demic diffusion*’ designates the common phenomenon in cultural history, that cultural traits may travel as a result of geographical displacement of a population segment possessing these traits. Since culture is not transmitted genetically but is per definition obtained through a learning process based on social communication with other humans, demic diffusion is by no means the only way in which cultural traits may travel – much diffusion of culture has taken place through communication, without any, or hardly any, population movement being involved.

the Harvard Department of Sanskrit and Indian Studies, Harvard University, Cambridge MA, USA, for inviting me to participate in this conference and to a series of related annual events in the USA, Asia and Europe since 2004, without which I would never have been able to expand my Africanist and anthropological specialties into the fields of Asian Studies (even though as a student I extensively studied Modern Asia under Wim Wertheim and his staff) and comparative mythology – Michael Witzel also took me on a tour along major Buddhist shrines in the Chinese interior in 2006; to my Japanese hosts Professors Inoue Nobutaka 日本語版へ, Hirafuji Kikuko 弘文堂 and Kazuo Matsumura 渡辺和子, for the charm with which they have accommodated the original, highly deficient version of my argument; to these Japanese colleagues, and moreover to Michael Witzel, Steve Farmer, Klaus Antoni, Nick Allen, Václav Blažek, 李安山 Li Anshan (with whom I have shared over the years an interest in Africa-China relations), 海芳劉 Haifang Lui, Wei Cuiping (who also introduced me to Taoist and Lamaist scenes in Beijing), Shigeru Araki (who with his students introduced me to divination, Zen convents and shrines in Kyoto), Peter van der Mede, Ineke Suijkerbuijk, Hannah van Binsbergen, and Arthur Eaton, for discussions on the topic of this argument; to my first wife, Henny van Rijn, and our daughter Nezjma van Binsbergen, for sharing with me the traumatic first spell of Nkoya fieldwork (with fourteen deaths in our immediate Nkoya network within as many weeks) during which the seeds for the present argument were laid, in the early 1970s; to Patricia van Binsbergen-Saegerman, my wife since 1984, for creating and sustaining, over the decades, the context of our love and family as the ideal place from which to conduct these researches, and to contribute to the various field trips since 1983 intellectually, socially and financially; to the African Studies Centre (ASC), Leiden, in the person of its Director Ton Dietz, for generous support of my transcontinental explorations over the decades even when the immediate Africanist relevance seemed in doubt – and for providing the financial means and organisational support (through my colleagues Marieke van Winden and Gitty Petit) towards the International Conference ‘Rethinking Africa’s Transcontinental Continuities in Pre- and Protohistory’, thus making that event an unforgettable celebration of my formal retirement from the ASC after 35 years; to the Netherlands Institute for Advanced Study in the Humanities and Social Sciences, Wassenaar, the Netherlands, and to my fellow members of the Study Group on Ancient

Mesopotamian Religion and Magic, 1994-1995 – it is in this context that much of the data, bibliography, readings, ideas and methodologies were explored without which the present study would have been impossible – moreover, this book, although still impossible to conceive on the basis of my limited knowledge and skills at the time, is in fact the end product of the book project I hoped to realise at NIAS within one academic year...; to the Department of Philosophy of Man and Culture, the Philosophical Faculty, Erasmus University Rotterdam, for offering an environment where these explorations, although far removed from the present-day North Atlantic middle-class experience which largely captivates that department's research and thought, could at least be fertilised by Modern philosophical discourse; to Fred Woudhuizen, with whom I explored – in the context of our massive joint work on *Ethnicity in Mediterranean Protohistory* (2011) – the theoretical and methodological requirements for the kind of transregional protohistorical analysis as offered in the present study; to my colleagues and friends Richard Werbner, René Devisch and Sjaak van der Geest, who kindled and reinforced my interest in African divination over the years; to Matthew Schoffeleers and Terence Ranger, who greatly stimulated and promoted my long-range explorations into African religion; to Mma Elizabeth Shakayile, Mma Rosi Ndlovu, and Rra Smarts Gumede, my teachers of the Southern African geomantic oracle, and of *sangomahood* and herbalism in general, in Francistown, Botswana, in 1988-1991; and most of all, to the Nkoya people of Zambia, for welcoming me and making me one of them, and specifically for introducing me, over the decades, to a clan system that had become an enigma even to themselves, and that brought home to me the reality of a transformative element cosmology in other parts of the world than East Asia and Ancient Greece. In connection with my Nkoya research, I am greatly indebted to the University of Zambia and its Institute for African Studies (now Institute for Economic and Social Research), Lusaka. In exploring the Nkoya world, my adoptive elder brother Dennis Shiyowe, my adoptive father his Royal Highness Mwenekahare Kabambi, Davison Kawanga, M.M. Malapa, her Royal Highness Princess Mary Nalishuwa, Stanford Mayowe, the Kazanga Cultural Society and its Executive, and numerous others, made indispensable contributions for which I here express my deepest gratitude. During multiple supervision trips my students Pascal Touoyem, Stephanus Djunatan and Pius Mosima extensively introduced me to important sections of the postulated 'Sunda'

trajectory in Cameroon and Java, Indonesia, and thus inspired my long-range imagination. Earlier I investigated other parts of West Africa with an eye on divination and therapy: the Casamance region of Southern Senegal (intermittently, in the years 1981-1983), the Manjaco people of Guinea-Bissau (during three field trips instigated and facilitated by the psychiatrist Joop de Jong, 1981-1983), and rural and urban Benin (with the aid of the diviner-healer Fagbemissi, and the non-governmental organisation *Afrika Cultures* et its director Vizir Olofin II Olofindji Akandé). I explored other Sunda-relevant settings in Thailand, Malaysia, Bali, Sri Lanka, India and New Zealand, with emphasis on divination and healing; here special mention should be made of the medium Keerthi, Unawatuna, Sri Lanka, who over a number of days patiently introduced me to his cultic practices. These Asian trips helped create a personal context in which the Hinduist and Buddhist traces in sub-Saharan Africa could be much better appreciated by me. Robert Papstein was a good friend and intellectual sparring partner when we were both engaged in ethnohistorical fieldwork in Zambia in the 1970s, but his main contribution to the present argument lies in the fact that, with his privileged access as a photographer commissioned by the Navaho Nation Health Department, New Mexico / Arizona, USA, he afforded me a first experience of Native American life – later to be augmented by equally short excursions elsewhere in the USA and British Columbia, Canada. Shigeru Araki 荒木しげる and his students of the Graduate School of Asian and African Area Studies, Kyoto University, introduced me to ritual and divinatory aspects of present-day Kyoto, Japan; and Hirafuji Kikuko as well as Kazuo Matsumura did the same for me in regard of Tokyo. The African Studies Centre, in addition to the most generous general support and the specific assistance towards some of these Asian exploratory trips, and other contributions indicated above, financed two trips to Les Eyzies de Tayac, France, in 1999 and 2000, where with the generous help of the staff of the Musée National de la Préhistoire I studied engraved blocks from the Middle and Upper Palaeolithic. I am moreover indebted to the Assyriologist W.W. Hallo, the Semitist Peter Broers and the anthropologist Mary Douglas, for enlightening conversations on the האורים והתומים 'Urim and Thummim as an Ancient Israelite divinatory device. I am likewise indebted to Michael Rappenglück for stimulating my archaeoastronomical and prehistoric research in various ways over the past decade, with decisive impact on Chapter 7 below. With P. Vérin I had

enlightening conversations, Leiden 1994, on Malagasy *sikidy* as a possible link between Asian and African geomancies. Shaul Shaked directed me to Peter Kingsley's innovative although controversial work when we were colleagues at NIAS, and generously extended to me his own Hebraeist and other philological skills, introducing me to Ibn Ezra's geomancy as found in the Cairo Geniza. Roughly half a century ago, and to my lasting gratitude, my teachers of Latin, Greek, (introductory) Arabic, Nkoya and General Linguistics equipped me with some of the linguistic skills which, even if demonstrably rusty by now, yet made the present study possible. By roughly the same time, in the 1960s, my brilliant teachers of anthropology / sociology at the University of Amsterdam, and principally André Kōbben (who also launched me as a WOTRO Fellow, 1974-1975), throughout the generous seven years full-time which then were required for a complete course of study in that field, instilled in me a disciplinary identity in ethnography, ethnohistory, and cross-cultural studies, even though I have meanwhile played havoc with their presentist, localist and fragmented paradigm of bounded cultures that, allegedly, were only to be approached through a researcher's personal fieldwork within the most limited horizons of space and time; but also in this book I have taken their lessons to heart, in that the puzzles of Nkoya clan organisation as brought home to me during many years of standard participatory fieldwork, are at the root of the argument, even though my teachers would recognise little else in it, and appreciate even less. Among these teachers, Bonno Thoden van Velzen was only a junior lecturer when he taught me my first anthropology seminar in 1964-1965, but throughout my subsequent career, he was a major positive force behind nearly every decisive move, and a loyal ally in the conflicts which my insistence on independence, quality, unboundedness and originality engendered.

This argument incorporates, and takes further, extensive sections (*e.g.* the discussion of Nkoya clans) from a 1998 book draft provisionally entitled *Global Bee Flight* and written in response to Martin Bernal's *Black Athena* thesis. The present study thus testifies to the enormous stimulus Bernal has had on my work since the mid-1990s, despite our substantial disagreements on facts, interpretation, and on what constitutes appropriate and ethically supportable strategies in the global politics of knowledge. My elder brother Peter Broers set me on the trail of the Presocratics some 55 years ago when he gave me de Raedemaeker's (1953) and van

Melsen's (1949; cf. 1941) books as precocious birthday presents, and a quarter of a century later took the lion's share in our joint writing of a computer programme that has indexed my books ever since. For more than ten years, my eldest son, Vincent van Binsbergen, managed my computers so as to meet my excessive and ever increasing demands.

The publication of this book sustained a delay of half a year in 2011 and again half a year in 2012 due to the author's serious illness. I am indebted to my wife and children, to other close relatives and friends, to my family physician Joost Laceulle MD, and to my teachers of the Southern African healing practices, for guiding me, over the decades, to a frame of mind where I could see this period through as another transformation cycle. My thanks are also due to the medical and paramedical staff of the Urology Department, Leiden University Medical Centre, and the Home Health Care services and various pharmacies, Haarlem, the Netherlands, for slowly but surely effecting – both *catalytically* and directly – the transformation that is now bringing me a new lease on life, and even this new book.

0.3. Afrocentrism: 'There and Back Again'?⁹

What is the orientation of the present argument within the global politics of knowledge? This book's attempt to reach, beyond Eurocentric myth, for global pre- and protohistoric reality is reminiscent of Afrocentrism, and both my Afrocentrist friends, and their intellectual enemies, deserve to know where I currently situate myself. Afrocentrist revisions of mainstream, Eurocentric versions of the history of philosophy have been around for decades, e.g. James's (1954) with the obsolescent title *Stolen Legacy: The Greeks Were Not the Authors of Greek Philosophy, But the People of North Africa, Commonly Called the Egyptians* (cf. Lefkowitz's critique, 1994); another, more mainstream example is Preus 1992. My own position, while invariably sympathetic to Afrocentrism,¹⁰ is somewhat different. There cannot be a contradiction between the interest of Africa / Africans and the interest of humankind as a whole, and that

⁹ Cf. Tolkien 1975; van Binsbergen 1979.

¹⁰ van Binsbergen 1997a, 2000a, 2000b, 2005a, 2011a, 2011d.

interest is best served, not by ephemeral Political Correctness, but by the determination (even if ultimately failing – as, no doubt, in the present book) to produce good scholarship, by sound methods, using broadly collected, balanced data, and keeping an open mind. This means: taking Afrocentrism seriously where we can, and wholeheartedly pursuing alternatives where the network of facts, methods and theories leads us away from Afrocentrism. When I set out on the intellectual adventure that produced the present book, I honestly believed to have found, with the evidence of a transformative cycle of elements hidden in the clan system of the Nkoya people of South Central Africa, the clues to a prehistoric, substrate cosmological system that originated in sub-Saharan Africa and from there had spewn philosophy world-wide. When in 1997 I drafted my abortive book *Global Bee Flight*, using much the same material, I worked from the same Afrocentrist perspective, with which I was then enamoured. A totally revised version of *Global Bee Flight* has now been cut up into other, published arguments (foremost van Binsbergen 2010a, but also Chapter 3 of the present book) that, for reasons of my increased empirical knowledge and deepened theoretical reflection over the years, no longer bear the hallmarks of Strong Afrocentrism; yet they still come from an Africanist who, as a formula for Weak Afrocentrism, ‘considers Africa, home’ (Robert Sobukwe). The present book’s argument reflects the same process, as I became ever more aware of the impact of West Asia on the course of global cultural history since the Neolithic. But this is not quite the West Asia of Assyriologists, Hebraeist and Biblical scholars, but one that, in its cultural and linguistic diversity, includes ‘uninvited guests’: linguistic, ethnic and cultural traits that, according to current paradigms used by the regional studies concentrated on that region, should not be there. It is a West Asia (*cf.* van Binsbergen & Woudhuizen 2011: 372 *f.*) with a high occurrence of the so-called Pelasgian traits which we will discuss below, and which include, among dozens of others, a Sun cult, sea and boat symbolism, male genital mutilation, amphiktyony (a more or less acephalous twelve-league), metal-working, bee and reed symbolism, the spiked wheel trap, the mythical unilateral being, the mythical Cosmic Egg, mankala board games, geomantic divination, etc.; where unexpectedly the oldest attestation of Bantu as a major branch of the Niger-Congo macrophyllum is found; where, among its high genetic diversity, some highly pigmented population segments are found; and from where such impact on sub-Saharan Africa emanated from the Bronze Age on (as part

of the more general Back-to-Africa movement; *cf.* Fig. 1.1, below) that we may almost speak, paradoxically, of West *Asian* proto-Africans carrying in a proto-African culture *into* sub-Saharan Africa.

And although not purely and strongly Afrocentrist in method, scope or paradigm, the present book follows in the best Afrocentrist and *Black Athena* traditions by evoking, beyond the established historic milestones constitutive of European, and by extension North Atlantic, hegemonic identity, the stretches of thousands of years and thousands of miles of indebtedness without which these milestones could never have been erected in the first place. *My argument suggests that Presocratic philosophy arose, not as proverbial lightning in a clear sky, not as Fire from Heaven (cf. Renault 1969) in an exclusively Indo-European speaking context, but as the local, radical misinterpretation, in backwaters (Ionia and Graecia Magna) of the great Asian and African civilisations, of a long and widely established system of cosmological thought.* This does not diminish the Presocratics' merits, but puts them in proper transcontinental and historical perspective – just like Western Philosophy at large, which is supposed to start with the Presocratics.

If I have distanced myself in recent years from Strong Afrocentrism (while retaining pet Afrocentrist ideas notably the emphasis on West Asian Blacks), it has been on factual and theoretical grounds, leaving intact my identification with the African continent and its inhabitants. This leaves me with a tantalising dilemma which the present argument scarcely addresses and certainly does not solve. In a transcontinental perspective of global cultural history, Africa is usually presented as showing a tendency to be on the receiving side, even though humankind was born there a few million years ago, while also the cradle of Anatomically Modern Humans is now generally assumed to have stood in Africa, c. 200,000 years ago. The present argument was initiated by the thought – inspired by decades of intimacy with the Nkoya people of South Central Africa – that fundamental cosmologies, with an enormous impact on human society worldwide and on the emergence of the Modern world, may well have had an African origin. However, Modern global culture can no longer, as under Strong Afrocentrism, be claimed to exclusively or primarily derive from sub-Saharan Africa during the *Holocene* (the last 10 ka). My sustained research ultimately compelled me to revise such

ideas, while leaving a substantial role for West Asian, highly pigmented, proto-Bantu speaking, proto-Africans.¹¹ Before we start lamenting this outcome and accuse its author of a relapse into Eurocentrism, let us realise that exactly the same claim of indebtedness ought to be made for Europe, and – in the best *Black Athena* tradition – is in fact made in this book. Yet, more important than the petty book-keeping of gives and takes between continents is our current insight into the genetic, cultural and linguistic *unity of Anatomically Modern Humans*, – an insight as crucial for the imminent future of humankind as central to the present argument.

The title, though not the contents, of this book has been inspired by famous or notorious, more or less path-breaking examples that promised to disclose hitherto unsuspected secrets:

- Henri Frankfort *et al.* (1957 / 1946) *Before Philosophy*, where the main perspective – in continuity with the post-Kantian philosophical foundations laid by Cassirer (1946 / 1925, and 1953-1957 / 1923-1929) – is the supposed transition away from myth, not the rise of element cosmology; ironically, in this book, following in the wake of Michael Witzel (2001, 2012), I have used myth, in addition to reconstructed prehistoric lexical forms, as our main window on the cosmologies whose reconstruction is at the heart of this book.
- Colin Renfrew's (1976) *Before Civilization*, where the West Eurasian Neolithic and Bronze Ages are central, like in the present book, but constituting a classic anti-diffusionist text against such long-range mechanisms of transmission in space and time as are highlighted in the present book;¹²

¹¹ But let us not underplay Africa's contribution to World culture, not only in our Age of Globalisation (where much of global expressive culture – music, dance, therapy – has a recent African origin), but also in transcontinental cultural exchanges along the *multidirectional, multicentred maritime network* which, as I propose in Chapter 2, was established in Neolithic times. Since most of Africa went without writing until Early Modern times, our data tend to give far more weight to literate Asia's impact on Africa, than the other way around. The Egyptologist / Indologist Stricker (1963-1989: V, *Conclusion*) claims that Hindu culture is simply a continuation of Ancient Egyptian religion, and my own extensive observations in Tamil Nadu temples confirm this. Although in recent centuries cults of affliction tend to have travelled from South and South East Asia to Africa, there are indications that their protoforms travelled in the opposite direction, before the Common Era (*cf.* van Binsbergen 2012c, 2012d, 2012f).

¹² Renfrew, like Gordon, apparently has a predilection for sweeping '*Before...*' titles, *cf.* Renfrew 1991, on linguistic diversity – whose emergence, *after the Flood*, is

- Cyrus Gordon (1962) *Before the Bible: The Common Background of Greek and Hebrew Civilizations* – an exploration of Pelasgian continuities *avant la lettre*;
- Denise Schmandt-Besserat (1992), *Before Writing*;
- Michael A. Hoffman (1991) *Egypt before the Pharaohs*;
- Heidi Knecht *et al.* (1993), *Before Lascaux*;
- numerous are the ‘*Before...*’ title variants around Columbus’s ‘discovery’ of America (e.g. Gilmore & McElroy 1998; Davies, n.d. [1976]), including an Afrocentrist one: Van Sertima (1976), and another title by Cyrus Gordon (1971), whose well-earned fame as a prominent Semitist never deterred him from undertaking risky explorations beyond his field of established competence – but hear who is talking;
- classics titles playing on commonly accepted historic milestones, e.g.: Cornford (1962), *Before and after Socrates*; Forsdyke (1957), *Greece before Homer*; Scoon (1928), *Greek Philosophy before Plato*.

My hope is not so much to emulate and equal these writers but at least to follow their example in evoking and exploring the unexpectedly rich world that lies behind the unimaginative, established, restrictive canons of mainstream scholarship.

Yet, admittedly, the argument I am presenting here is an impossibly ambitious one. In writing it I am, as so often in recent years, trespassing beyond my areas of competence, into some fields for which I have neither specialist training nor authority. As the massive bibliography, author index and explanatory index of proper names at the end of this book indicate, no single person can confidently command all the specialist fields involved in the present study; therefore, before it was written no team of specialists could possibly be persuaded to take a collective interest and contribute their expertise on a more than incidental basis. While I hope that the specialist feedback I have incessantly sought will prove to have somewhat reduced the extent of my blundering, I am solely respon-

identally a strikingly recurrent theme in Flood myths world-wide. Renfrew’s ‘Before Babel’ title was subsequently picked up in a BBC (1992) broadcast on prehistoric language reconstruction. In this connection I may point out that a boast by an ambitious Assyrian king-scholar may be considered to stand at the cradle of this genre of ‘*Before...*’ titles – it also yielded the title of a recent scholarly collection ‘*I Studied Inscriptions from Before the Flood*’: *Ancient Near Eastern, Literary, and Linguistic Approaches to Genesis 1-11* (Hess & Tsumura 1994).

sible for such gross errors as my argument will no doubt turn out to contain. I can only plead that the exciting long-range vistas it opens up will somewhat compensate for these manifest shortcomings. If this study has a claim to any saving grace, it would be that it is another attempt to steer away from Eurocentrism, and particularly to study sub-Saharan Africa as an integral part of global intellectual history, while bringing to life the modes of thought of pre- and protohistory, worldwide, with imagination wed to careful, transcontinental empirical research, avoiding both consciousness-raising Political Correctness, and hegemonic condescension and exclusion.

In addition to situating the Presocratics, and Western philosophy, in a long-range context of space and time (continents, not regions; and millennia, not decades) that highlights the immense contributions of Africa, Asia, the New World and Oceania to global cultural history, two cardinal lessons are learned:

- *yes, we can in principle retrieve the modes of thought of the very distant past – methodically, and thus intersubjectively;*
- *and yes, the fundamental unity of humankind lies not just in its emergence from a common origin a few million years ago, but particularly, demonstrably, and in ways eminently relevant for our common present and common immediate future (or should I say: short-term chances of survival?), in our intensively shared and interwoven, multcentred and multidirectional transcontinental cultural and philosophical history of the last dozen millennia.*

To make these points which are eminently dear to me, I have been prepared to stick my neck out, and to have my head chopped off.

Table of contents

Chapter 0. Preface, acknowledgments, and overall orientation	5
0.1. Background of this book in the context of the author's research	5
0.2. Acknowledgements	11
0.3. Afrocentrism: 'There and Back Again'	16
Table of contents	23
List of Figures	27
List of Tables	30
Chapter 1. Introduction and theoretico-methodological orientation	31
Chapter 2. Inspiring data and transcontinental comparative method: Case study I. The pre- and protohistory of mankala board-games and geomantic divination	41
2.1. In search of inspiring data and a transcontinental comparative method	41
2.2. Mankala	54
2.3. Geomancy	65
2.3.1. Geomancy: Distribution	65
2.3.2. Distribution of geomancy: Discussion	67
2.3.3. Geomancy in Africa	69
2.4. Where do we go from here?	82
Chapter 3. Case study II. The puzzling clan system of the Nkoya people of South Central Africa: A triadic, catalytic transformation cycle of elements in disguise?	87

3.1. Nkoya clans	87
3.2. Interpreting the array of Nkoya clans: (1) In terms of complementary opposition	91
3.3. Interpreting the array of Nkoya clans: (2) As evidence of a cycle of transformations consisting of triads.....	95

Chapter 4. Long-range, transcontinental manifestations of a transformation cycle of elements 109

4.1. Element cosmological systems worldwide.....	109
4.2. The transformation cycle of elements in East Asia: Two classical Chinese correlative systems	118
4.3. Intermediate forms between the full transformation cycle and the system of four immutable categories	123
4.3.1. Indications of element systems in sub-Saharan Africa.....	123
4.3.2. Indications of an element system in Ancient Egypt	130
4.3.3. The recognition of an element system in North America	142

Chapter 5. The Presocratics in Western Eurasia: Four immutable elemental categories as the norm throughout Western Eurasia for the last two millennia..... 149

5.1. The Presocratics	149
5.2. Empedocles.....	157
5.2.1. Empedocles: Introduction	157
5.2.2. Remarks to Table 5.1 (Empedocles' doxology).....	159
5.2.3. Empedocles' evocation of the elements to be interpreted as a transformation cycle	164

Chapter 6. Exploring the long-range pre- and protohistory of element cosmologies: Steps in the unfolding of human thought faculties..... 179

6.1. Explorations into the Middle Palaeolithic prehistory of element cosmologies.....	179
6.2. Indications of a four-element cosmology in the painted cave at Lascaux, France, in the Upper Palaeolithic	183
6.2.1. Introduction.....	183
6.2.2. Analytical step 1. Assuming, for heuristic purposes only, that the Lascaux scene belonged to a *Borean-speaking environment	191
6.2.3. Analytical Step 2. Situating the Lascaux scene in a	

proto-Sino-Caucasian environment.....	197
6.3. Element systems in the African Palaeolithic?	200
6.4. Between the *Borean-speaking Upper-Palaeolithic and the Late Bronze Age: The transformation cycle of elements as a mode of thought	204

**Chapter 7. *Yi Jīng* and West Asia: A partial vindication of
Terrien de Lacouperie.....** 215

7.1 Introduction.....	215
7.2. The stature of Terrien de Lacouperie’s scholarship.....	217
7.3. Terrien de Lacouperie on a wholesale West Asian origin of the Chinese people	220
7.4. Recent support for the view of a West Asian origin of <i>Yi Jīng</i>	225
7.5. Rashidi’s Afrocentrist perspective concerning the origin of <i>Yi Jīng</i>	228
7.6. Trying to identify the cradle of the Old World transformation cycle of elements on the basis of the nomenclature of the <i>pa gua</i> (eight trigrams)	234
7.6.1. Comparative historical linguistics of the eight-trigrams nomenclature.....	234
7.6.2. Notes to Table 7.2.....	238
7.6.3. Discussion.....	239
7.7. Transcontinental relationships and periodisation: China and West Asia	239

**Chapter 8. Further discussion of transcontinental
relationships with a view of assessing our overall Working
Hypothesis.....** 255

8.1. Vindicating our two Working Hypotheses	255
8.2. Could the transformation cycle of elements be shamanic in origin and thus date back to the Upper Palaeolithic?.....	256
8.3. Are the Nkoya-East Asian parallels to be explained by (a) Upper-Palaeolithic Back-to-Africa migration (b) Pelasgian transmission in the Bronze Age (c) East Asian intrusion into Africa during historical times?	260
8.3.1. Upper-Palaeolithic Back-to-Africa migration.....	260
8.3.2. Pelasgian transmission in the Bronze Age: Vindicating our Alternative Working Hypothesis	275
8.3.3. East Asian intrusion into Africa during historical times?.....	278

Chapter 9. Conclusion: Diachronic varieties of the transformation cycle of elements, and their global distribution	285
9.1. Recapitulating our indications of the distribution and history of element systems worldwide since the Middle Palaeolithic.....	285
9.2. Conclusion	290
Bibliography	297
Index of authors cited	353
Explanatory index of proper names other than authors cited	363

List of Figures

Fig. 1.1. ‘Back-to-Africa’ movement of specific haplo groups.....	33
Fig. 1.1a. Examples of Pelasgian links between the Mediterranean and sub-Saharan Africa	37
Fig. 2.1. Diagrammatic representation of the Pelasgian Hypothesis	48
Fig. 2.2. Global distribution of the spiked wheel trap (as typical of Pelasgian distributions).....	53
Fig. 2.3. Mankala: Distribution of the various types.....	55
Fig. 2.4. Two-row mankala: Distribution	56
Fig. 2.5. Two-row mankala: Tentative historical reconstruction.....	57
Fig. 2.6. Three-row mankala: Distribution	57
Fig. 2.7. Three-row mankala: Tentative historical reconstruction	58
Fig. 2.8. Four-row mankala: Distribution.....	59
Fig. 2.9. Four-row mankala: Tentative historical reconstruction.....	59
Fig. 2.10. Kuba carving styles, Congo, 17-19 c. CE.....	61
Fig. 2.11. Distribution of the dara game.....	64
Fig. 2.12. Neolithic mankala boards from West Asia	65
Fig. 2.13. Geomancy: Distribution.....	67
Fig. 2.14. Comparing geomantic notational systems worldwide.....	68
Fig. 2.15. Trade routes in West Africa, second half of second millennium CE	71
Fig. 2.16. The distribution of Flood and Tower myths in Africa.....	72
Fig. 2.17. A proposed intercontinental, multcentred, multidirectional maritime network from the Early Bronze Age onward	78
Fig. 2.18. Proposed reconstruction of the world history of geomancy	79
Fig. 3.1. The clan triad: Lavwe, Sheta, and Shikumba[wuyuvu] illustrated.	96
Fig. 3.2. Ancient Egyptian representation of the <i>imi-wt</i>	98
Fig. 3.3. The bark hive as a potentially triadic icon.....	103
Fig. 4.1. Basic transformations in the classic Taoist cycle of elements.....	120

Fig. 4.2. The Taoist five-element transformation cycle according to Needham with Ling	121
Fig. 4.3. A drawing by the Zulu lightning doctor Laduma Madela	127
Fig. 4.4. An element system underlying the Heliopolitan cosmogony of Ancient Egypt.....	130
Fig. 4.5. Indications of a four-element system in Ancient Egypt: Four Sons of Horus.....	131
Fig. 4.6. The Ancient Egyptian feline goddess Bastet with a foursome of kittens, possibly an evocation of a four-element cycle of transformation, Late Period, c. 664-630 BCE.....	132
Fig. 4.7. Indications of a four-element system in Ancient Egypt	132
Fig. 4.8. A rudimentary transformation cycle of elements: Seth and Horus	133
Fig. 4.9. Navaho sand painting arguably suggestive of a four-element transformation cycle	144
Fig. 4.10. Anasazi wall painting from New Mexico, ca. 16th c. CE	144
Fig. 4.11. Revolution on the celestial axis, or evidence of transformation cycle of elements, as depicted in Lower Pecos River Art, Texas, USA, 3rd-2nd mill. BCE.....	145
Fig. 5.1. The birth of Athena as an instance of the transformative cycle of elements	154
Fig. 5.2. Distributional aspects of the global comparative mythology of divine tears	162
Fig. 5.3. Campbell's (2004-2005) rendering of Empedocles' Cosmic Cycle	168
Fig. 5.4. Global distribution and tentative historical reconstruction of the mytheme of the Cosmic Egg	170
Fig. 5.5. Peithinos' rendering of Thetis' metamorphoses, <i>kylix</i> , 6th c. BCE.	172
Fig. 6.1. The famous 'dead man' scene from Le Puits, Grotte de Lascaux.....	184
Fig. 6.2. Analytical <i>Step 1</i> : *Borean applied to Lascaux	196
Fig. 6.3. Lascaux 'unicorn' (Lucas 2006)	200
Fig. 6.4. Possible candidates from African prehistory for an iconographic analysis in terms of element cosmology	204
Fig. 6.5. Recursion in a Nkoya statuette used in a cult of affliction	206
Fig. 6.6. Large room-dividing screen from the Tlingit of Alaska.....	207
Fig. 6.7. Global distribution of triads in mythology	210
Fig. 6.7a. A typical triad: Osiris, Isis and Horus depicted in gold (Osorkon II, first half 9 th c. BCE, now at the Louvre, Paris, France)	211
Fig. 7.1. An Early Modern representation of Dagon / Oannes, loosely based on Ancient Graeco-Roman and Biblical sources.....	222
Fig. 7.2. Layered ethnico-linguistic complexity of the Bronze Age	

Mediterranean.....	233
Fig. 8.1. Linguistic and comparative-ethnographic reconstruction of the emergence of the ritual use of leopard skins as an aspect of shamanism.....	257
Fig. 8.2. Dendrogram setting out the relative positions of the *Borean-associated linguistic macro-phyla in relation to Bantu and Khoisan.....	262
Fig. 8.3. A cult place for Heitsi Eibib in Namibia	263
Fig. 8.4. Divination tablets from Western Zambia	269
Fig. 8.5. A present-day shamanic apron from the Tlingit, North West Coast, Alaska, c. 1860 CE	271
Fig. 8.6. Divination: Continuities in space and time.....	276
Fig. 9.1. Diachronic varieties of the transformation cycle of elements: Global distribution.....	286
Fig. 9.2. Comparing Old World formal systems through cluster analysis, provisionally bringing out the unexpected clustering of African nomenclatural material with Chinese and Babylonian material, clustering away from Ancient Egyptian and Greek material	288
Fig. 9.3. Tentative historical reconstruction for Fig. 9.1.....	289

List of Tables

Table 2.1. Narrative Complexes identified in sub-Saharan African cosmogonies as collected in historical times.....	50
Table 2.2. ‘Contexts of Intensified Transformation and Innovation’ (CITIs) in the global history of Anatomically Modern Humans’ mythology	52
Table 2.3. Alternative random generators in geomancy.....	66
Table 3.1. Nkoya clans	91
Table 3.2. Complementary opposition in the nomenclature of two joking clans in Western Zambia, nineteenth and twentieth century CE.....	93
Table 3.3. Nkoya clan nomenclature as evocative of a triadic cycle of transformations	104
Table 3.4. Nkoya clan nomenclature as evocative of a triadic cycle of transformations, with Nkonze and Mvula accommodated.....	104
Table 4.1. Four or more elements in various Eurasian traditions	118
Table 4.2. General overview of <i>Yi Jīng</i> as a correlative system	122
Table 4.3. The Aristaeus myth analysed as a reflection of Early Dynastic Egyptian history, and as an esoteric text on the transformation cycle of elements	139
Table 5.1. The four elements according to Empedocles	159
Table 6.1. The divinatory and element-cosmological significance of the reconstructed mythological contents of Pandora’s Box, Africa, 80-60 ka BP and earlier.....	181
Table 6.2. Example of a global etymology: The complex ‘earth / bottom / human’	187
Table 6.3. Searching for Sino-Caucasian reflexes of the *Borean roots indicated in Fig. 6.2	199
Table 7.1. King Wǎn’s trigrams.....	235
Table 7.2. Proposed etymologies of the names of the <i>pa gua</i> (eight trigrams)	237
Table 8.1. Proposed relations between professional castes and their animal ‘totems’ in Vedic India	282

Chapter 1. Introduction and theoretico-methodological orientation

This argument seeks to contribute to the study of the global history of human thought and philosophy. It calls in question the popular, common perception (*cf.* Heidegger 1979; Gadamer 1968, 1996, 1999) of the Presocratic philosophers as having initiated Western philosophy, and particularly of Empedocles as having initiated the system of four elements as immutable and irreducible parallel components of reality – and in doing so, as having effectively laid the foundation for Modern science and technology, and the Modern World System at large. Our point of departure is the puzzling clan system of the Nkoya people of South Central Africa, which turns out to evoke a cosmology of six basic dimensions, each of which consists of a destructor, something that is being destroyed, and a third, catalytic agent. This is strongly reminiscent of the East Asian correlative systems as in the *Yi Jing* cosmological system of changes based on the 64 combinations of the eight trigrams two taken at a time; and *a fortiori* of the five-element cosmology of Taoism in general, in which the basic relations between elements are defined as an unending cycle of transformations by which each element is either destructive or productive of the next.

The central theme of my argument is not the elucidation of the East Asian correlative systems as such – for which I lack the knowledge and the authority – but the contextualisation of the African system as found among the Nkoya, and to probe, on that basis, into ancient modes of thought going back to the Palaeolithic – in the process subjecting the hegemonic Eurocentric view of the Presocratics to transcontinental criticism.

Before we set out on our long and arduous journey, a methodological,

theoretical and knowledge-political point needs to be made – and it should be made much more elaborately than space allows here. Modern scholarship is predicated on the division between regional specialties and between disciplines. The study of Empedocles’ four-element system could blissfully remain the privileged domain of historians of Western philosophy and science, as long as diffusionism remained in the discredited state it had entered with the rise of classic, fieldwork-centred anthropology in the second quarter of the 20th century CE, and as long as the divisive colonial-imperialist geopolitics survived that had assigned a separate, and usually subordinate, cultural history to each continent, creed, nation, and language phylum. Globalisation of the Modern world through new technologies of information and communication (which have also greatly facilitated trans-disciplinary and trans-regional exchanges of scientific knowledge), as well as the rise of a vocal counter-hegemonic trend in scholarship all over the world,¹³ have ushered in a new era, where the transcontinental continuities of the present invite us to investigate transcontinental continuities in the past, and to overcome such divisiveness as hegemonic interests of earlier decades and centuries have imposed on our image of the world and of the cultural history of humankind. In a quest to empirically assert the fundamental unity of humankind, and to help free Africa from the isolated and peripheral position that has been attributed to that continent in the present-day World System, I have engaged in such counter-hegemonic, transcontinental research for over twenty years now, long enough to realise some of its pitfalls (*e.g.* the fact that interdisciplinary and interregional research inevitably means that one blunders into the specialist domains of others, and risks to make a fool of oneself there – with a tendency to reduce the other discipline to its obsolete positions of a generation ago; no doubt all these shortcomings also adhere the present book), but perhaps also long enough to begin to produce heuristically meaningful if in themselves still ephemeral results.

The extensive genetic, archaeological, linguistic, comparative ethnographic and comparative mythological empirical, methodological and theoretical background for such a view¹⁴ I have extensively discussed

¹³ *E.g.* Asad 1973; Copans 1975; Bernal 1987-2006; Said 1978; Diop 1948 / 1996, 1967; Mudimbe 1987; Fanon 1952; Bhabha 1994; Spivak 1987.

¹⁴ This view is indebted to the work of Martin Bernal and Michael Witzel, among

elsewhere;¹⁵ that background cannot be set out in any detail here for limitations of space, but includes the following empirically-supported theoretical perspectives:

1. the 'Out-of-Africa' Hypothesis (Forster 2004, with references), according to which Anatomically Modern Humans (the sub-species to which all humans living today belong) emerged in sub-Saharan Africa c. 200,000 year BP, and subsequently spread to other continents in the Out-of-Africa Exodus, 80-60 ka BP.

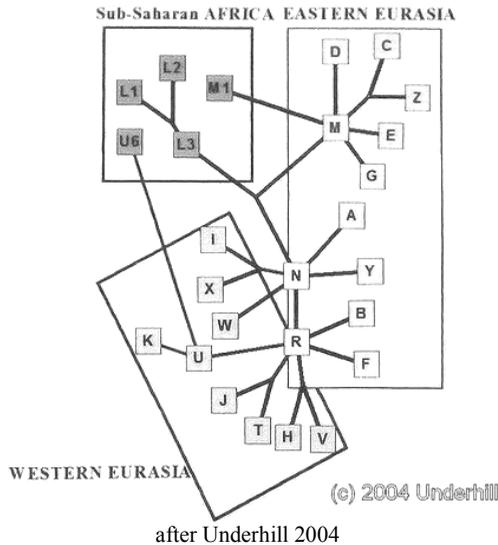


Fig. 1.1. 'Back-to-Africa' movement of specific mtDNA¹⁶ haplo groups.

2. The 'Back-to-Africa' Hypothesis¹⁷ according to which there has

others; Bernal 1987; Witzel 2001, 2012.

¹⁵ van Binsbergen 2003, 2010a, 2011a; van Binsbergen & Woudhuizen 2011.

¹⁶ mtDNA: specific mitochondrial hereditary protein constitutive of the human genome and situated in the cell's *mitochondria*, which results in intergenerational transmission in the female line only. Its analysis is an important tool in genetics today. The major groups found among Anatomically Modern Humans are identified by the letters of the alphabet.

¹⁷ Hammer *et al.* 1998; Cruciani *et al.* 2002; Coia *et al.* 2005; Underhill 2004; also *cf.*

been a substantial return migration from Asia into Africa from c. 15 ka BP – bringing to Africa not only genes evolved in Asia since the Out-of-Africa Exodus, but also the cultural and religious transformations and innovations that – on the basis of the common pre-Out of Africa heritage (what I have called ‘Pandora’s Box’) – had developed inside Asia, since the Out-of-Africa Exodus.

3. Starostin’s and Fleming’s *Borean Hypothesis, claiming that nearly all languages spoken today retain, in their reconstructed proto-forms, substantial traces of a hypothetical, reconstructed language arbitrarily named ‘*Borean’ and supposed to have been spoken in Central Asia, perhaps near Lake Baikal, in the Upper Palaeolithic (c. 25 ka BP).¹⁸
4. Stephen Oppenheimer ‘Sunda’ Hypothesis,¹⁹ according to which considerable demic diffusion of cultural traits took place from South East Asia to Western Eurasia (and by implication to Africa) as the South East Asian subcontinent was flooded (resulting in its present-day, insular nature) with the melting of polar ice at the onset of the Holocene (10 ka BP). Oppenheimer has not explicitly considered the implications of his hypothesis for the African continent, but here his hypothesis is seconded by that of the history writer Dick-Read (2005, 2012) and the anthropologist Tauchmann (2010), a South East Asia specialist. In Tauchmann’s opinion, prior to the Bantu expansion in East and South-East Africa, pre- and proto-historic migrations from South East Asia (such as have long been recognised to have populated Madagascar and given it its distinction cultural and linguistic characteristics) had given rise to a considerable Austronesian genetic and linguistic presence in those parts of Africa.

haplogroups M1 and U6 in my Fig. 1.1).

¹⁸ Starostin 1999; Starostin & Starostin 1998-2008; Fleming 1991, 2002. Dolgopolsky 1998 shows the heuristic value of Illich-Svitych’s Nostratic / Eurasiatic Hypothesis, of lesser scope than the *Borean Hypothesis and confined to the Old World; Kaiser & Sheveroshkin (1988) count Niger-Congo as a branch of ‘Super-Nostratic’

¹⁹ Oppenheimer 1998; Tauchmann, personal communication, *cf.* van Binsbergen 2012e, and also 2012c and 2012d.

Such Asian presence on African soil is a moot point. Of course, Dick-Read's and Tauchmann's cultural claims match nicely the geneticists' recent discovery of the Back-to-Africa migration, although the geneticists' time scale not only displays very extensive error distributions, but also is rather longer (up to 15 ka) than the typical time span of comparative ethnographic research. The historian Kent (1970) who claimed extensive Sunda kingdoms on the East African coast was not taken seriously. In recent years African-Asian transcontinental continuities have dominated my research, and despite my dismissal of Oppenheimer's claims specifically in the field of comparative mythology (his 'Special Sunda Hypothesis'; van Binsbergen with Isaak 2008) I am yet finding his General Sunda Hypothesis to be of considerable heuristic value for an understanding of Africa's pre- and protohistory. There is also some linguistic support. A presumed Sunda presence in Africa would have to be detectable in the form of an Austronesian (< Austric) substrate in Eastern and Southern Bantu languages: a phenomenon already suggested – albeit for only a few East and South-eastern African languages, notably Makuwa, and the Sotho-Tswana cluster – by the sometime Leiden Professor of African Linguistics Thilo Schadeberg (personal communication 1994). Moreover, as I will set out in detail in Table 6.2, below, the eponymical root *-ntu*, 'human' of the widespread Bantu-speaking sub-phylum is virtually identical with proto-Austronesian **taw*, 'human' (Adelaar 1995) and both belong to a worldwide etymological ramification of a very old, **Borean* root **TVHV* (V = unspecified vowel), whose semantics hinges on 'earth, bottom, human'. The statistical lexical affinity between the protoforms of Austric and Niger-Congo (and Amerind!) which I established through cluster analysis²⁰ and which I attribute to the disintegration of **Borean* in the Asian Upper Palaeolithic, might also be attributed to an Austric substrate influence on Niger-Congo exerted within

²⁰ van Binsbergen 2011a and in press (b); van Binsbergen & Woudhuizen 2011: 77 f.; Fig. 8.2, below.

the African continent.²¹

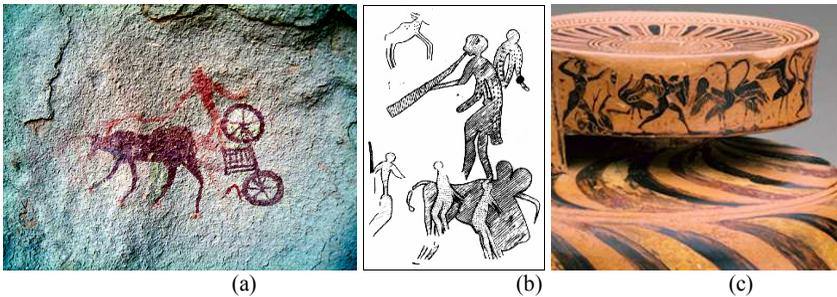
5. My '*Diachronic Aggregative Model*' of the world history of mythology, according to which Pandora's Box contained a limited number of more or less discernible basic mythemes ('Narrative Complexes'), which after the Out-of-Africa Exodus were transformed and innovated, especially inside Asia, and in further ramifications and transformations spread world-wide so as to produce the dazzling complexity and variation of today's global mythology. Some of these Asian themes (*e.g.* the unilateral mythical being, the Cosmic Egg,²² the separation of Heaven and Earth – the latter now being the dominant pre-Modern cosmology throughout the present world) subsequently entered Africa on the wings of the 'Back-to-Africa' migration and made for the considerable continuity between Eurasian and African mythologies.
6. My hypothesis of a succession, in the Eurasiatic Upper Palaeolithic, of two rival cosmogonies: one hinging on the Separation of Water and Land (hence: Flood myths as a cataclysmic mythical return to the pre-cosmogonic state), largely supplanted by one hinging on the Separation of Heaven and Earth.
7. My *Pelasgian Hypothesis* (see Fig. 2.1, below),
according to which a significant package of cultural traits and achievements²³ (arbitrarily, and I admit confusingly, la-

²¹ On these important transcontinental questions, an International Conference was held at the occasion of my retirement from the African Studies Centre, Leiden; my views on these matters were provisionally presented there and are now being finalised for publication (van Binsbergen, 2012c, 2012d, 2012e, in preparation (a) and (d)).

²² In earlier formulations of my Aggregative Diachronic Model of Global Mythology – *i.e.* an attempt to systematically identify humankind's oldest common heritage of mythology before the Out-of-Africa Exodus (c. 80-60 ka BP) and to account for its subsequent development until historical times – I still equated the mytheme of the Cosmic Egg with that of the Lightning Bird and included both in Pandora's Box. A more detailed re-analysis (van Binsbergen 2011b, see Fig. 5.4, below) now has convinced me that the Cosmic Egg is a much more recent idea which rather belongs to the Pelasgian complex – probably originally so, or perhaps (Oppenheimer 1998; but *cf.* van Binsbergen with Isaak 2008) as a result of cultural expansion ('Sunda') from Early Holocene South East Asia having penetrated the Pelasgian realm.

²³ Including (overlapping with the above list): Sun worship; sea and boat symbolism;

belled ‘Pelasgian’ by me) emerged in Neolithic West Asia, spread West towards the Mediterranean during the Bronze Age (largely on the wings of horse-riding and chariot technology invented in Central Asia 2000 BCE), and from the Late Bronze Age spread further in all four directions along what I have called the *cross-model*: easterly along the Steppe belt all the way to Korea, Japan, South and South East Asia,²⁴ and Oceania; westerly into the Mediterranean and Western Europe; northerly into the Uralic area; and finally southerly into sub-Saharan Africa along various routes (the



(a) One of the many chariot depictions in Saharan rock art since the Late Bronze Age; (b) Pardivesture (wearing of leopard skins) at Neolithic Tassili n’Ajjer (Breuil *et al.* 1954); (c) Pygmies fighting cranes on the Greek Aryballos crater, 570 BCE.

Fig. 1.1a. Examples of Pelasgian links between the Mediterranean and sub-Saharan Africa.

the amphiktyonic socio-political organisation form of a league of a dozen or so more or less acephalic (= without formal leaders) socio-political units; male genital mutilation; the skull complex particularly the drinking from slain enemies’ skulls; the literary / mythical theme of deadly rivalry between a ruler and that ruler’s sibling of the opposite gender; the cognate theme of an artificial woman constructed to inflict harm, and deployed as a weapon in such rivalry; the cosmogonic theme of a world origin in an original reed clump; the simple hunting implement known as the spiked wheel trap; the mythical unilateral being; the mythical Cosmic Egg; mankala board games; geomantic divination. But many more examples could be given. A list of 80 items, with rough indications of their distribution, is presented by van Binsbergen & Woudhuizen (2011: 372*f.*). These continuities in space and time are no longer fantasies of diffusionists or New Age adepts, but solid empirical facts.

²⁴ As Witzel (2009) amply demonstrates, comparative mythology is an excellent way to demonstrate trans-Steppe continuities between West Asia (the Indo-Iranian world), South Asia (the Vedic scriptures), and Japan.

Western Sahara, the Nile valley, and the Indian Ocean). From the Late 1st mill. BCE to modern times, the Silk Road ensured that these transregional connections were sustained and constantly renewed. The Ancients' use of the term *Πελασγοί* / *Pelasgi* / Pelasgians is, like all ethnonyms, protean and inconsistent,²⁵ and it can only serve to name the 'Pelasgian Hypothesis' if we redefine 'Pelasgian' analytically, allowing for overlap, but not identity, with the muddled Ancient use. Even so it is significant that Herodotus (*Historiae*, I, 56-58) considers the Ionians Pelasgians, and if a protohistorical transformation cycle of elements has been attested among them and among their direct intellectual heirs in Graecia Magna, I submit this is because such a cosmology was in the first place Pelasgian, originating in West Asia in the Neolithic or Early Bronze Age, and subsequently distributed widely into the Mediterranean, Asia, and Africa.

Tracing the history of philosophical thought is an empirical study, based on the methodologically-underpinned and theoretically informed examination of philosophical expressions against the background of an overall understanding of the language, culture and society in which they emerged and circulated. In principle the same applies to the reconstruction of pre- and protohistoric thought, as in the present argument. Most historians of such forms of philosophy as were produced in historical periods, belong to philosophical faculties, and write for philosophers in a predominantly philosophical discourse. Dealing with historical philosophers and their writings, *e.g.* the Presocratics and their commentators including Aristotle and Plato up to the present day, our argument will partly remain in this familiar vein. However, since we insist on going back *Before the Presocratics*, we also have to use the exploratory and often conjectural methods of pre- and protohistory and its many ancillary sciences (genetics, archaeology, comparative ethnography), resulting in a text that is not only critical of certain time-honoured claims in the history of philosophy, but whose style and methods also differ considerably from the discourse habitually used among historians of philosophy.

²⁵ van Binsbergen & Woudhuizen 2011: 372 *f.* and *passim*; van Binsbergen, in press (a).

Let one, in the present context highly pertinent, example suffice to indicate the orientation of the overambitious *tour de force* that constitutes the present argument – highlighting the kind of transcontinental continuities the above theoretical perspectives allow us to perceive and take seriously:

MYTHICAL WAGTAILS AT TWO ENDS OF THE OLD WORLD. In a Western Zambian myth (Jacottet 1899-1901: II, 116 f.; Bouchet 1922: 22 f.; Mackintosh 1922: 367 f.; van Binsbergen 2010a: 180) the creator god Nyambi (with widespread West African counterparts and near-namesakes), when still walking on earth, feels threatened by the First Man, named Kamunu ('Man Person'), and flees to heaven. (Incidentally, according to the Jacottet version²⁶ Nyambi, and in that case not the creator god but a demiurge, had been thrown out of heaven to begin with – which makes him (with his spider / solar connotations), in this respect at least, akin to Hephaestus,²⁷ to the Finnish Iron god,²⁸ and to the South Asian war god Skanda who was too hot to grow up in a normal way but had to be hatched by Ganga and nurtured by the Pleiades or Krittika²⁹ – also cf. カグツチ Kagutsuchi, the Japanese god of Fire, to whose destructive force even the birth channel of his mother イザナミ Izanami was not safe). In his flight to heaven Nyambi is attended to not only by a spider (which has remained Nyambi's implicit animal identity) but also by a wagtail bird (*Motacilla capensis*). This opens up an interesting comparative angle. In the main Japanese creation myth virtually the same bird (*Motacilla grandis*) showed the first creatures Izanami and イザナギ Izanagi how to engage in sexual intercourse by the suggestive, incessant up and down movements of its tail, after which it is named 'wagtail' (古事記 *Kojiki*, cf. Philippi 1968; van Binsbergen 2009 and forthcoming). It is as if the wagtail in the Western Zambia story signals that, implicitly, we are in the presence of the invention of sexuality – as if not the First Man's insolent attitude towards Nyambi, but his sexual discovery of his own wife, chases God from earth. And in fact, many Flood stories

²⁶ And also according to a myth I collected among the Nkoya in 1973 from the prophet / witch hunter / headman Lubumba, Njonjolo valley, Kaoma district, Zambia. Here the demiurge is kicked out of heaven for the invention of sorcery, but his name is not disclosed. Since missionary influence from the early 20th century CE has led to the adoption of the name Nyambi for the Christian creator High God, it would have been difficult for Lubumba to implicate a mythical character by the name of Nyambi in such a diabolical capacity.

²⁷ Homer, *Iliad*, I, 568 f., 18, 136 f.; *Homeric Hymn to Pythian Apollo*, 310 f.; Quintus Smyrnaeus, *Posthomerica*, II, 549 f.; Plato, *Republic*, 378 d; Apollodorus, *Bibliotheca*, I, 19; cf. Atsma 2000-2008, s.v. 'Hephaestus'.

²⁸ Note that, in the *Kalevala*, the parallel revolves on the birth, not of Fire but of the conceptually related Iron (Lönnrot 1866; Tamminen 1928). Also in Yoruba religion, West Africa, the God of Iron, Ogun, is considered the first to come to Earth from Heaven, but in that context the move is not a punitive expulsion.

²⁹ Dowson 1928 s.v. 'Skanda', pp. 152, 300 and *passim*; Keith 1917; Willis 1994: 84.

world-wide³⁰ reiterate the theme of the Flood being caused by the discovery of sexuality – or they reverse the account and introduce the discovery of sexuality (often of an incestuous or bestial nature, even the mating with plants is recorded) as the only solution to repopulate the earth.

We hit here upon a controversial but logical, and crucial, implication of the idea of transcontinental continuities: *if the latter can be taken for a fact, then in principle well-attested, studied and understood symbolic relationships in one location and period may be used to illuminate less explicit similar relationships in another location and period belonging to the same complex, even though in another continent - not just on the basis of a formal analysis and a generalised appeal to inherent convergent properties of the mind of Anatomically Modern Humans, but on the basis of real historical cognateship.* This methodological principle is basic to my work in the field of comparative mythology, geomantic divination, transformation cycles of elements, astronomical nomenclature etc. It will guide us in the following Chapters.

We will now further prepare out conceptual and methodological tools for our complex and ambitious argument in this book. Therefore we will turn to Case Study I, on the pre- and protohistory of two widespread formal cultural systems, notably the mankala board-games and the form of divination known as geomancy.

³⁰ Isaak 2006; van Binsbergen with Isaak 2008; van Binsbergen 2010a, 2010e.

Chapter 2. Inspiring data and transcontinental comparative method: Case study I. The pre- and protohistory of mankala board-games and geomantic divination

2.1. In search of inspiring data and a transcontinental comparative method

While this book is being published in the philosophical context of *Quest: An African Journal of Philosophy / Revue Africaine de Philosophie*, it explores and presents historical and transcontinental-comparative *prolegomena* to an ontological philosophical argument on cosmology and the structure of reality, rather than offering such an argument in its own right. For centuries, Western philosophers have assumed that the history of their discipline started with the emergence of the Presocratic philosophers in the then Greek-speaking regions of West Anatolia (Ionia) and Southern Italy (Graecia Magna) in the 6th century BCE. Comparative historians of human thought perceived, over half a century ago, that this emergence of systematic detached thought in the European periphery of West Asia more or less coincided with similar major mutations of regional thought systems by such Asian thinkers and religious innovators as Gautama Buddha (North India near or – Allen 2002 – on the Nepalese border), Zarathustra (Iran; Bidez & Cumont 1938; Boyce 1975), 老子 Lao Tze and 孔夫子 Kōng Fūzǐ / Confucius, in China (Fung Yu-lan 1952) – bringing to completion a process of innovation that, at least typologically, had been foreshadowed. in North-eastern Africa and Syro-Palestine many centuries earlier, by ʕn-itn / Achnaton and Mosis / מֹשֶׁה Moshe / Moses, and foreshadowing, in their turn, the spiritual innovations by Jesus of Nazareth and Muḥammad, many centuries later again. For this seething of

innovation, the German philosopher Karl Jaspers (1993 / 1949) proposed the notion of *Achsenzeit* / *Axial Age* (mid-1st mill. BCE). Despite the reproach of implicit Eurocentrism (Bernal 1987; cf. my argument in the present book) this concept has exerted great influence on historical sociology in the last few decades.³¹ The authors in question have further developed Jaspers's approach and reflected on its theoretical significance as a crucial step in the unfolding of human thought faculties (notably the concept of transcendence) and their social, economic and political implications. But even so we need to be cautious of the concept of the Axial Age. It draws attention to the maturation, in the course of the first millennium BCE, of virtualising transcendent thought (van Binsbergen 2012a) in a context shaped, already during a few millennia then, by the converging forces of writing, the state, organised religion, emergent science, and an emergent money economy. Such maturation was, in hindsight, predictable rather than miraculous. The wide spatial distribution of its manifestations, from the Aegean via Iran and Northern India to China, loses all of its apparently miraculous nature once we realise that that context is not one of total regional isolation but, on the contrary, one of proto-globalisation, much facilitated by the spread of horse-riding, chariot, and nautical technology from the third and second millennium BCE, all across Asia and along the navigable waters surrounding that continent. Numerous examples of this proto-globalisation could be cited, and some actually feature in our present argument, e.g. the demonstrable spread of shamanism from Northern and Central Asia into Mesopotamia and Egypt in the mid-2nd millennium BCE;³² the spread of specialised astronomical and astrological notions; the spread of basic forms of divination including geomancy; the emergence of triads as advanced forms of logical and

³¹ Cf. Schwartz 1975a, Eisenstadt 1982, 1986, 1987-1992, 2011; Silber 2011; Michalowski 2005 and other contributions in Arnason *et al.* 2005; Bellah & Joas 2012. Also relevant in this connection is Weber 1922: 185 *f.* on '*innerweltliche Askese*'. Jaspers's approach hinges on a specific conception of 'transcendence', which is critically discussed in Kunz 1957 (cf. van Binsbergen 2012a).

³² There is a long-standing claim (Karst 1931a; Eliade 1968 / 1951) that the term *shaman* generally used in connection to Uralic- and Altaic-speaking peoples of Northern Eurasia (a standard description being Harva 1938), in fact derives from the Buddhist religious term *sramana*, and thus could hardly be older than the foundation of that world religion in the 1st mill. BCE. In Chapter 8 we shall return to this question and provisionally situate the emergence of shamanism as an institution in the Upper Palaeolithic.

symbolic thought, etc.

Our itinerary in the present argument will start with the Axial Age in the Western periphery of Asia, but will explore far greater stretches of space and time than the analysts of the Axial Age have braved, and thus constitutes an attempt to chart intellectual *terra incognita*, especially when coming, like in the present case, from an Africanist scholar whose main formal training was in the analysis of regional cultural domains through ethnographic and ethnohistorical fieldwork. But more important, the very attempt to study apparently regional intellectual achievements as part of broad cultural processes that span entire continents and even extend between continents, is counter-paradigmatic (*cf.* van Binsbergen 2003: especially Ch. 15): even with the spate of globalisation studies in the last few decades, the accepted units of cultural history are still *individual cultures*, not continents, let alone the global space as a whole. This reflects the way academic knowledge production and transmission is organised through university departments, specialist journals, publishing houses, funding agencies etc.; and specialist standards of research and reference are so high that very few scholars could pretend to make meaningful contributions to the study of more than just one culture, let alone more than just one continent. The present study seeks to trace the extent, globally as far as the spatial dimension is concerned, and all the way from the Upper Palaeolithic as far as the time dimension is concerned, of a particular intellectual cultural complex characterised by such features as cyclicity, transformation and element cosmology. So what we need at the beginning of such a project is to re-assure the reader that such extreme continuity through space and time, counter-paradigmatic as it may be, yet has a very tangible grounding in solid data and intersubjective methodology and theory.

As compared with the highly presentist and localist perspectives prevailing in social anthropology ever since the *classic*, fieldwork-centred tradition in that field was established in the 1930s-1940s (on the ruins of the diffusionism and evolutionism that preceded it), my own early work in such fields as the anthropology of North African popular religion and South Central African religious structures and processes with special emphasis on cults of affliction *i.e.* spirit possession and their cultic healing (van Binsbergen 1971, 1980a, 1980b, 1981, 1985a, 1985b), was

already relatively comparative and historical. However, my approach remained within the established framework of regional and *intra*-continental specialisation, until my new fieldwork in Francistown (Botswana, from 1988 on) brought me in intensive contact (van Binsbergen 1995b, 1996a, 2003, 2005c) with a local divination system whose formal structure and symbolic content, with very little manifest grounding in *local* historic cultures, clearly derived from an Islamic astrologically-based divination system that was established in Iraq around 1000 CE, and that in the meantime spread not only to Southern Africa but also to the entire Indian Ocean region, West Africa, and even Medieval and Renaissance Europe, where it subsequently survived as a peasant self-help divination system until modern times. Thus I was introduced, in a periphery of the Old World, to *geomancy*: a widespread family of divination systems, based on the systematic generation (by locally standardised stochastic methods involving man-made random generators) of formal configurations (usually consisting of a number of superimposed lines, where each line can take either of two values, *e.g.* broken or unbroken, one dot or two dots; see Table 2.3 and Fig. 2.14 below); the nature and combination of such configurations is then interpreted in divinatory terms by reference to a conventionalised catalogue of meanings (*cf.* van Binsbergen 2005b, with extensive references cited there).

Contrary to the assumptions of classic fieldwork-based anthropology and the structural-functionalism that constituted its main theory, and rather in line with the approaches of diffusionism especially its more recent branches such as Frobenius's Cultural Morphology and with deep-seated parallels in archaeology, apparently there exists a class of formal cultural systems that are not very closely associated with the specific local and regional cultures in which these formal systems find themselves, – formal systems that cannot meaningfully be considered products of that narrow environment in space and time, but that on the contrary ramify across cultural and temporal boundaries, in such a way as to more or less preserve and transmit their original structure and orientation even though they are at the same time, inevitably, involved in processes of localising transformation. In addition to geomantic divination systems and other such diagnostic and therapeutic systems, this class of formal systems includes other rituals, games, folklore, stories, myths, religious beliefs, cosmologies, language forms, writing systems, and other forms of sym-

bolism. Having devoted the first quarter of a century of my academic life to an analytical paradigm where (in accordance with classic social anthropology) people's *socio-politico-economic strategies within a local horizon* were considered to be the source of all cultural meaning, by the end of the 1980s I became alive to a much less reductionist perspective that affirms the vital capability of symbols to persist in space and time and to endow the human life world with meaning whose source is not local but lost in distances of space and time. Over the years, I have continued to study African divination systems in their transcontinental backgrounds and ramifications, but gradually I have added several others of the formal systems enumerated above: animal symbolism especially in relation to the leopard and its spotted skin; myths; and games, of which the *mankala* family has captivated my attention from the mid-1990s on. Mankala is the academic name for a widespread board-game, played on two or more rows of holes, over which the players distribute and redistribute tokens (stones, nuts, etc.) according to intricate rules.

In the meantime the decolonisation of the global political space, and of scholarly production, gave rise to a critical re-assessment of anthropological positions in the global politics of knowledge, to the emergence of cultural relativism as anthropology's main gift to World Culture, and also to a fundamental reconsideration of the cultural indebtedness between continents. These orientations surfaced in the African and North American Afrocentrist movement,³³ the South Asian Postcolonial Theory (*cf.* Spivak 1990; Bhabha 1992; Rattansi 1994), and (in the narrower field of Mediterranean Bronze Age studies and Egyptology) the *Black Athena* debate as initiated by the British / American Sinologist and political

³³ On Afrocentrism, *cf.*: Asante 1990; Diop 1959, 1962/1989; Dubois 1976; Obenga 1973. Highly critical of Afrocentrism yet a leading figure in the *Présence Africaine* movement which formed a bedrock for Afrocentrism, and starting out from a kindred global politics of knowledge: Mudimbe, especially 1988. Reasonable but by and large dismissive introductions to Afrocentrism include: Fauvelle-Aymar *et al.* 2000; Howe 1999, the latter critically discussed in van Binsbergen 2011c. Ever since I traded, a quarter of a century ago, my specialist Africanist blinkers for critical self-reflection as a producer of global knowledge, I have had – as detailed in Chapter 0 – , and vocally expressed, great sympathy for Afrocentrism, even though over the past decade I have become convinced that, as a perspective on global cultural history from the Bronze Age on, the Political Correctness it tends to entail obscures our view of the actual, complex, intercontinental interplay of cultural exchanges towards the shaping of the Modern world.

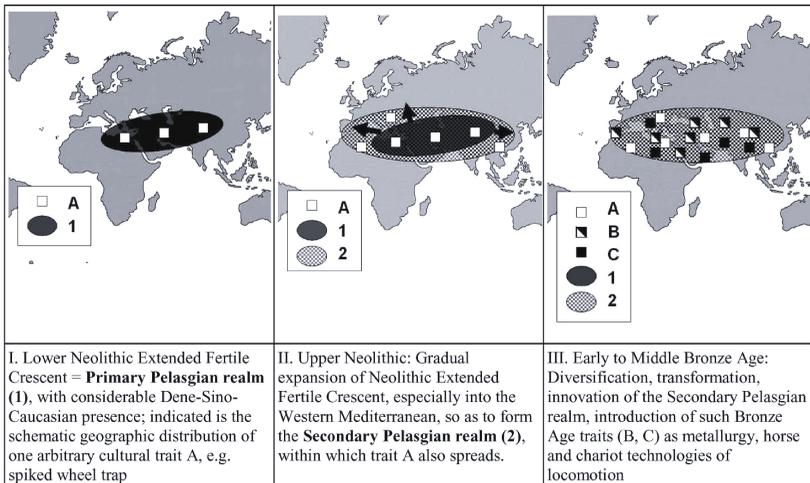
scientist Martin Bernal in the 1980s. When in 1997 I published my collection *Black Athena Ten Years Later* (a critical but constructive reassessment of Martin Bernal's *Black Athena* thesis) as a special issue of the archaeological journal *TAAANTA* (van Binsbergen 1997a), my principal *empirical* contribution to that volume consisted of a long article entitled 'Rethinking Africa's contribution to global cultural history: Lessons from a comparative historical analysis of mankala board-games and geomantic divination' (van Binsbergen 1997b).

In the fifteen years that have passed since the *TAAANTA* collection was published, I have continued to grapple with mankala, geomancy, the *Black Athena* debate, and transcontinental continuities – in fact, these themes have come to dominate my research. When an expanded and updated version of the *TAAANTA* collection was published (van Binsbergen 2011a), my 1997 analysis was reprinted there in its original form and, for technical reasons, could not be updated. After a critical assessment of the notion of Africa, and after presenting a typology of varieties of mankala and of geomancy, I presented the most important data on the global distribution of these formal cultural systems, and proceeded to interpret these distributions in the light of a tentative historical reconstruction. At the time I was (like Bernal himself) much enamoured with Strong Afrocentrism as a theory that considers Africa the origin of crucial phenomena of cultural history, not only in the very remote past when humankind originated in that continent several million years ago, and in the slightly less remote past of the Upper to Middle Palaeolithic when Anatomically Modern Humans (the subspecies to which all humans alive today belong) emerged in Africa c. 200 ka BP and from c. 80 ka BP began to spread to other continents, but even in the relatively recent past of the Neolithic and the Bronze Age, only a handful of millennia ago.

Meanwhile, it has become time for a thorough update of my 1997 argument, in line with my overall criticism of Bernal's *Black Athena* thesis, and with the alternative model ('the Pelasgian Hypothesis') which I have meanwhile developed.

In terms of data and method I cannot think of a better way to introduce the argument, types of data, and methods of analysis of this book as a whole. However, it will hardly be a pleasure for the reader to have to

plod through the unfamiliar and philosophically barren distributional data that will be among our principal analytical tools for developing and underpinning an argument, however exciting ultimately, that presents a most comprehensive view of cultural history, advocating the possibility of methodical retrieval of modes of thought from the distant past, stressing the transcontinental dimension and the important role of Africa in that connection, and exploding the Eurocentric and hegemonic myth that philosophy started in Europe in historical times. The history of philosophy is an empirical field of study, and without understanding our data and methods, our intended contribution will remain suspended in the air, and will eventually be futile. I must therefore ask the reader to bear with me – soon, via the unexpected complexity of an African clan system, even the philosophical reader will reach the more comfortable and familiar shores of comparative philosophical analysis, will ponder over Greek texts from the flower of Ancient thought, and after that, the unfolding worldwide vistas on pre- and protohistoric modes of thought will simply be breath-taking, vertiginous precisely because they have enough of an empirical and comparative basis to convince.



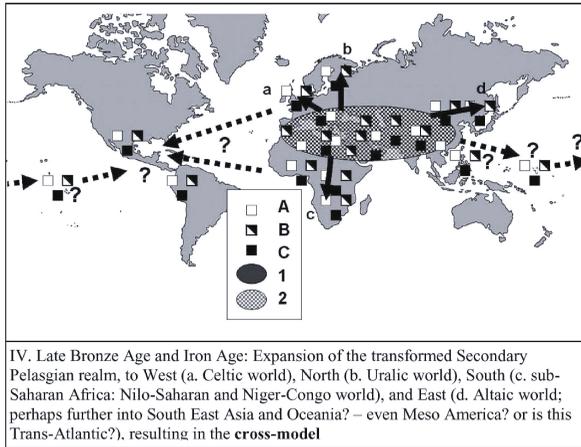


Fig. 2.1. Diagrammatic representation of the Pelasgian Hypothesis.

I have already referred to my Pelasgian Hypothesis; an overview is offered in Fig. 2.1. In the present Chapter, I will limit myself to presenting and interpreting from a historical point of view the distributional world maps for the two formal systems of *mankala* and *geomancy*. The bibliographic references for the specific attestations / data points, and for the wider analytical and theoretical context may be found in the 1997 article; here I only give those references that specifically inform the update. The present analysis makes reference to several concepts from my *Diachronic Aggregative Model of Global Mythology* (van Binsbergen 2006a, 2006b, 2010a), which seeks to trace and explain the unfolding of world mythology since the emergence of Anatomically Modern Humans in Africa c. 200 ka BP; a short summary of that model therefore also features in this Chapter. There are substantial indications (notably in the existence of a long list of present-day cultural universals; *cf.* Brown 1991) that when leaving Africa, Anatomically Modern Humans had at their disposal a package, not only of common genes (by which geneticists could trace their emergence in Africa and their subsequent global dispersal), but also of common socio-cultural traits, developed inside Africa and subsequently, as a result of the ‘Out-of-Africa’ Exodus, spread all over the world: universals such as marriage, the idea of a kinship system, divina-

tion, etc. This socio-cultural package I have called 'Pandora's Box'. However, it is far from being immediately conspicuous as a package. As expressions of humans' freedom of association and invention, unhindered by the limitations of space, time and logic to which more practical endeavours are subjected, myths, like other literary, artistic and religious products of the imagination, exist in a dazzling, ever proliferating variety. Therefore, in order to create the conditions for comparability in the field of comparative mythology, we need to distinguish a quite limited number of types and themes, and domesticate our data accordingly.

In my approach I have drastically reduced (hence 'Aggregative') the variety of myths to a few dozen 'Narrative Complexes' or *NarComs*, each of which covers, inevitably, a vast and rather heterogeneous domain of implications and associations. This enabled me to identify, for instance, twenty different *NarComs* in an extensive corpus of African cosmogonic myths ('creation myths') on the basis of which I formulated my Model in the first place. Out of these initial twenty *NarComs* (to whose number I have had to make some additions when I applied the Model of other research questions and corpora of data, e.g. Flood myths; cf. van Binsbergen with Isaak 2008), through a complex though explicit analytical strategy of triangulation, distribution analysis, close reading, etc., I isolated a handful which, I argue, already made part of 'Pandora's Box'. Moreover, I have maintained that the post-Out-of-Africa transformation and innovation of mythical themes originally contained in 'Pandora's Box', took place, not continually and at random, but in concentrated settings in space and time, which I have called *CITI*: 'Contexts of Intensified Transformation and Innovation'. These settings may be identified, more or less, not so much by looking for prehistoric mythologies (which outside rock art and mobile art left few direct traces), but by tracing the emergence and ramifications of new modes of production (both within and beyond hunting and gathering), and of new linguistic macrophyla, which under the *Borean and *Nostratic Hypotheses (Starostin, Fleming, Illich-Svitych, etc.) constitute the largest language groups – for whose emergence and ramification we now have sophisticated methods at our disposal: qualitative historical-comparative linguistic methods, and multivariate analysis.

1 Separation of Heaven and Earth	11 Primal waters and the Flood
2 Reconnection of Heaven and Earth	12 From the tree
3 What is in heaven ³⁴	13 Cosmic rainbow snake
4 Lightning bird and World Egg	14 Duality Two children Twins
5 Mantis	15 Spider and feminine arts
6 Rescue from ogre	16 Shamanism / bones
7 From the mouth	17 Speckledness / granulated surface texture / leopard
8 The stones	18 Honey bees, (honey-)beer
9 The Moon	19 Cosmogonic virgin and her lover-son
10 The Earth	20 Contradictory messengers bring death

Source: van Binsbergen 2010a: Table 9.1

Table 2.1. Narrative Complexes identified in sub-Saharan African cosmogonies as collected in historical times.

CITI		proposed Narrative Complex (no. and description)	mtDNA type	remarks	linguistic context
in time	in space				
I. Pre-Out-of-Africa Middle Palaeolithic 80 ka BP and earlier	Sub-Saharan Africa	‘Pandora’s Box’: the original mythical package, perhaps containing: 4. The Lightning Bird (and the World or Cosmic Egg) 8. The stones (as earth; under CITI VI revised as the stones as connection between heaven and earth) 9. The Moon 10. The Earth as primary (10 was subsequently revised towards cattle, in the Neolithic) 12. From the Tree (in subsequent CITIs diversified into 12a ‘The world and humanity from the tree’, and 12c ‘the leg-child’) 13. The Cosmic / Rainbow Snake 15. The Spider (subse-	L (L1, L2, L3)	<ul style="list-style-type: none"> • The emergence of Anatomically Modern Humans as a biological mutation? • Africa’s soil carrying capacity, even for hunting and collecting, is the lowest in the world, mainly due to geological conditions that predate the appearance of humans by hundreds of millions of years, so it is possible that there was a push out of Africa • The emergence of myth as constitutive of a new type of human community: self-reflective, coherent, communicating, engaging in hunting and collecting, and creating coherence, through the narrative and ritual management of symbols, 	Proto-Human

³⁴ Further analysis suggests this NarCom – an analytical construct, like all other NarComs – to be an unfortunate contamination of nos. 4 (*cf.* Rain), 13, and 19.

II. Middle Palaeolithic, c. 80 ka BP	West Asia, and from there to Australia and New Guinea	quent transformed into 'the feminine arts' in CITI VI) 5. The Mantis	N and / or M	leading to articulate language. If this last point is plausible, then the earliest phase in the overall process is in itself myth-driven Leaving Africa and venturing into West Asia is likely to have produced new challenges and to have given access to new opportunities; possibly Neanderthaloid influence	
III. Middle Palaeolithic, c. 35 ka BP	West Asia	6. Rescue from the Ogre	A and B (out of N)	Neanderthaloid influence?	
IV. Upper Palaeolithic, c. 20 ka BP	Central Asia	11. The Primal Waters and the Flood	B (out of N)	Installation of the cosmogony of the Mother / Mistress of the Primal Waters, and the Land	*Borean
V. Upper Palaeolithic, c. 15 ka BP	Central Asia	1. The separation of Heaven and Earth 16. Shamanism, bones	N (H, A, B)	The separation of Heaven and Earth as central cosmogonic theme; shamanism associated with naked-eye astronomy (for hunters, later agriculturalists). The shaman's (belief of) travelling along the celestial axis to underworld and upper world, created (the idea of) a politico-religious social hierarchy on which more effective forms of socio-political organisation could be based.	Peripheral and Central branches of *Borean have separated

VI. proto- Neolithic c. 12 ka BP	Ex- tended Fertile Cres- cent	2. The Re-Connection of Heaven and Earth (after separation) 19. The Cosmogonic Virgin and her Son / lover 14. Twins	R and M1	Neolithic food production through agriculture and animal husbandry; Neo- lithic arts and crafts such as pottery, spinning, weaving; male ascen- dance; complex society, the emergence of writing, the state, organised religion, and science; incipient metallurgy	Eur- asiatic and Afro- asiatic separate
VII. Neo- lithic or Bronze Age c. 5 ka BP	Ex- tended Fertile Cres- cent	7. From the Mouth	too recent and too limited in scope to be interpreted in terms of mtDNA type	Masculinisation and mythical 'hysterical displacement' of procrea- tive functions, from groin to mouth and head – transcendentalism as triggered by writing, the state, organised priest- hood, and science	
VIII. Neo- lithic to Iron Age c. 3 ka BP	Ex- tended Fertile Cres- cent	14a. Twins, Two Chil- dren, Duality		further reflection needed	

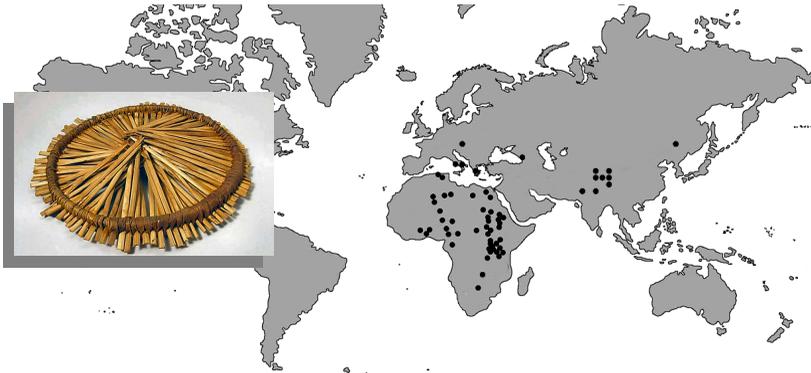
Source: van Binsbergen 2010a: Table 9.2

Table 2.2. 'Contexts of Intensified Transformation and Innovation' (CITIs) in the global history of Anatomically Modern Humans' mythology.

As we have seen, in addition to the 'Out-of-Africa' Hypothesis, recent genetic research has also formulated the '*Back-to-Africa*' Hypothesis, according to which there has been a substantial population influx from Asia (both West and East Asia) into Africa in the last 15 ka. It stands to reason that such a population movement also meant, to a considerable extent, demic diffusion of culture traits owned by these Asian populations trickling back into Africa. Basically there would be two main routes or mechanisms for from such an Asian feed-back influx into sub-Saharan Africa:

1. via North Africa, across the Sahara: along the time-honoured caravan routes and the Nile Valley
2. via the Indian Ocean, either crossing into Africa from the Arabian peninsula, or further South via the Swahili coast, Madagascar, or around Cape of Good Hope, to the Atlantic West coast, even all the

way to the Bight of Benin and West Africa.



for sources of the data points: see van Binsbergen 2010b; Lindblom 1935
inset (obscuring a part of the world map where there are no attestations): modern
spiked wheel trap from the Acholi people, Southern Sudan (Sparks 2006).

Fig. 2.2. Global distribution of the spiked wheel trap (as typical of Pelasgian distributions).

A conspicuous example of mechanism (1) is the distribution of the spiked wheel trap (Fig. 2.2), which I am arguing elsewhere to constitute an ‘index fossil’ of ‘Pelasgian’ transcontinental cultural influx into the Mediterranean, the rest of Europe, Africa, East and South East Asia, and ultimately Oceania. Mechanism (2) would be brought out by the many instances³⁵ of South, South East and East Asian influences on present-day African socio-cultural traits, *e.g.* in the kingship, ecstatic cults, divination, language (notably the Austric affinities in Bantu) etc. on which my research has been concentrating over the last decade, and which will play an increasingly important role as this book’s argument develops. Stephen Oppenheimer’s (1998) term ‘Sunda’ would be an acceptable, overall term for the effects of mechanism (2), as long as we realise that in the context of transcontinental interaction this is merely an umbrella term,

³⁵ Cf. Dick-Read 2005; van Binsbergen 2003: Ch. 8, 2005c, and my work in the context of the 2012 Leiden conference. The analytical groundwork for the transcontinental, multicentred and multidirectional maritime network is to be found particularly in my recent paper exploring the protohistoric links between Africa and China (van Binsbergen 2012f).

denoting not only (as the term suggests) specifically Indonesian / South East Asian influence, but also East and South Asian influence, notably upon Africa. That is not necessarily a one-way process; rather than speaking of ‘Sunda’ influence it would be appropriate to recognise, even from as early as the Neolithic and Early Bronze Age, a transcontinental maritime network that is both multicentred and multidirectional, in the sense that persons, goods and ideas may travel in any direction between any two points on the network.

While the distribution maps presented in this Chapter are directly dictated by empirical data, the tentative historical reconstructions based on these maps are *not*, of course – such historical reconstructions involve a complex act of interpretation, where different analysts have the inherent freedom to come to different conclusions (Quine 1981; Harding 1976). The interpretations I arrive at reflect the experience gained in the handling of many such prehistoric distribution maps over the past decade, in many consecutive attempts to formulate and improve my Aggregative Diachronic Model – applying that model to specific analytical situations at hand, *e.g.* the Bronze Age Mediterranean, the continuity between African and Eurasian mythologies, and the formulation, in that connection, of my Pelasgian Hypothesis.

The aim of our exercise in this chapter is to develop a method of long-range analysis based on empirical distributions; and to prepare the ground for the analysis of geomancy, that is to play a major role throughout this book. While I flatter myself that in the process I have developed a certain feeling for the patterns and theoretical implications as suggested by the distribution maps, the historical reconstructions presented here are merely provisional, and widely open to debate. Meanwhile, regrettably, it would take us too far to discuss, here, every data point and every step made in the tentative historical reconstruction – the reader is only presented with the result.

2.2. Mankala

The *mankala* family of board games (Murray 1952) comes in a handful of major types, defined by the number of rows (two, three or four) along which the game’s vital redistribution holes are being arranged. The oldest archaeological attestations of (what is commonly regarded as) *mankala*

boards hail from the West Asian Neolithic,³⁶ and are of the simplest two-row type. The world distribution is mapped in the following Figure:

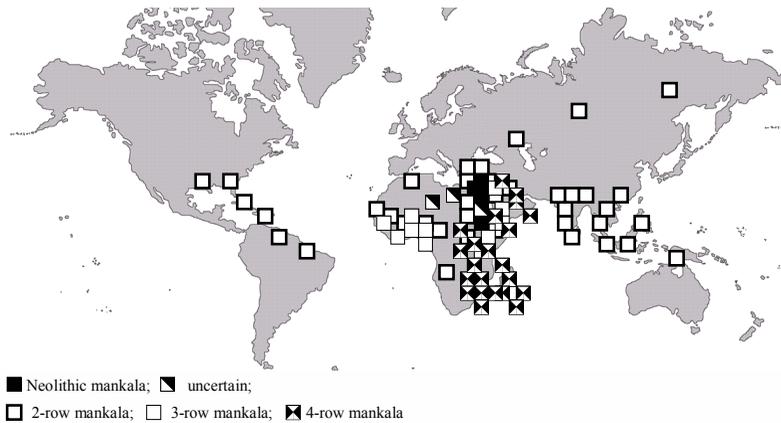


Fig. 2.3. Mankala: Distribution of the various types.

Considering the world distribution of Mankala, we come to the following suggestions:

- The New World attestations are clearly associated with recent forced demic diffusion (Atlantic slave trade) in Early Modern times; this indicates that Mankala as a trait is not in Pandora's Box (a conclusion also suggested by the absence of attestations in New Guinea³⁷ and Australia), and not even in the later CITIs whose traits have made it to the New World.
- The few Neolithic attestations of Mankala (and there are no older

³⁶ Rollefson 1992; Kirkbride 1966; *cf.* Fig. 2.12, below. More controversial attestations of considerable antiquity – but unplayable because they are vertical or suspended high in the air – are from Ethiopia and Ancient Egypt: Parker 1981 / 1909: 587 *f.*; Jensen 1936: 207.

³⁷ However, Raabe n.d. reports a Mankala board from Arduni Island, Sepik New Guinea, no doubt under Indonesian influence. She stresses that the Mankala board is mainly known in Islamic Indonesia, as well as in Africa. This corroborates the general opinion in the literature that Islam, and forced migration of Africans as slaves, have been largely responsible for the spread of this board-game.

ones) that were known to me in the 1990s are all in West Asia and adjacent Northeast Africa. Research in the last 10 years has further explored Chinese forms of mankala, but has not adduced (to my knowledge) new archaeological evidence from East Asia that would challenge the primacy of the West Asia / Northeast African attestations.

- For a good view of the distribution of the 2-, 3- and 4-row varieties of mankala as attested in historical times, it is best to consider the distributions separately, as in the following Figures. For proper time perspective, the Neolithic attestations are included in each Figure.

The global distribution specifically of two-row mankala is presented in the following diagram:

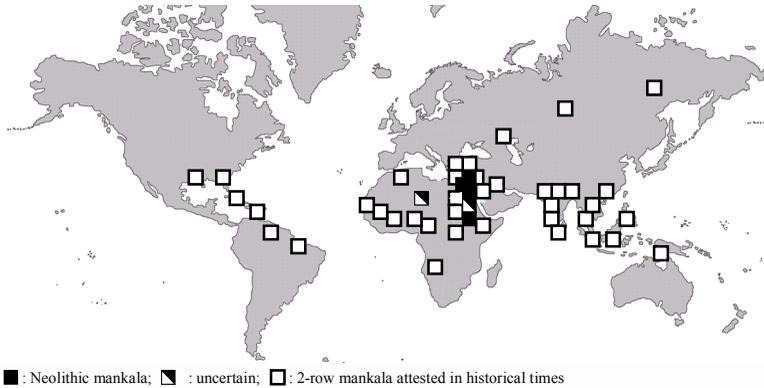
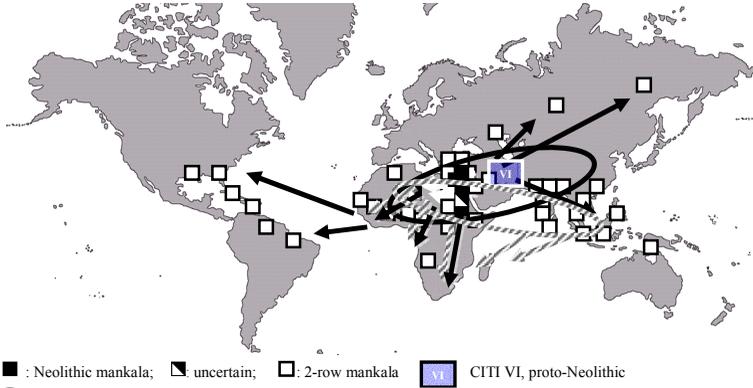


Fig. 2.4. Two-row mankala: Distribution.

The global distribution of two-row mankala is provisionally interpreted in historical terms in Fig. 2.5. Here, the tilted oval marks what I propose to call the Neolithic Extended Fertile Crescent – the narrow but long belt of Neolithic innovation all across the Old World, from the still fertile Sahara (only later to turn into a desert) to China, corresponding with CITI VI in Table 2.2. The hatched oval with hatched arrows emanating from it, indicates the extent of the Back-to-Africa movement. Transatlantic black arrows indicate the effect of forced migration in the recent centuries of the slave trade.



The tilted oval marks the Neolithic Extended Fertile Crescent; The hatched oval with hatched arrows emanating from it marks approximately the extent of the Back-to-Africa movement.

Fig. 2.5. Two-row mankala: Tentative historical reconstruction.

For a discursive discussion of this reconstruction, see p. 60 *f.*, below.

The fairly restricted global distribution of three-row mankala is presented in the following diagram (Fig. 2.6):

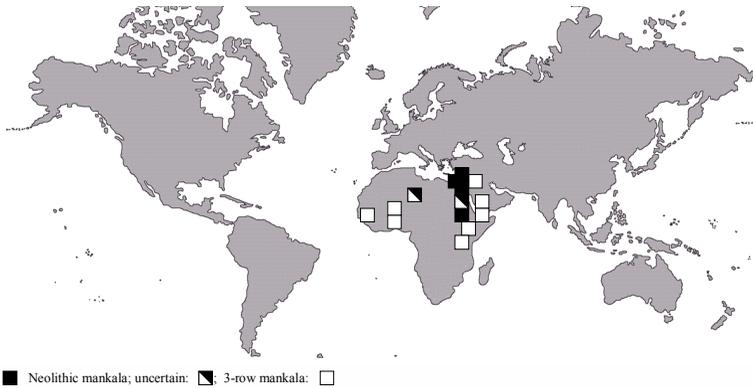


Fig. 2.6. Three-row mankala: Distribution.

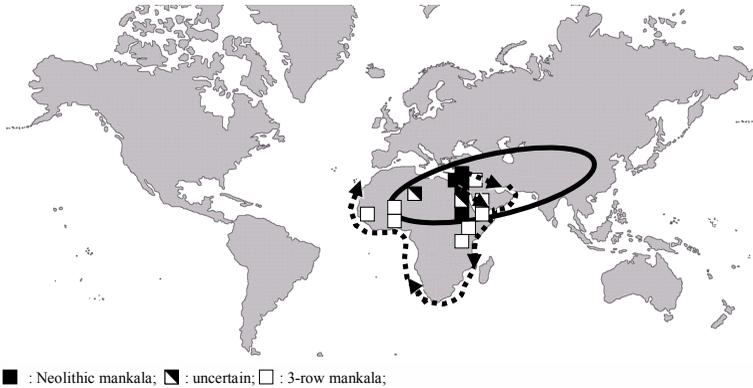


Fig. 2.7. *Three-row Mankala: Tentative historical reconstruction.*

For a discursive discussion of this reconstruction, see p. 60 *f.*, below.

Although the Neolithic Extended Fertile Crescent again appears in Fig. 2.7, the remarkable distribution with its two centres of concentration, one in Northeast Africa and the other in West Africa, seems to indicate a dilemma which we will encounter, further down in this Chapter, in relation to other formal cultural systems (e.g. Flood myths and Tower myths; geomantic divination) and transcontinental influences:

- was the connection maritime, around the Cape of Good Hope, on the wings of the transcontinental ocean trade – thus part of the postulated ‘Sunda’ network (indicated in dotted lines in Fig. 2.7, and – despite the more fundamental awareness that such a maritime network would have been multidirectional and multicentred – provisionally postulated to have run from West Asia (Persian Gulf / Red Sea – famous, well-documented haunts of the ancient mariners in Phoenician and Graeco-Roman times) around the Cape, to West Africa but the opposite movement is also to be considered (and has been, in the work of the Afrocentrist writer Clyde Winters – although not in specific relation to Mankala)?
- or was it overland, across the Sahara, and on the wings of the Arab caravan trade – after all it was in an Arabian context that the first written mention of Mankala has been attested?

The data on this point are sufficient to raise the question, but not to answer it. Let us therefore proceed to a consideration of the global distribu-

tion of four-row mankala, which is presented in the following diagram (Fig. 2.8).

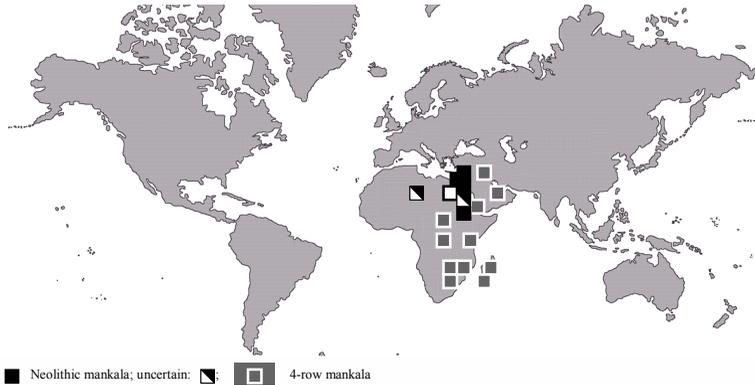


Fig. 2.8. Four-row mankala: Distribution.

Here again the distribution is geographically limited, and virtually confined to the eastern half of the African continent, the Arabian peninsula, and Madagascar. In fact, four-row mankala is the standard type associated with the African Indian Ocean seaboard. For the historical reconstruction of the connections involved this leaves us little room for manoeuvring (Fig. 2.9).

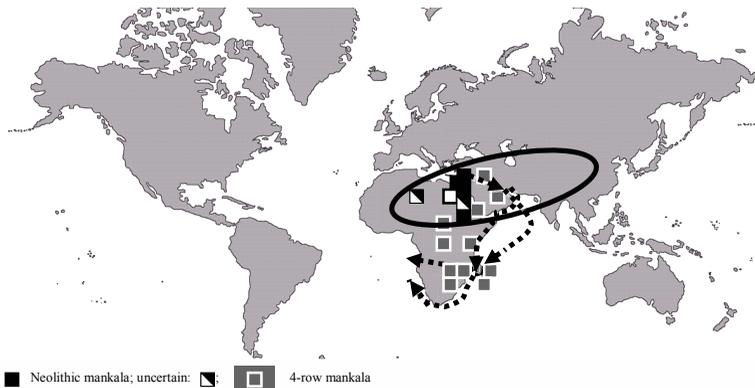


Fig. 2.9. Four-row mankala: Tentative historical reconstruction.

It would theoretically be possible to postulate an original epicentre for four-row *mankala* somewhere in the East African interior, and see the coastal forms as secondary – but against the comparative background of the other forms, especially the three-row variety, and of the Neolithic West Asian attestations, our best bet would be to postulate, once more, a ‘Sunda’ mechanism bringing the four-row variety from the Persian Gulf or the Red Sea all the way along the African Indian Ocean coast, and from there into the East African interior.

The distribution maps and the associated tentative historical reconstructions suggest the following:

- The two-row variant is the standard. It is the minimum required number of rows to make sense of the rules of the game. This is also the form of the Neolithic *mankala* boards. These may be taken to constitute prototypes from which two-row forms in Africa, Asia and the New World are derived. Developed in West Asia, *mankala* may then be supposed to have entered sub-Saharan Africa as if the latter then constituted an open cultural niche, with no rival mathematical games resisting its local introduction – another example of Pelasgian transmission Southward in accordance with the cross-model.
- Three-row and four-row forms of *mankala* are relatively recent regional variants.
- The patchy distribution of three-row *mankala* includes West Africa, Northeast Africa, and the Arabian peninsula. All these locations are near seashores. An overland diffusion is unlikely for it would have resulted in a less patchy and localised pattern and more interior attestations. I take it 3-row *mankala* was developed in Northeast Africa or the Arabian peninsula (near the oldest Neolithic attestations of 2-row *mankala*) and from there spread by seaborne trade, *i.e.* the ‘Sunda’ intercontinental maritime network – although in this case there is no suggestion of any direct Southeast or South or East Asian involvement. The parallel with geomancy, and the reasons discussed there, weakly suggest a spread from East to West around Cape of Good Hope, rather than the other way around, but as we shall see, the argument is as yet inconclusive. We can only guess as to the time frame involved, but I suggest that

this variant is less than three millennia old; in fact, its spread to West Africa may have occurred in the second millennium CE.



left: courtesy Parrinder 1967; right: author's collection
(a) carving representing King Shamba of the Bushong Kuba holding a mankala board; (b) king with fly switch and neck ring – note the conical headdress, the facial expression and the body posture – all reminiscent of South East Asian Buddhist sculpture of the 2nd mill CE.

Fig. 2.10. Kuba carving styles, Congo, 17-19 c. CE.

- The distribution of four-row mankala is quite similar to that of the three-row variant. However, for four row-mankala there are no West African attestations, whereas the East African attestations are far more numerous and over a far more extended area including the African interior. The presence of the four-row variant on Madagascar (where it is the dominant form of mankala) suggests a Sunda link in the narrower sense of the word, but the interior African attestations could only be explained in Sunda terms *if we accept extensive Sunda inroads into the interior*. For this, there are both genetic and comparative-ethnographic indications for the Mozambican-Angolan corridor (which is one of the areas where four-row

mankala reaches deep into the interior). Similar corridors into the interior may be postulated for West Africa (the Cameroonian Western Grassfields), and for Central Africa, *e.g.* the well-known Bushong-Kuba sculpture of King Shamba holding a mankala board (Fig. 2.10a) does show signs of a ‘Sunda’-related, ultimately Buddhist-influenced sculptural style, especially if compared to another such sculpture (2.10b). The genetic distributional data indicative of such inroads are brought together by Cavalli-Sforza *et al.* 1994 and discussed, in their specific application to sub-Saharan Africa, in some of my recent work.³⁸ Again the distribution brings us to propose an epicentre of origin in Southwest Asia (Arabian peninsula, Persian Gulf) or Northeast Africa, and a time frame not extending further back than the beginning of the Common Era.

The distribution of two-row mankala is more extended and more complex than that of the three- and four-row variants. This suggests greater antiquity for two-row mankala. Taking the oldest, Neolithic attestations in Southwest Asia and Northeast Africa as rough indications of the epicentre of origin (although this is, admittedly, a risky procedure), we may discern the following phases in our historical reconstruction:

1. Extended proto-Neolithic Fertile Crescent (Sahara-China), CITI VI. As I have argued extensively in the specific context of board games (van Binsbergen 1995a, 1996b, 1997b), the Neolithic management of game and crops is mirrored in the players’ manipulations during the mankala game; there also appears to be a link with the management of fluids, for which an irrigation context comes to mind.
2. The ‘Back-to-Africa’ movement from 15 ka BP onward, carrying something of the genetic and cultural context as under (1) into West Asia and Africa. This effect may be conspicuous in the case of the Namibian *||hūis* game (Townshend 1976-1977), the remote ancestors of whose Khoisan-speaking players may well have brought the game from Central or West Asia, where (at least, so claim Cavalli-Sforza *et al.* 1994) some of their ancestors apparently still lived 10 ka BP.

³⁸ In the context of the 2012 Leiden conference.

3. From the eastern end of (1), *mankala* appears to be diffused into Southeast Asia. Since this is a relatively late development (< 2 ka BP) into regions already fully populated by Anatomically Modern Humans, this appears to be cultural rather than demic diffusion. Contrary to, for instance, certain other NarComs (for instance *e.g.* the oldest Flood myths, which I have suggested to be subject to demic diffusion into Southeast Asia and Oceania in association with the owners of mtDNA type B), there is no indication that the spread of *mankala* into Southeast Asia is specifically associated with any genetic type. If it were associated with mtDNA Type B, *mankala* would be far more widespread in Southeast Asia, and would not be virtually absent (with only one New Guinea attestation) in Oceania and Australia. On the other hand, *mankala* in South East India and on Ceylon appears to be only a few centuries old, and associated with the advent of African slaves and soldiers (de Voogt 2000; an impression confirmed by my own fieldnotes, Tamil Nadu and Sri Lanka).
4. From the northern end of (1), *mankala* is sporadically diffused into Central and North Asia, again probably not through demic diffusion but on the wings of other relatively recent cultural currents, such as the spread of Buddhism and of Islam – world religions which have been known to be instrumental in the spread of other cultural traits, *e.g.* musical instruments, musical styles, styles of dress and ornamentation, ecstatic cults, etc. Let us not forget that our oldest documentary source on *mankala* is the Arabic *Kitāb al-Aḡāni* by Abu'l Faraj (897-967 CE).³⁹
5. Even though *mankala* has been known for more than a century as 'the national game of Africa' (Culin 1896), and even though many authors have followed Culin in considering the game as primordially African, the presence of *mankala* in sub-Saharan Africa may be mainly due to the same 'Pelasgian' mechanism (see above) as that which seems to have brought the spiked wheel trap to Africa, overland via Northeast Africa and across the Sahara, from a West Asian source. Probably, however, there was also the Indian-Ocean-based, 'Sunda', cultural influence from West, South, South East

³⁹ Murray 1952: 165; another relatively early mention of *mankala* is: de Flacourt 1661: 108 *f.*

and East Asia: possibly along the Mozambican-Angolan corridor, and even more probably in West Africa, where ‘Sunda’ traits abound (specific food crops, xylophones, ecstatic cults, kingship, etc.). My recent research into Africa’s transcontinental continuities suggests that Sunda-associated, Buddhist-orientated states were established in Southern and South Central Africa around the turn of the second millennium (Mapungubwe and Great Zimbabwe are cases in point, *cf.* the Venda with Hakata tablets and divination bowls – but it looks as if there were also extensions to the north, the Zambezi and Lualaba regions), and the distribution pattern of four-row *mankala* in these parts of Africa is suggestive of Sunda influence.

6. We have already dealt with the isolated New Guinea case.
7. Finally, from West Africa 2-row *mankala* spread to the New World in the context of the forced demic diffusion of the trans-Atlantic slave trade.

Similar to the *mankala* game, and sometimes discussed in that context, is the *dara* game, whose attestations in historical times are given in Fig. 2.11. There has been a tendency to consider the game associated with Arabs or Bedouins, and to see the Sahara as its original home. However, the fact that its attestations are predominantly coastal, and all over Africa, suggests that *dara*, too, may reflect Sunda maritime influence.

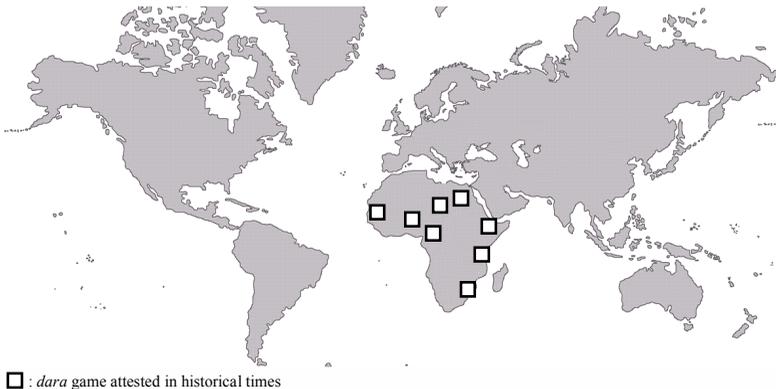
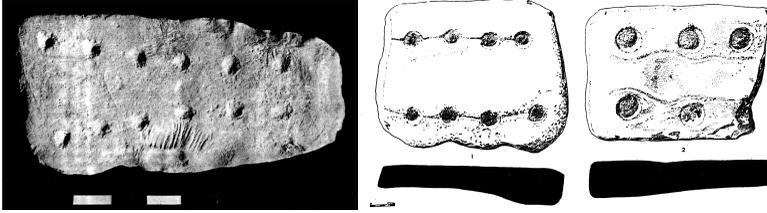


Fig. 2.11. Distribution of the *dara* game.



Left: from Rollefson 1992; right: from Kirkbride 1966

Fig. 2.12. Neolithic mankala boards from West Asia

2.3. Geomancy

2.3.1. Geomancy: Distribution

To a considerable extent, the history of geomancy is the history of its random generators and notational systems. The following Table 2.3 gives an impression of the various random generators used in the extensive distribution area of geomancy.

<p>درب لرامل <i>darb al-raml</i> 'hitting the sand' with a stick (Islamic <i>ilm al-raml</i>)⁴⁰</p>	<p>throwing of sticks 筊chim (East Asia)⁴¹</p>	<p>throwing of coins (East Asia)⁴²</p>	<p>throwing of wooden temple-blocks 筊杯 <i>chiao pai</i> (East Asia) (author's collection)</p>

⁴⁰ el Tounisi 1845.

⁴¹ Michael 1999-2008.

⁴² Laurel 2001-2009.

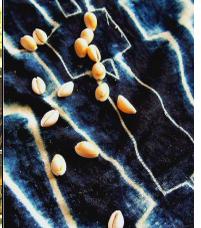
			
<p>geomantic dice (India, Africa)⁴³</p>	<p>clockwork emulation of the geomantic process: an Islamic divinatory machine of the early 2nd millennium (Hosken n.d.)</p>	<p>throwing of cowries (West Africa) (author's collection)</p>	<p>throwing of a <i>kpelle</i> divining chain (West Africa) (author's collection)</p>
			
<p>throwing of half-shells of <i>mungongo</i> (<i>Schinziophyton rautanenii</i>) or other nuts (West Africa, Southern Africa)⁴⁴</p>		<p>four ivory or wooden tablets (Southern Africa) (author's collection); note the circle-dots on the ivory items</p>	

Table 2.3. *Alternative random generators in geomancy.*

⁴³ Cf. Pirzada 2011.

⁴⁴ Robbins & Campbell 1990; Rodrigues de Areia 1985; with kola nuts: Nassau 1904: 207f; Bosman 1967 [1704] : 152 f.; Dennett 1968 [1910]: 149. The coin is included for size comparison only – although often random generators, including coins, are mixed in divinatory usage.

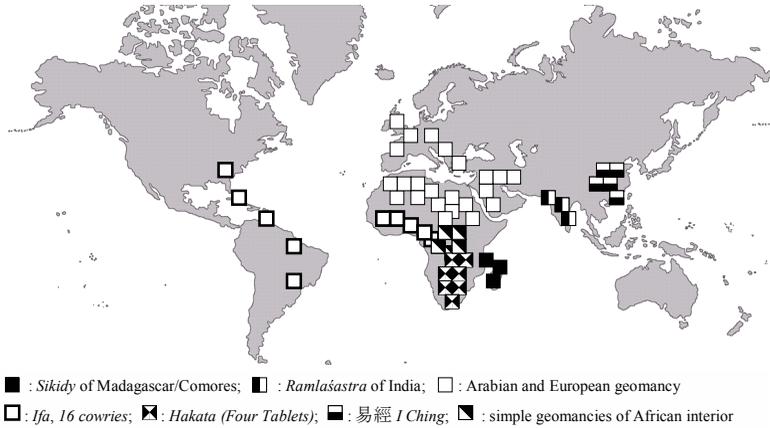


Fig. 2.13. Geomancy: Distribution.

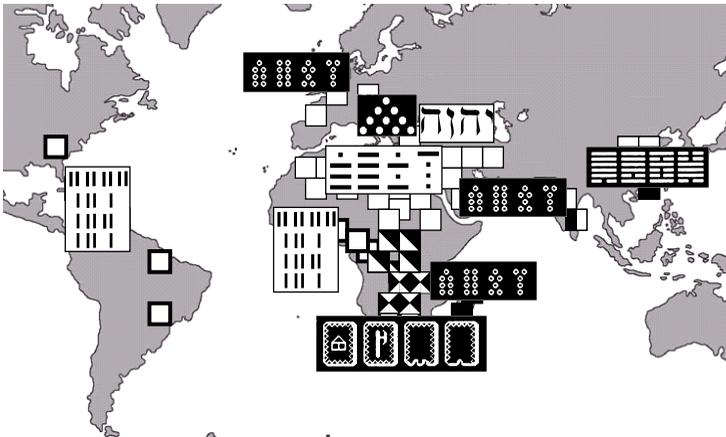
2.3.2. Distribution of geomancy: Discussion

As compared with the mythical themes that have an antiquity of several, often tens of millennia (some even go back to Pandora's Box), and even with mankala for which we have Neolithic archaeological attestations, geomancies as highly specific formal systems have a much shallower time depth, and their high degree of formal specificity makes us reluctant to consider the worldwide variants as mere parallel inventions – much more likely, they are scions of the same tree.

- The oldest textual and iconographic attestations of the Chinese geomantic representational apparatus (the 8 trigrams ☰, ☷, ☱, ☴, ☵, ☲, ☳, ☶, and the 64 hexagrams of *Yi Jīng* e.g. ☰☰ ☷☷ ☱☱ ☴☴ ☵☵ ☲☲ ☳☳ ☶☶ etc.), go back to the late 1st millennium BCE at the very earliest.⁴⁵
- The oldest Arabian geomantic attestations, under the name of *ilm*

⁴⁵ Frobenius (1923: 114) reminds us that the symbolism of broken and unbroken lines, as in *Yi Jīng* (which he mentions explicitly there), also has a South Asian counterpart: in India three parallel horizontal lines, unbroken, are said to denote the North / male, while the same pattern with broken lines would denote the South ./ female. To this I may add that in Hindu ritual contexts, the pattern of three horizontal lines (North / male?) particularly evokes the god Shiva; in Balinese villages, Shiva is associated with the West, the cemetery, and death (fieldnotes). A guiding thought of Frobenius' book is the pendulum sling movement between East and West, which, in the light of the present book's argument, is particularly appropriate as an icon of the global history of geomancy, and of element cosmologies.

al-raml or *ḥaṭṭ al-raml*, date from the late 1st millennium CE; considering the semantic, symbolic and representational correspondences, these appear to share a common cultural environment, perhaps a common origin, with *Yi Jing*. Given the extensive Chinese presence in the Indian Ocean and the Persian Gulf, and throughout the Central Asian interior, under the 唐朝 T'ang dynasty (end of 1st millennium CE) (also and especially in philosophical and medical life), one might suppose that *ilm al-raml*, which emerged in Islamic Iraq, same period, was directly derivative from Taoist Chinese prototypes, notably *Yi Jing*. However, while such influence cannot be excluded and is also detectable in other intellectual domains of Iraqi and Iranian culture around 1000 CE, there are indications that West Asian Muslims were all the more ready to adopt and transform a Chinese geomancy, because they were already familiar with an older proto-geomantic Old-World divinatory substratum that did not exclusively or predominantly derive from China, and that may have had ramifications into Africa (hence the North African connotations (*cf.* Steinschneider 1864, 1877) of the classic geomancy, that of *ṣayḥ* Muḥammad al-Zanāṭī محمد أزناتي (c. 1200 CE; *cf.* al-Zanāṭī 1923, 1995).



Pythagoras' *tetractys* ⋯⋯⋯ (see below, Chapter 5) and the Ancient Israelite *tetragrammaton* יהוה are shown as early expressions of a four-element system foreshadowing proto-geomancies in Mediterranean Late Antiquity

Fig. 2.14. Comparing geomantic notational systems worldwide.

- Rather than Sino-Tibetan cultural affinities of the *Yi Jing* symbolism, some Sinologists (as we shall see in Chapter 7) have, rightly, stressed *Yi Jing*'s Indo-European affinities – which turn out to be specifically Luwian-Hittite, *i.e.* West Asian.
- Hebrew, Greek (Byzantine) and Latin attestations of geomancy are several centuries younger than the Arabic versions, and are evidently derived from pre-existing Arabian prototypes; this entire ensemble constitutes (as Ibn Ḥaldūn already argued, 1377 / 1980) an adulteration of astronomically based astrology.
- Indian *ramlaśāstra*, up to its very name (contrary to *śāstra*, 'knowledge', *ramla* has no Indo-Aryan etymology, but *cf.* the Arabic terms for geomancy cited above), is clearly derived, in the course of the second mill. CE, from an Arabian prototype.
- Pre-Modern African attestations are both recent and very rare – the oldest I know of date from the 16th century (documentary) and the 17th century (archaeological).⁴⁶
- The attestations in the New World very clearly have a trans-Atlantic origin and spring from forced demic diffusion at the time of the slave trade (second half of the second millennium CE).

2.3.3. Geomancy in Africa

The African attestations are puzzling in their complexity:

- Early students of African geomancies⁴⁷ readily spotted the continuity between Malagasy *sikidy*, West African *Ifa*, and the Arabian *ilm al-raml*.
- I have meanwhile demonstrated that the Southern African family of geomantic divination belongs to the same field of continuity (van Binsbergen 1996a).
- The influence of the Arabian geomantic system on the Indian Ocean coast has been widely accepted by scholars.
- Some scholars, especially African ones, and among them espe-

⁴⁶ This is the Latin report of the execution of the first Christian martyr in Zimbabwe (Father Gonçalo de Silveira, †1561) after having been found guilty by the consultation of a four-tablet oracle (dos Santos 1901 / 1609: VII, 190), written half a century after the event; and divining tablets from the Khami ruins, *cf.* Robinson 1959: Plate V.

⁴⁷ Burton 1893 / 1864: I, 330 *f.*, and 1987 / 1856, 55n-56n; Steinschneider 1877, 1956 / 1904; Ferrand 1891-1902: I, 73-101; Trautmann 1939-1940; Maupoil 1943a, 1943b.

cially those of an Afrocentrist persuasion, have denied the indebtedness of the West African systems to the Arabian systems. When a few years ago I presented the compelling evidence on geomancy's origin outside Africa, to the members of the Afrocentrist discussion group *Ta Seti*, I was rewarded with general scorn, and accusations of betrayal and ignorance. Although nomenclature and symbolism are similar, the pattern of overland trade routes (Levtzion & Hopkins 1981, from which my Fig. 2.15 derives; I owe this point to Dick-Read 2005) suggests that a direct influence from the Arab world onto the Bight of Benin may not be the most plausible explanation for the massive occurrence of geomancies in that region – we are perhaps persuaded to consider the detour from the Indian Ocean along Cape of Good Hope (the same detour which musical instruments (notably the xylophone and the royal orchestra), other ritual and organisational traits of the institution of kingship, cowries, ecstatic cults, bananas, taro, other food crops, and even one Roman coin found near Buea, Cameroon (Dick-Read 2005; Bovill 1958: 41n), appear to have taken on their way to West Africa, and from there into the Congo Basin, South Central Africa and possibly Southern Africa.

However, the case is not so clear-cut as suggested by Dick-Read. In the first place there is considerable evidence of an Arab / Muslim undercurrent in West African geomancy, more specifically in Ifa. Haillot (1936) describes a West African form of geomancy where the configurations have the names of Islamic prophets: Issa / °Aīssa, Noé / °Nūḥ, etc. The most obvious explanation would be that in this case Islam was in fact the vehicle of trans-Saharan transmission, and that there is no need to invoke transmission from the Indian Ocean across the Cape of Good Hope. Also Maupoil, author of one of the most comprehensive studies of African geomancy (Maupoil 1943), and more recently Peel (1990), insist on an Islamic transmission, suggested to be trans-Saharan. African academic authors such as Traoré (1979) and Kassibo (1992) passionately and as a matter of course present geomancy as inherently and originally African, although Kassibo is not blind to the wider transcontinental ramifications:

‘Hadj Kamballah (1976 [cf. 1947 – WvB] : 22) établit, dans un parallèle saisissant, la parenté entre les idéogrammes géomantiques et les trigrammes chinois appelés *pakoua* et certaines écritures uniques scandinaves [= runes – WvB], comme les *tifinars*, qui sont les caractères de la langue tamachèque [= Touareg – WvB]. Il conclut à leur origine antique et souligne leur caractère

haument métaphysique.’ (Kassibo 1992: 542).

We cannot use the parallels noted by Kassibo and Kamballah as ground for the assumption of a circum-Saharan origin of geomancy, even though there is convergence with cultural practices in the same region as described by Pâques (1964) and Faḥd (1966). Although raised on an esoteric pedestal by (Post-)Modern occultism, North European runes and Touareg sign systems are simply parallel borrowings from the Phoenician alphabet,⁴⁸ and reinforce the West Asian and trans-Saharan connection that is at stake here.

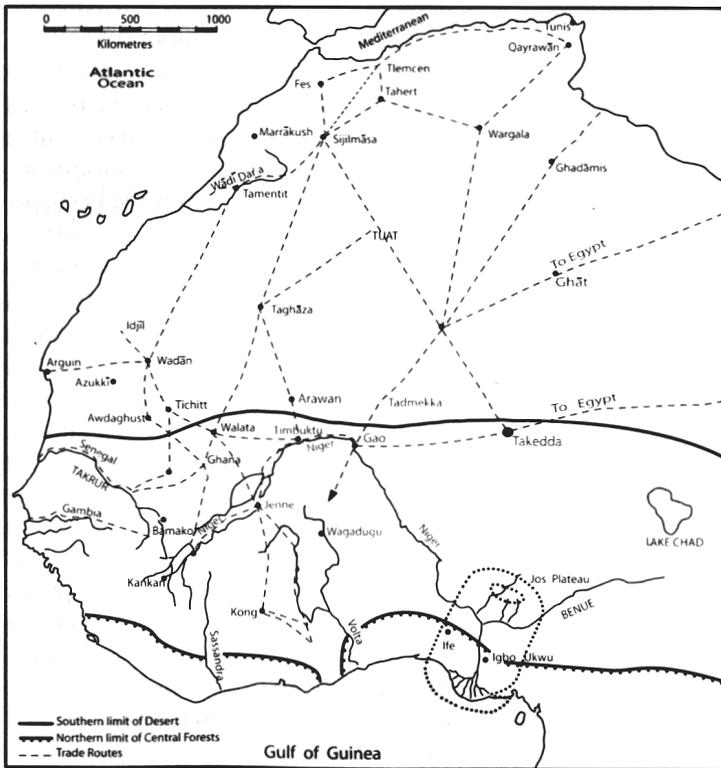


Fig. 2.15. Trade routes in West Africa, second half of second millennium CE.

Source: Dick-Read 2005: 166 after Levtzion & Hopkins 1981. The point is that trade

⁴⁸ I am indebted for this point to the Assyriologist / Semitist Frans Wiggermann; cf. Diringier 1996 / 1968.

may not have brought North African Islamic influence all the way to the Bight of Benin, so Ifá may have an Indian Ocean, circum-Cape background.

Recapitulating: Dick-Read suggests, for several transcontinental African borrowings so by implication also for geomancies, a detour around Cape of Good Hope and maritime transmission from an ultimate origin in the Indian Ocean region. The relative weakness of this position also becomes apparent when we consider the distribution of Flood and Tower myths in Africa (Fig. 2.14a). The *locus classicus* for such myth is *Genesis 6-11*, and close parallels were brought out by early Assyriology, but these myths have a much wider distribution than the Ancient Near East, and particularly abound in South East Asia. The occurrence of Flood myths in Africa has long been denied on the authority of Frazer (1919) but my insistence on this point has brought even the *doyen* of comparative mythology, Michael Witzel (2010), to re-examine the facts.

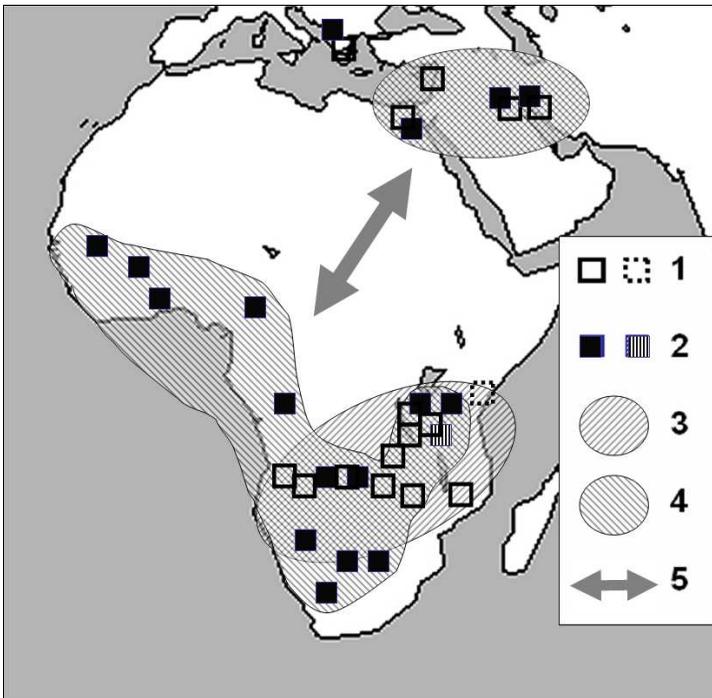


Fig. 2.16. The distribution of Flood and Tower myths in Africa.

1. Tower myths (broken outline = uncertain); 2. Flood myths (hatched symbol =

uncertain); 3 and 4, extent of distribution of 1 and 2, respectively; 5. apparent distributional gap between sub-Saharan African and Ancient Near Eastern / Ancient Egyptian distribution. After van Binsbergen 2006a, with new data added. Sources of data points: Abrahams 1983; Budge 1989; Courlander 1996; Eliot 1976; Faulkner 1994; Feldmann 1963; Frazer 1919; Gaster 1969; Isaak 2006; Kahler-Meyer 1988 / 1971; Kelsen / 1943; Parrinder 1982 / 1967; van der Sluijs n.d. [2004]; van Binsbergen 2010a; Vitaliano 1973.

What puzzled me for a long time when examining the distribution of such myths in Africa, was the apparent large gap between the Ancient Near East / Ancient Egypt on the one hand, and sub-Saharan Africa on the other. I took this as an indication that, as stressed by Dick-Read, there has been no direct influence from the Middle East onto sub-Saharan Africa. The increasing unpopularity of the 'Hamitic Thesis' in the second half of the 20th c. CE added plausibility to this view. (According to the Hamitic Thesis, launched in the early 20th century by Seligman – e.g. 1913, 1934 – and his contemporaries, sub-Saharan Africa owed much of its advances in culture to the 'civilising' influence of medium-pigmented pastoralist from West Asia, bringers also of the Afroasiatic or Hamitic linguistic macrophylum. The implied colonial racialism of this position has meanwhile been amply exposed. There is an apparent *approchement* between the Hamitic Thesis and my Pelasgian Hypothesis; I discuss and refute this appearance in van Binsbergen 2011d.)

The universal distribution of Flood myths world-wide, and their apparent African concentration near the Atlantic coast, are compatible with the hypothesis of South or South East Asian, in other words Sunda, seaborne provenance of these myths in Africa. On the other hand, the Flood myths among the East African Masai and neighbouring peoples are remarkably close to those attested from the Ancient Near East including the Bible. Moreover, the massive and undeniable Ancient Egyptian traces, not only (as we have seen) among the Nkoya but throughout West and East Africa,⁴⁹ and the very successful inroads of Islam in West and East Africa, convey a message of trans-Saharan continuity. The case is clinched, in my opinion, by the recent research of Dierk Lange (2004, 2009, 2012), who established beyond any

⁴⁹ Meyerowitz 1960; Wainwright 1940, 1949, 1951; overview: van Binsbergen 2011c.

doubt (e.g. by parallel king lists) direct Assyrian influence upon West Africa by the end of the Assyrian empire (c. 600 BCE) – and passing through Egypt which at the time was under Assyrian rule. However, this Assyrian influence was one and a half millennia *before* the invention of *‘ilm al-raml* in Iraq. I suggest that the gap of Fig. 2.15 reflects not so much paucity of trans-Saharan contacts and influence, but simply the open vastness of the Sahara. A combination of mainly Indian Ocean / Sunda influence around the Cape of Good Hope, with a measure of Arab influence directly across the Sahara, seems to best account for the details of geomancy in West and Southern Africa.

- Intermediate or simple geomancies have been attested all over the African interior, but the formal correspondences between the Arabian, West African, Malagasy and Southern African systems are too numerous and too specific than that these various elaborate African geomancies might conceivably derive from the simpler African forms; much more likely, the latter are adulterations of the more elaborate, originally literate forms, for which an ultimate origin *outside* Africa is the most likely.
- It is therefore even extremely unlikely (*pace* the Afrocentrist claims of many African writers on geomancy) that these simpler African geomancies, rather than being mere local adulterations, are the ultimate primal source of geomancies worldwide.

Even if we could see these simpler forms as survivals from a substrate proto-geomantic system extending over much of Africa and possibly all over the Old World, and thus as the basis of the Yi Jīng symbolism and of ‘ilm al-raml, what we find now in the form of simpler geomancies exists clearly in the periphery of the more elaborate forms from (Early) Modern times

Meanwhile we are struck by the extensive continuities that appear to exist between Chinese, Southern African and West African divinatory apparatus employed for the application of geomancy.

- Divination bowls from the Venda and from West Africa are very similar to,

- and even claimed to be continuous with, those of Mesopotamia and Ancient Greece (Davis 1955);
- Meanwhile the Venda and West African divination bowls appear to be local appropriations, either of Chinese divinatory bowls with a 36-item zodiacal rim, or of Chinese nautical instruments (van Binsbergen 2012c, 2012d, with extensive literature).

Also the influence of Chinese geomantic landscape symbolism upon Malagasy *sikidy* is obvious from the accounts available in the literature (e.g. Vérin & Rajaonarimanana 1991).

Attestations of geomancies are concentrated in only part of the Old World, and absent in New Guinea, Australia, Oceania and (with the exception of clearly Africa-derived borrowings in the latest centuries) in the New World. Also the European attestations (geomancy was a major divination form in Medieval and Renaissance occult sciences, and from there adulterated into a popular and peasant divinatory art) are manifestly borrowings from West Asian forms in Islamic trappings; Arabic texts on Islamic occult sciences, including geomancies and other forms of divination, were among the first to be translated into (Byzantine) Greek and especially Latin in the course of the European translation frenzy of the 11th and 12th centuries (Steinschneider 1956 / 1904; Carmody 1956; d'Alverny 1982; Thorndike 1923-1958). All this makes it crystal-clear that in the case of geomancy we have to do with a relatively recent and local development that can make no claim to inclusion in Pandora's Box (CITI I), and that can neither have belonged to the early post-Out-of-Africa CITIs whose products made it all the way to the New World.

This brings me to suggest that, rather like the *mankala* case, the specific forms and interrelations of the African geomancies are best explained by the following accumulative factors:

- while admitting a certain cross-Saharan Arab influence, yet mainly
- a general East-West seaborne movement around the Cape of Good Hope
- formally in line with Oppenheimer's (1998) postulated Sunda westbound cultural and genetic expansion
- but rather, more recently, and more specifically applied to Africa

(about which Oppenheimer remains, understandably, silent).

- The reports of the Phoenician Hanno's circumnavigation of Africa (c. 500 BCE) lend some further credibility to this proposed trajectory (Lacroix 1993; Illing 1899; Schoff 1913; Falconer 1797; Cory 1828).
- So does the history of cowries as an unmistakable trace of Indian Ocean trade (probably not all of it Early Modern and in West European hands) in Atlantic Africa – and, as said, of such food-stuffs as banana, mango and taro

Conceived as specifically related to Indonesia, therefore in the narrower sense, the Sunda model proposes major cultural and genetic inroads, from South East Asia, into

- the Persian Gulf,
- the Red Sea,
- the Mozambican-Angola corridor, and
- the Bight of Benin, whilst producing the highly Austronesian population of
- Madagascar, either directly from Indonesia, or via an intermediate stay at the East African mainland.

With the exception of the Red Sea region, all these regions loom large in the distribution of geomancies, and if we adjust Oppenheimer's very long time scale and reduce 'Sunda' influence upon sub-Saharan Africa to a relatively recent phenomenon (Mediterranean Bronze Age and later – in other words the latest three millennia), the pattern of the distribution of geomancies might fit the Sunda model,

with this proviso that

1. we have to extend 'Sunda' so as to include, beside seaborne influences from insular South East Asia, also such influences from East and South Asia, and
2. that we qualify the suggestion of one coherent, identifiable, ethnically distinct culture which subsequently spreads monodirectionally through seaborne demic diffusion. Instead, what we have is

rather an intercontinental maritime network for trade and cultural exchange (Fig. 2.17), in which *attested* items may primarily be seen to travel from East to West, but traffic (also of ideas and formal systems) in the opposite direction cannot in the least be ruled out (but, being counter-paradigmatic, may be overlooked or suppressed both in Modern scholarship and in ancient Asian sources!).

Black African slaves were so common in T'ang China that the phenomenon gave rise to an entire literary genre featuring a Black trickster hero (Irwin 1977; *cf.* Chang Hsing-Lang 1930; Wilensky 2002). During West European mercantile expansion, *i.e.* in Early Modern times, substantial Black African communities were established in India, Sri Lanka, and Indonesia, and these are likely to have spread African socio-cultural traits in Asia – some authors (*e.g.* Barnes 1975) even attribute the remarkably limited attestations of *mankala* in that region to this factor. The Afrocentrist educationalist and linguist Clyde Winters (1980a, 1980b, 1980c, 1981, 1983a, 1983b, 1984, 1985, 1988) has repeatedly stated the claim of extensive pre- and protohistorical West African influence on South and East Asia, and – not surprisingly, considering both the world politics of knowledge and the obscurity of his publication venues – has attracted less main-stream support than he deserves. (Incidentally, the connections which Winters (1984, 1985) claims to exist between Sumerian, Manding, Elamite and Dravidian remind us of the close links which also the prominent linguists Igor Diakonoff (1997; *pace* Bengtson, and Bomhard), and Paul Rivet (1929), saw between Sumerian and Austric (specifically, Munda), and on which I recently hit (van Binsbergen & Woudhuizen 2011: 372) when looking for a plausible Austric etymology for the name of the Sumerian's paradisiacal island Dilmun; apparently neither Winters' claim of affinities, nor the 'Sunda' trajectory in Figs. 2.17 and 2.18, below, are totally chimerical – Winters's affinities, spanning the huge range from West Africa, West Asia to South Asia, could be explained as traces of Sunda / Austric influence.)

For the Early Modern Asian distribution of geomancy, a similar argument could be made as for *mankala* ('perhaps Africa-derived, but more likely spread from West Asia under Islamic conditions'), especially since the earliest documentary attestations of fully-fledged geomancy (not counting dubious protoforms from Mediterranean Late Antiquity) have all been in the Islamic / Arabic context.

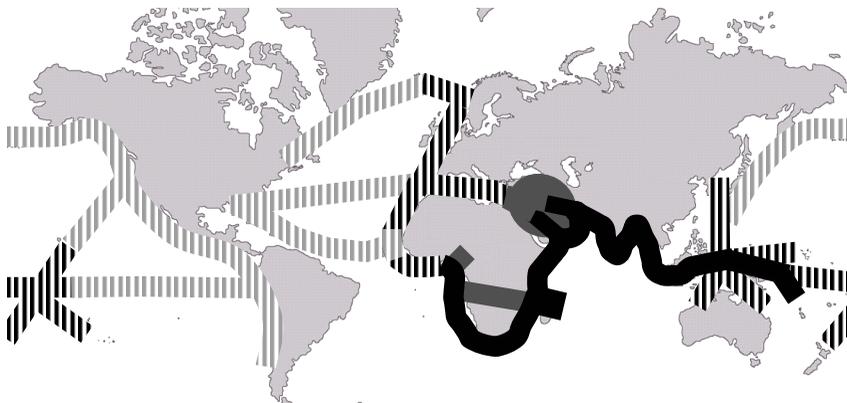
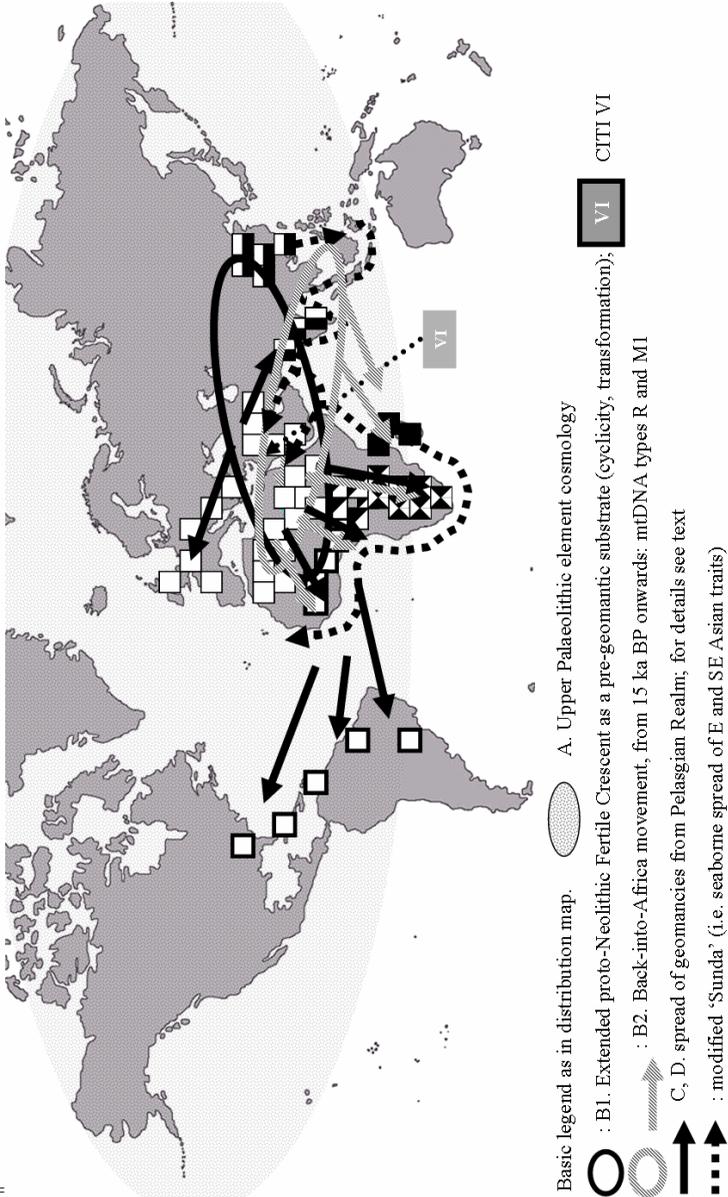


Fig. 2.17. A proposed intercontinental, multicentred, multidirectional maritime network from the Early Bronze Age onward.

Source: van Binsbergen 2012c and in preparation (a), in preparation (d). The solid, thick black lines indicate the proposed outlines of the ‘Sunda’ network; lesser density of hatching indicates lesser certainty. For sections of the proposed network, solid grey is used to indicate interior regions of suspected Sunda influence: the Mozambican / Angolan corridor, the Bight of Benin / Western Grassfields corridor, and the Mediterranean connections with the Red Sea and the Persian Gulf, all of which obviously are not maritime trajectories yet appear to have a marked Sunda association.

Yet it is remarkable that one of the earliest of these Arabic attestations (the use of the word *ḥaṭṭ* in the sense of divination, in al-Djaḥiẓ’s (c. 776-868/9 CE) *Kitāb al Ḥayawān*, IV 369 (1988; cf. Pellat 1969 / 1967) comes from a medieval Islamic writer with established African (‘Ethiopian’) antecedents, whereas al-Zanāṭī (cf. 1923, 1995), author of what was to become the most influential Islamic geomancy throughout the Indian Ocean and African regions, also derives from a North African Berber milieu (possibly with a fair element of Jewish influence, for which the Zanata tribe is well-known), continuous with the geomancy-orientated Sahara and West Africa.

This allows us to tentatively reconstruct the history of geomancies in the Old World along the following lines (Fig. 2.18):



Reference is made to Fig. 2.13 ('distribution map') and to Figs 9.1 and 9.3, below ('Upper Palaeolithic element cosmology')

Fig. 2.18. Proposed reconstruction of the world history of geomancy.

- A. Admittedly, we cannot confidently reconstruct the transcontinental prehistory of geomancies before the Upper Palaeolithic, yet below, Table 6.1) an attempt in that direction will be made; ultimately the idea of ‘divination by the earth’ (the literal meaning of ‘geomancy’) seems to derive from the NarCom ‘the earth as primary’, which was already in Pandora’s Box in pre-Exodus Africa.
- B. We may postulate an Extended proto-Neolithic Fertile Crescent (from Sahara-to China) as a proto-geomantic substratum, emanating from CITI VI (proto-Neolithic) c. 15 ka BP. This proto-geomantic substratum was gradually carried West and South, into sub-Saharan Africa and Europe, as part of the Back-to-Africa movement, from Central Asia 15 ka BP onwards: mtDNA types R and M1. Hence it is not really contradictory that we may suspect proto-geomancies to have existed both at the eastern (China) and at the western (Sahara) end of the Extended Fertile Crescent. In all probability, an element-based cosmology emerged within this worldview, which moreover was informed by the emergence of shamanism in conjunction with naked-eye astronomy
- C. Probably more important, certainly more tangible, than this Upper Palaeolithic / proto-Neolithic complex, was the crystallisation of themes of *cyclicity* and *transformation* within the already widely established element cosmology. These themes became part of the emergent Pelasgian socio-cultural package, which, emerging in West Asia in Neolithic times, during the Bronze Age spread into the Mediterranean and, while being transformed and innovated, subsequently spread in all four directions (my so-called ‘cross model’), including East to China, South Asia, South East Asia and even to some extent to Oceania – and South to sub-Saharan Africa, either via North Africa or via the Indian Ocean route. Whatever its pre-Bronze Age antecedents, geomancy thus became a prominent Pelasgian trait distributed over many parts of Asia and Africa.
- D. From this common Bronze Age / Pelasgian substrate, we can trace a number of parallel developments to be explored in subsequent Chapters:
- In Western Eurasia, in ways which we will examine in detail in

the next few Chapters, a formal and explicit four-element cosmological system develops at least a millennium before the Presocratics, but it is by explicit reference (notably in Plato and especially Aristotle) to the mid-1st millennium Greek Presocratic philosophers that the four-element system becomes standard in that region, and that proto-geomancies begin to be sporadically and tentatively formulated on its basis – for instance in the neo-Pythagorean and Talmudic contexts.

- In China, under (as we shall see in Chapter 7) arguable West Asian influence during the 1st-2nd millennium BCE, the basic symbolism of trigrams and hexagrams is developed as a general wisdom cosmology which allows for a divinatory application and which, given the regional cultural and political dominance of China, also comes to inform the cosmologies of Korea, Japan, Tibet, and continental South East Asia.
- In ^cAbbāsīd Iraq, by the end of the first millennium CE, and under peripheral Chinese influence (maritime trade, Silk Road, T'ang political expansion), the 'Pelagian' geomantic substrate develops into ^c*ilm al raml*. From there it spreads, over land and by sea, to India as *ramlaśastra*, and also to Madagascar and the Comoro Islands, engendering the *sikidy* divination system. Subsequently, it follows the 'Sunda' Old-World maritime network, reaches Southern Africa where it surfaces as Hakata divination with divination tablets and Venda divination bowls. Rounding, like the 'Sunda' 'phantom voyagers' (Dick-Read 2005) that are its presumed agents of spread, Cape of Good Hope, and following the Atlantic African coast, this Iraq-derived geomancy reaches West Africa, where it is substantially localised as Ifa and Sixteen Cowries, without however dropping the tell-tale details of its notational system, its 2ⁿ-based interpretational catalogue, and the latter specific lists of meanings and associations. The geomantic dice prevalent in *ramlaśastra* consist of four cubes (preferably ivory), marked on four sides with dotted geomantic configurations, pierced, and strung upon a rigid pin around which they can freely revolve – so as to produce one of the sixteen configurations at every throw; of this system, the geomantic *kpelle* strings (consisting of four tassels ending in coins or other tokens capable to taking two different values) and

the Southern African Hakata divinatory tablets (four detached, marked tablets made of ivory or wood, and thrown so as to produce any of the 16 configurations) may be considered straightforward, systematic transformations (see Table 2.3).

- Meanwhile the Arabian geomancy spread, via Persia, Byzantium, and via Arabian and Jewish intellectuals at Southern European courts (Islamic, Sicilian, Norman, Spanish, Portuguese etc.) and other centres of learning, to European medieval secret sciences, to develop in Renaissance magic of Northwestern Europe, and finally to end up as parlour games and peasant divination (*Punktierkunst*) in West and Central Europe.
- From West Africa, geomancy spread to the New World in the context of trans-Atlantic forced demic diffusion at the time of the slave trade
- And today, both West Africa (foremost Nigeria and Benin) and the New World (Cuba, and the Southern USA) are major centres for the further spread of African geomancy among people of African and European extraction, particularly via the Internet and quasi-touristic apprenticeships.

2.4. Where do we go from here?

Neither for geomancy, nor for mankala, can we maintain a sub-Saharan African origin, now that (aided by search facilities – greatly enhanced in the last two decades – of the Internet and the digitalisation of academic libraries worldwide), we have added fifteen years of focused data collection to our 1997 analysis, having refined the analytical and conceptual tools to approach the distributional analysis of formal cultural systems rather more rigorously and methodically; meanwhile recent developments in genetics, comparative linguistics and comparative mythology have actually provided the models against which to situate the historical interpretation of the distribution maps of specific cultural traits.

What remains is the realisation – so beautifully brought out by the complex histories of mankala and geomancy – that Africa is very much a part of the wider world and has always been just that, culturally, genetically, and linguistically.

What was not yet clear to me in 1997, is that we must combine a number of greatly disparate phases in order to account for the African involvement in the wider world:

1. Out of Africa, 80-60 ka BP; until then Pandora's Box was fully African.
2. Back-to-Africa movement from c. 15 ka BP onwards, and intensified and particularised by the Pelasgian movement from the Late Bronze Age, which brought back into Africa many traits that had meanwhile (ever since the Out-of-Africa migration) percolated, transformed, been innovated, and added to within the Asian continent.
3. The forced demic diffusion from Africa in the context of the trans-Atlantic slave trade.
4. Very recent globalisation of the last hundred years or less, which resulted in a worldwide percolation of cultural traits and initiatives, in which African traits (music, dance, rites, therapies) were particularly successful in intercontinental transmission and reception.

Ironically, none of these four movements tallies with Bernal's *Black Athena* thesis, and in fact, that thesis' secondary, Afrocentrist reformulation (inspired by a combination of (3) and (4)) *grosso modo* goes against (2).

Bernal has been cited, and has sometimes flattered himself, as an amazing case of being right for the wrong reasons. At the 2008 Warwick international conference on his work (Orrells *et al.* 2011), his *Black Athena* thesis was more or less canonised as a part of mainstream cultural history. However, when significant Dutch contributions to the debate including my own were reprinted in 2011 under the carefully chosen title *Black Athena Comes of Age*, this was intended to question such canonisation. The more I think about Bernal's *Black Athena* thesis ('total socio-cultural dependence of Ancient Greece upon Ancient Egypt, and in the later Afrocentrist reformulation, total dependence of Ancient Egypt upon prehistoric sub-Saharan Africa'), and the more I reap the benefits of the magnificent inspiration it has given me and other scholars over the past twenty-five years, the more I yet realise that, when all is said and done,

Bernal is also sometimes a case of simply being wrong for the wrong reasons – amongst which loom large: a passion for ideology and for *ad-hominem* arguments; the reliance on a ‘sociology of knowledge’ of his own invention, from which he subjectively derives the right to claim a superior, privileged insight over anyone disagreeing with him (as if he himself could escape the structural implications of his own intriguing position within the World System); and the determination (in the shadow of the towering intellectual figures that crowded his childhood, including Joseph Needham, Alan H. Gardiner, Meyer Fortes, and his father John Desmond Bernal) to make a lasting imprint on the history of ideas.

However, as an overarching framework for the present book’s argument these details of fact and interpretation are less important than the realisation that, for long-range global cultural history, that which separates the continents is less important than that which unites them. The common insistence on the distinct identity of continents, and their specific geographical definitions, reflects, not immutable facts of humans’ cultural history over the past score millennia, but the vicissitudes of geopolitics of the past few hundred years – with special emphasis on the global history of European expansion, and more regionally on the redefinition of the Mediterranean region from a complex unitary state (that of the Muslim Ottoman empire) straddling vast expanses of both the northern and the southern shore, to a patchwork quilt of northern expansionist Christian states imposing (19th c. CE) their military, administrative and economic power on the southern shore. Given humankind’s incessant drive towards migration and towards interaction and exchange (however unequal and violent at times) between its constituent parts, and given the strong genetic and linguistic indications of Anatomically Modern Humans’ common origin in as recent a period as the Middle Palaeolithic, it is unlikely that the cultural history of crucial advances in human thought could be analysed and understood from a regional or uni-continental perspective alone. Instead, a transcontinental perspective seems far more appropriate. This will be one of our main guiding principles in the next Chapters.

Moreover, the examples of mankala and geomancy have given us important clues as to the methodological strategies that may lead us to greater insight in the emergence and spread of cyclicity, transformation and element cosmology as crucial steps in the intellectual history of human-

kind – ultimately leading, among other things, to the Modern natural science that has fathomed our universe and that has conceptually and technologically reshaped our life world. Like in the case of mankala and geomancy, let us begin with typological and conceptual analysis, then project our typologically re-arranged data onto the world map, then interpret the resulting distributions historically in the light of such additional genetic, linguistic, archaeological, comparative-ethnographic and comparative-mythological evidence as is available. Admittedly, if this investigative process makes us conclude that humankind's cultural history is coherent and continuous across the continents, this can hardly count as an independent research finding since our very method is predicated on the assumption of such coherence and continuity. However, in the humanities and social sciences, however painstaking our research and however rigorous our methodologies, not definitive proof but merely enhanced plausibility is the best result we may hope for in regard of our hypotheses. What we gain in the process is not only greater subjective (therefore potentially deceptive, ideologically distorted!) insight in the pattern of the past, but also greater awareness of the factors of particularist, sectional interest (of geopolitical and class elites within the World System) and of ideology that produced earlier pictures of the past, and that had to be deconstructed before a more convincing picture of the past could emerge as a result of our research endeavours, however imperfect.

Here the original inspiration of Bernal's *Black Athena* thesis remains unabated. As I shall argue below, the Presocratics did not invent the four-element cosmology, but have to be understood as the peripheral receivers, and distorters, of a transcontinental element-based cosmological system that, at the onset of the Axial Age in the first millennium BCE, had had a long and complex history to which the Ancient Greeks had contributed so little that they do not deserve the pride of place granted to them in official accounts of the history of philosophy. The Presocratics and their allegedly unique contribution to the history of human thought constitute another hegemonic myth, intended to deny the massive transcontinental indebtedness of Ancient Greek civilisation (and by implication, their self-appointed heirs, Modern North Atlantic civilisation) to older and more original Asian and African traditions, whose main defect has been that the regions associated happened to be in the clutches of European colonial domination by the nineteenth century CE. *Deconstructing that myth, and replacing it by a better founded, less hegemonic account stressing the*

transcontinental complementarity of the intellectual achievements of us, Anatomically Modern Humans, in the course of millennia, is the purpose of the present book. If we wish to understand the seedbed out of which Western philosophy has grown, we need to look *Before the Presocratics*, and adopt a stance that is both long-range in time, and transcontinental in space.

The specialist philosophical reader, meanwhile, may wonder why, of all possible philosophical themes and topics, *divination* has to be our guideline when tracing the antecedents of the Presocratics back into prehistoric times, and transcontinentally. After all, whereas the Stoics have been known for their sympathy for divination (e.g. Cicero 1975), and also, subsequently, Neoplatonics often dabbled in magic, there is scarcely any evidence of a Presocratic interest in divination – on the contrary, the mainstream interpretation of their intellectual movement has been in terms of a move away from, not towards, magic (e.g., Thales predicted a solar eclipse through astronomy, not divination), and this is among the main reasons why they are held to have initiated (Western) philosophy. After constituting part of the European academic curriculum until well into the 18th c. CE, astrology subsequently was rejected, and despite its *popular* revival from the late 19th-century on in the North Atlantic region, most philosophers today consider, with Popper, what once was the Queen of Sciences, a mere ‘pseudo-science’ (for discussion and references, *cf.* van Binsbergen 2003: Ch. 7, 2005b/2013). However, divination (a recognised universal of Anatomically Modern Humans; Brown 1991) is *the structured interrogation of the supernatural on existential questions, in the light of a coherent, collective world-view* – and thus simply the most widespread repository of elementary / rudimentary philosophical thought imaginable. Let us freely explore this repository, regardless of the importance we attach to the outcomes of divination, wherever and whenever.

Having thus cleared, with our Case Study I, our building site and laid out our principal conceptual and methodological tools, let us now turn to Case Study II, in which the theme of cyclicality, transformation and element cosmology comes back in totally unexpected forms, not in the Ionian and South Italian trappings of the famous Presocratics, but in the unfamiliar and internally contradictory complexities of an African clan system, that of the Nkoya people of Zambia.

Chapter 3. Case study II. The puzzling clan system of the Nkoya people of South Central Africa: A triadic, catalytic transformation cycle of elements in disguise?

3.1. Nkoya clans

In South Central Africa, 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 recent 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 serious friction, throughout the 20th century, with the Lozi Paramount Chief and with aristocrats of more unambiguously Lozi extraction. Nkoya formal political organisation has retained the remnants of an elaborate ceremonial court culture even after incorporation in the political system of the Lozi, who historically have much in common with the Nkoya anyway.

Nkoya clans are named sub-national groupings, of which less than two dozen can be identified in contemporary social life and in Rev. J. Shimunika's compilation of Nkoya oral traditions, entitled *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.

In the pre-colonial, especially the pre-statal, period, clan leaders were ritual rather than political authorities, and often were 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 violent encroachment of neighbouring states, and the arrival of new, presumably 'Sunda'-influenced, models of political culture.

Nkoya traditions situate the origins of clans (*mikoka*, plur.; *mukoka*, sing.) at the very origin of society; their myth of the origin of kinship is in fact a story of a contest between clans (*Likota lya Bankoya* 3 and 4). 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 that Chapter 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 that each clan has two 'nick-names' (*myahi*) in addition to its real name, and this is certainly how contemporary Nkoya interpret the situation; however, below we will come to a different and obviously better interpretation. There are other inconsistencies. Whereas the informants of Table 3.1 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* considers Shungu and Kale as identical. Moreover, of the ten clans that are associated each with a royal title (van Binsbergen 1992: 195), only six feature in *Likota's* cosmogony. Two of the most prominent kingships of the twentieth-century Nkoya scene are owned by clans not featuring in the cosmogony. This is for instance the case for the kingship of Mutondo. However, the central myth of the origin of kingship, as related in *Likota*, is in fact an aetiology of Mutondo's

associated clan name, *Sheta* i.e. ‘Turner’, paired with the *Nkonze*, ‘Lickers’, who likewise do not feature in the cosmology. Neither does the kingship of Kabulwebulwe feature in the clan list – however, from extensive archival sources dating from c. 1900⁵⁰ 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 (1920), is not borne out by my specific informants of Table 3.1, who see the Kale clan as associated with Mwene Yuvwenu, but the Nyembo clan with Mwene Kahare. An interview I had with the present Mwene Yuvwenu in Kaoma, Zambia, in July 2011 could not throw light on the matter.

The clan name Kale is a particularly puzzling element. In accordance with Manchester School⁵¹ 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 of Table 3.1 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 *Ka-* is the common personal singular prefix, and *-Le* might be interpreted either as deriving from *ku-le-nga*, ‘to create’ (*-nga* as iterative suffix), or from *mu-li-nga*, ‘spear’: some interpret the Nkoya clan name *Kale* 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

⁵⁰ Especially: reports of the Gielgud-Anderson expedition to the Hook of the Kafue, 1900, Zambia National Archives: files *BS1/93* and *KTJ 1/1 outletters Mumbwa*.

⁵¹ The Manchester School was a movement within social anthropology, initiated and for decades led by the Oxford / Manchester anthropologist Max Gluckman, and particularly dominant in the field of South Central African studies (present-day Zambia, Zimbabwe and Malawi); in this connection many standards and conventions of research methodology and ethnographic reporting were established. In the first quarter century of my career I worked mainly within the Manchester paradigm, which earned me a Simon Professorship at Manchester. Cf. van Binsbergen 2007a.

totally foreign element, with not a Bantu but presumably an Indo-European, Afroasiatic or Austric etymology. 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 (1995) in Sudan, predictably in the domain of the scrap iron industry. In the Nkoya context, as well as among their eastern neighbours the Ila the name Kale occurs as an alias for Kahare / Kahale, one of the principal royal titles of the Nkoya (and, not by accident, the one closest, in culture and geographical association, to 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 suggest that the Kahare title may ultimately derive from some transoceanic offshoot of a South 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 (1931a: 533f) was among the first to reconstruct a considerable influx of Bantuids from South Asia, partly in the form of peoples broadly associated with the Gypsy stock; my ongoing research into African-Asian continuities in pre- and protohistory adduces empirical evidence to the same effect. Meanwhile, iron working and royal orchestra also attend the other South Central African ‘kings of the savannah’ (Vansina 1966), and I think that also in those cases the Gypsy / South Asia link must be seriously considered.

How to interpret the dazzling complexity of this Nkoya array of clans? I will present two interpretative models, one in standard theoretical terms of the anthropology of complementary opposition, the other in terms of an element cycle of transformations consisting of triads.

name (Nkoya)	name (English)	name (Nkoya)	name (English)
Kale	fish spear?	Nyembo	sparkler (honeycomb? drone?)
Langu ⁵²	bell	Nzovu	elephant
Lavwe, Shihondo	goat	Sheta	turner, dizzy one, bull roarer, tether, peg, fire-

⁵² The actual clan name as recorded is Langu-Nkwehe, ‘bell-hawk’.

			bore
Makanga	guinea fowl	Shihombo	tinderbox
Mbunze	buzzard, fish eagle	Shikumba	beehive
Mukuni	firewood	Shilombe	<i>milombe</i> tree: wood suitable for carving especially of royal drums
Mvula	rain	Shimuziko	kindling (out of mushroom)
Nkomba	mushroom	Shungu	barbel fish
Nkonze	antbear?, 'licker'	Tumbwa	vulture
Nkwehe	hawk	Wische	smoke
Ntabi	spear-hunter	Nyembo	sparkler (honeycomb? drone?)
Nyembo	bee, drone	Nzovu	elephant

The arrangement in two columns is only for economy of space and does not imply, here, any pairing of specific clans appearing on the same line. A sparkler is a small metal thong within a tinder-box, which when scraped against a piece of flint produces the spark that sets linted mushroom kindling afire. It is fitting that the Nyambo clan is also called *Kamanisha*, 'the finisher', in implied recognition of its catalytic function.

Table 3.1. *Nkoya clans*.⁵³

3.2. Interpreting the array of Nkoya clans: (1) in terms of complementary opposition

In *Les formes élémentaires de la vie religieuse* Émile Durkheim (1912) argued (on the basis of early ethnographic data on Aboriginal Australian societies he himself had never visited) that strong links exist between any one social group, conceived as a religious congregation, and its objects of worship. These objects (in the Australian case designated 'totems' by the ethnographers and analysts) 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*; Freud 1915) 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

⁵³ According to a Group Interview with Mwene Mutondo Royal Council, Shikombwe Royal Establishment, Kaoma District, October 18, 1977, continued October 19 and 20, 1977; most senior headmen were present but not the king himself, Mwene Mutondo Kalapukila, who on October 20, 1977 granted me a formal audience in the presence of all senior headmen, *cf.* van Binsbergen 1992: 195, 478; for a comprehensive study of precolonial Nkoya society with emphasis on the economy, see van Binsbergen 2012b.

veneration. These two authors exemplify an intense industry of totemism studies around 1900. The decisive step towards a consideration of totemism as involving the interplay *between* several groups was set by Claude Lévi-Strauss (1962a and especially 1962b). 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. Each totemic group is identified with a particular vegetal 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; *cf.* Worsley 1967) represent individual Man's selective interest in nature, in other words are 'good to eat'; neither on the fact that 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 (Malinowski 1954; Radcliffe-Brown 1952; *cf.* Homans 1941). Lévi-Strauss claims instead that the species are selected for simple rational economy: 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 eminently '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 pairing up of the two natural species.

species		aetiological principle
clan A	clan B	
<i>Nkomba</i> , 'Mushroom'	<i>Wische</i> , 'Smoke'	smoke is a sign of consumption of the mushroom wick in the tinderbox
<i>Shimunziko</i> , 'Kindling'	<i>Wische</i> , 'Smoke'	smoke is a sign of consumption of the kindling
<i>Mukuni</i> ⁵⁴ <i>ba Shilombe</i> , 'Wood of the <i>Shilombe</i> tree' (of which royal drums are made)	<i>Wische</i> , 'Smoke'	smoke is a sign of consumption of the wood when the tree is hollowed out in preparation of the drum

⁵⁴ The idea of a (probably indirect) East Asian borrowing, of this conception of Wood

Nyembo, 'Bee, Drone'	Wishe, 'Smoke'	smoke chases the bees so that their honey can be collected
Nyembo, 'Sparkler'	Shihombo, 'Tinderbox'	the sparkler ignites the tinderbox

Table 3.2. *Complementary opposition in the nomenclature of two joking clans in Western Zambia, nineteenth and twentieth century CE.*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. Table 3.2 makes the complex underlying structure of clan names, nicknames and reasons for punning transparent for a number of interlocking clans, most of them arranged around the 'smoke' theme. It is the aetiological principle (*i.e.* a specific reference to a concrete domain of social, productive or reproductive local practice) which explains the meaning behind a particular pair of nicknames, and which sets the tune for the jokes to be improvised between the members of the two clans involved.

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 (*cf.* Radcliffe-Brown 1940, 1949; Wilson 1957). It is the nicknames which bring out the special relationship between two clans and thus provide a never-ending source of inspiration for jokes between joking clan partners.

and Fire, into Nkoyaland comes up when we realise that in Giles' Chinese biographical dictionary (1898: 210, entry 525) we find that the Chinese Fire god 重黎 Ch'ung Li (lit.: 'Heavy Black') is often represented as two separate personages (brothers), ruling over the elements Wood and Fire, and entrusted with the administration of Heaven and Earth, respectively. However, wood has been humankind's most obvious fuel throughout history from the Lower Palaeolithic onwards, so this particular similarity between China and Nkoyaland may be purely accidental. However, below we will encounter many more such similarities, to an extent that we will eventually propose a relatively recent (1st or 2nd mill. CE) East Asian cultural intrusion into South Central Africa, possibly via South Asia.

⁵⁵ Modified after: van Binsbergen 1992. The clans mentioned under A tend to be regarded as royal.

Naming and ritual (*i.e.* 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 themselves be conscious of the aetiological principle (they clearly are in the case of Nkoya clan joking, which largely consists of citing, and punningly 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-making, 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 CE 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 the names and 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 perspective 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 might be understood as a collection of *binary* oppositions – manifesting what below we will call a recursive structure. There is however evidence of a more complex and more dynamic structure of *threesomes* that transcends recursive repetition. This we will now explore, since it offers an insight clearly superior to, more illuminating and more convincing than, that in terms of binary oppositions, and provides, at long last, the real stepping-stone towards our transcontinental argument on element cosmologies.

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

During my forty years of research among the Nkoya, I have often been struck by 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 frequently cited, but whereas for one informant these multiple names are just synonyms for one and 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 set out in the preceding section) 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 for other binary aetiologies applied to Nkoya clan names.

Yet there must be some more definite structure, for joking ties between clans 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 in the, far from rare, situation that the appeal to matrilineal and patrilineal kinsmen (for food, shelter, protection against witchcraft, support, contributions to bride wealth to be paid) has 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 – 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:

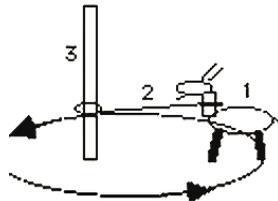
‘You may be the Sparkler, but the only test of your force lies in us, Smoke’.

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 Kamanisha, ‘The Finisher’, also suggests that this clan plays (a) the destructor role in a threesome with (b) a destroyed and (c) 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 (Fig. 3.1):



not explicitly stated by my informants, this schema is based on my own interpretation, cf. the Louvain School methodology (van Binsbergen 2003: 516, 2011g)

Fig. 3.1. *The clan triad: Lavwe, Sheta, and Shikumba[wuyuvu] illustrated.*

Here we find the clan:

- as the passive element, the destroyed, the goat (Lavwe) tethered to a pole;
- as the active restrainer (= destructor) a string of bark rope (Shikumba) serving as tether;

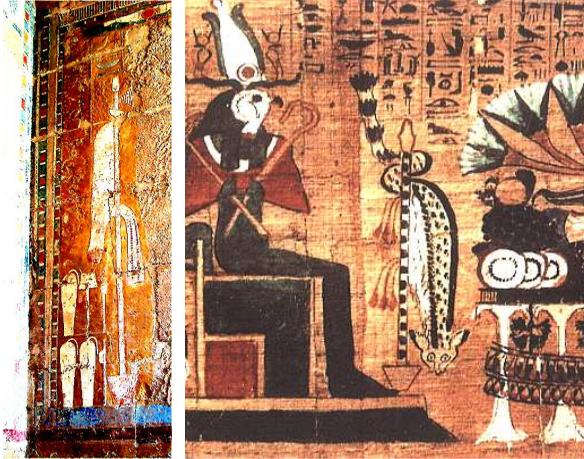
- and finally as catalyst ('finisher' / Kamanisha / 'Sparkler' / Shihondo) remaining passive but providing anchorage for the tether, the pole, which is the Turner (Sheta).

Although domestic goats have become rare in the Nkoya villages in Kaoma district they once were part of Nkoya 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 pole⁵⁶ that serves as the Turner around which destructor and destroyed 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 (*cf.* Rap-penglück 1999).

The phenomenon of diurnal rotation of visible stars around the celestial pole is manifest to the naked-eye for anyone caring to gaze up to heaven more than once within the time span of a night. Given the generally high

⁵⁶ There is an interesting parallel to the formal structure of the Nkoya goat-centred triad, and the Ancient Egyptian portable shrine of the *imi-wt* / *imiut* associated with Anubis, the ancestral cult, sexual reproduction, and at the same time offering a condensed image of the world (Stricker 1963-1989: 493 *f.*, 502 *f.*; Köhler 1975). The shrine consists of a bowl containing a fluid (often sacrificial blood of domestic animals), a pole (most probably a conscious evocation of the celestial axis, whose function corresponds with the Ancient Egyptian god Šw / Shu standing in that bowl, and an animal skin (preferably speckled or variegated, *e.g.* a leopard's) hanging from the top of the pole. The skin stands both for a churn and for the star-spangled vault of heaven – especially the region around the northern celestial pole – revolving on the celestial axis (the vertical pole). Säve-Söderbergh 1945, in another version of the Ancient Egyptian story of *The Two Brothers*, mentions an *imiut* involving a black-and-white (*i.e.* – by an almost globally distributed symbolism – shamanic, divinatory, liminal) cow-hide dripping with blood. Recent interpretations of early dynastic representations of the *imiut* (T. Wilkinson 2001) believe to see evidence of human sacrifice. Under that assumption the bowl would have been filled with *human* blood. One might even read a rudimentary three-element doctrine in this liturgical arrangement. There are very ancient shamanic resonances here: a widespread shamanic belief is that, on behalf of the community or the individual client, the shaman moves, along the celestial axis, up to Heaven and down to the Underworld for information and medicine; in Northern Eurasia and elsewhere, shaman's mantles and aprons tend to be adorned with representations of the stars and luminaries; also *cf.* Fig. 8.5., below.

development of Nkoya astronomy which allows the expert Nkoya hunters to orientate by night, and the veneration of white, debarked vertical poles in the region's 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 once evoked the celestial axis, but I have made no specific enquiries on this point.



(a, left) portable shrine, Deir el Bahari, New Kingdom; source: Anonymous, n.d. [2005]; (b, right) from *The Book of the Dead of Lady Cheritwebeshet* (here the feline is a serval)

Fig. 3.2. Ancient Egyptian representation of the imi-wt.

The semantic twist in the interpretation of the Lavwe, Sheta, and Shikumba[wuyuvu] 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, whose male component, Luhamba, is remembered as 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 threat 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; van Binsbergen 1992).

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

7

1 When Luhamba and Katete were being hidden by the Mbuze – 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 Mbuze 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).

Luhamba is here addressed by the name of the container that protects him, and Katete by her own name. The name Katete however consists of the stem *-tete* (‘reed’), preceded by the personal singular prefix: ‘Mr or Mrs Reed’. A similar play on Luhamba’s name was not possible in 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 is the ancestral home of many of today’s inhabitants of the Nkoya region, going back only a few centuries. Here Victor Turner (!) described⁵⁷ 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 Nkoya,⁵⁸ is the god of a foreign food crop (known to the outside world to be 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 and South Central Africa and across the Atlantic to Meso America, and even Japan and Indonesia, of such intimately inter-

⁵⁷ Turner 1962. Incidentally, that author’s name translates a Nkoya clan name.

⁵⁸ Cf. van Binsbergen 1981. The Malawian M’bona cult is another case in point; cf. Schoffeleers 1992; van Binsbergen 2011g.

twined themes as the dying vegetation god, God's Child, food crops as God's greatest gift to humankind,⁵⁹ and the Celestial / Paradisiacal Twins, often but not invariably of opposite gender. The Paradisiacal Twins evoke a Flood theme (van Binsbergen with Isaak 2008), and it is no accident that in many Flood stories the gift of crops is a standard post-Flood occurrence (e.g. *Genesis* 8:21 *f.*).

Whether (a) a historical fact of the second half of the second millennium CE in South Central Africa, or (as we suspect) (b) merely a symbolic theme stressing gender complementarity in the face of such male dominance as trade and warfare would generate, in both cases male usurpation of kingship, like kingship itself (which in itself is much older, in Africa, than half a millennium), is a symbolic innovation that relates 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 Fig. 3.1, 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'.

⁵⁹ The field of comparative mythology shows transcontinental continuities relating to Neolithic conditions of food production. All over the world we find the myth of the *dying junior god or goddess whose body turns into food crops*. This mytheme is attested (Mackenzie 1923; Bierhorst 1988) in Meso and North America (whence many of the world's present-day food crops derive). Also sub-Saharan Africa has several cases interpretable in these terms, as mentioned above. Relevant for Africa in this connection are also the phytogeographical studies by Jeffreys, especially 1971, which claims direct trans-Atlantic transmission of maize from the New World to West Africa. Another cluster of such myths is found in the Ancient Mediterranean: Jesus of Nazareth, Thammuz / Dumuzi, Attis, the child Dionysus torn apart by the Titans, Osiris killed by Seth (Plutarch, *De Iside et Osiride*; Frazer 1914 (with Ancient sources); Jacobsen 1970 (with Mesopotamian sources). Further attestations of this mytheme are from Japan (保食神 Ukemochi-na-kami / Ogetsu; Anesaki 1964; Willis 1994: 114) and South East Asia (Dewi Sri, Hainuwele; Willis 1994: 117). This global distribution pattern is suggestive of a multicentred, multidirectional global maritime network of which I believe to see many other empirical traces (van Binsbergen 2012c, and especially – with an extensive theoretical discussion – 2012f; *cf.* this book, Fig. 2.17). Given the fact that the origin of the African food crops in question is in the Americas, one is tempted to hypothesise that not only the food crops but also their attending myths crossed over from the New World into Africa, and not necessarily (as claimed by Dick-Read 2005) via the Pacific / Indian Ocean detour, but directly across the Atlantic.

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 Thing'; one might be tempted – even though our Pelasgian 'cross-model' would suggest that much wider connectivities are involved here than just Egyptian ones – to make an Egyptological connection 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:
2. 'She of the Reed and the Bee' (*nswt-bit*, in hieroglyphic writing ,⁶⁰ where the reed ('Earth') element is very clear in Katete, whereas the Bee⁶¹ ('Air' / 'Heaven') – although more conspicuous in the Nyembo clan title – could well be accommodated with the name of Luhamba 'Royal Travelling Thing'. The connotations of long-distance displacement inherent in Luhamba's name, and in the extreme geographical expanse of the symbolic

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

⁶¹ In the Ancient Egyptian context, the bee is most prominently associated with the kingship of Lower Egypt, with the temple of the goddess Neith at Saïs (*pr bit*, 'House of the Bee'), and with the legendary birth place and hiding place of Horus at Chemmis *ꜥꜥ bit*, 'Horizon of the Bee' in the Delta swamps. Ray (2003) reminds us that also the Sky god Nun is associated with the bee, but Egyptian gods tend to merge both in name and in associated characteristics. As a Bronze Age form of the Mother of the Waters, Neith in principle controls both the Waters Above (Heaven, in a later cosmology), and the Waters Below (the Ocean, and the Chaotic Abyss); in the myth of Horus' trial Neith appears emphatically as holding sway over the Sky – threatening to let it fall down if the verdict is not in favour of Horus (Gardiner 1932: 43a, 5.10a). Meanwhile the Egyptian cosmological symbolism helps us to understand an otherwise enigmatic third character mentioned in the same *Likota* passage, Lipepo, 'Royal Person Wind': he seems to be the Air / Św / Shu, which connects Heaven and Earth, thus completing the triad. In the Nkoya context, the standard image of a viable human group (e.g. in wedding songs, in regard of the bride-takers) is that of a bees' swarm or hive, and Mwene Lipupe, the first royal ancestress, is conceived as a Queen Bee.

complex indicated in footnote 61, makes a connection with Ancient Egypt not totally preposterous – especially against the extensive converging evidence of Egyptian survivals in sub-Saharan Africa already referred to above.

3. ‘The Two Ladies’, *nbtj*, , *i.e.* the Ancient Egyptian goddesses W3dt / Wadjet / Uto and Nḥbt / Nekhbet, the king’s protector goddesses in cobra and vulture shape respectively, often interpreted as 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 Ancient Egyptian royal titles) and bark hive in which Katete and Luhamba were said to hide.⁶²
4. 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 Fig. 3.3 – and it is here that the triadic structure of Nkoya clan names comes particularly to the fore.

⁶² Reed wrapping (again with an Ancient Egyptian parallel, *cf.* Goneim 1956: Plate 8, between pp. 80 and 81, burial of a Libyan lady) also appears to have been a traditional royal burial custom among the Nkoya. When chased, a few centuries ago, from the Zambezi Flood Plain by the Lozi, the Nkoya allegedly carried ‘their reed mats on their backs’ – probably containing royal relics; the image is so intimately connected with Nkoya identity that when King Kahare Kabambi posed for a state photograph in 1977, he insisted on holding a rolled-up reed mat in his hand. In this connection it is relevant to remind ourselves that reminiscences of the *nbtj* 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 Niaw-ingi; they were carried about in baskets (*cf.* Delme-Radcliffe 1905), and these were in the most literal sense living illustrations of the *nbtj* hieroglyphic sign . My attention was drawn to this information by van der Sluijs 2005.

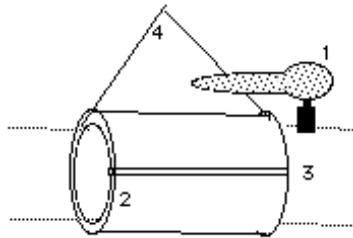


Fig. 3.3. The bark hive as a potentially triadic icon.

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 (2) from the trunk. A bark string (4) is attached to it, and it is suspended in the top of a tree. While here the bark hive is clearly the destroyed, one could argue whether the destructor is the axe (1) or the bark rope (4), and whether the catalyst is the original tree trunk (3) from which the bark is taken, the bark string, or again, the tree in which the hive is finally suspended. These points are only of secondary importance for the image of the bark hive is not actually used to produce the triadic logic of clan symbolism – it only emulates that logic.

Table 3.3 demonstrates that nearly the entire nomenclature of Nkoya clan can be easily and convincingly cast in terms of such causally linked three-somes. 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 we are dealing with a transformation of an implied six-element system, the identification of the various cosmological elements involved (Table 3.3, right-hand column) is merely a reconstruction and wrought with uncertainty and ambiguity in some cases; yet the overall pattern is strikingly convincing, in my opinion.

no.	destructor	destroyed	controls the process (catalyst)	proposed aetiology	proposed element
1	Shikumba [-wuyuvu]	Lavwe, Shihondo ⁶³	Sheta	the bark rope constrains the goat but the pole reaches into the sky	Aether or Wood
	bark rope [bark hive, see text]	Goat (tethered on a bark rope);	Turner		

⁶³ However, the word *shihondo* is generally considered to be obscure.

2	Langu	Nkwehe	Mbunze	the bell chases the hawk but it is owned by the royal buzzard	Air
	Bell	Hawk	Buzzard		
3	Tumbwa	Shungu / Kale	Makanga	The fish eagle snatches the barbel fish but leaves the guinea fowl alone	Water
	Vulture, Fish Eagle	Barbel Fish	Guinea Fowl		
4	Ntabi	Nzovu	Mulinga	the elephant is the king of the earth yet the bottom-dwelling human kills it with his spear	Earth
	Spear Hunter	Elephant	Spear		
5	Nkomba	Mukuni	Shilombe	the fire consumes the dried mushroom in the tinderbox, but not the wood from which royal drums are made	Wood or Fire
	Mushroom, Snuffbox	Firewood	Mulombe Wood From Which Royal Drums Are Made, so that they are immune to lightning		
6	Wishe	Shimunziko	Nyembo / Shihombo	the kindling is transformed into smoke, but not the metal sparkler in the tinderbox	Fire or Metal
	Smoke	Kindling	Sparkler Or Tinderbox		

Table 3.3. *Nkoya clan nomenclature as evocative of a triadic element cycle of transformations.*

With Table 3.4, we inspect two clan names that have not been accommodated in Table 3.3: Nkonze and Mvula. 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:

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

Table 3.4. *Nkoya clan nomenclature as evocative of a triadic cycle of transformations, with Nkonze and Mvula accommodated.*

In the Nkoya myth of the Cauldron of Kingship (*Likota*, 4; with close Eurasian reminiscences especially in the Celtic and Mongolian domain; cf. van Binsbergen 2010a) the Turners obtain the kingship by going around the boiling Cauldron containing the Game Meat of Kingship, but the Lickers get their share by licking the plates after the Turners' meal, and the entire operation is concluded with the falling of beneficial Rain – Mvula, the demiurge from heaven, child of the High God, and the pronounced origin of Kingship.

Admittedly, this royal extension requires us to use the Sheta / 'Turner' element twice, for it already features in the first element: Lavwe / Sheta / Shikumba[wuyuvu] in Table 3.3. 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 basis out of 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 alien elements that do not systematically spring from the Nkoya pre-statal symbolic system such as enshrined in the clan nomenclature. Such a conclusion should not surprise us: in an earlier study (van Binsbergen 1993 / 2003b) 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.

Whereas the village communities are pacifist, based on reciprocity, productive, and publicly (!) abhor sorcery – the royal courts are violent, more or less openly engage in sorcery, reject reciprocity, and tend to be not productive but usurpatory. This means that the seventh clan triad I have added by means of Table 3.4 cannot be taken as the recovery of an initially lost or overlooked integral part of the original traditional clan structure. It must be seen as a specific aberration testifying to the attempt to account for an essentially alien conception of kingship yet in terms of a pre-existing model of six clan triads. The story of the Cauldron 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, before we have brought the Nkoya clan system within the transcontinental orbit of the transformation cycle of elements.

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 means as much 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 五行 *wǔ xíng*, ‘five phases’ or ‘five primal units’ in the Taoist five-element system (see below, next Chapter), or the primal units in Presocratic (‘roots’, ῥιζώματα in Empedocles *Fragments* 6, later a similar idea re-occurred as στοιχείον *stoicheion*, ‘irreducible element’ – especially (according to Burkert 1959) in the mathematical and linguistic sense, but by implication also in reference to the composition of matter.⁶⁴ *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 or values.* The difference however with the Taoist and Presocratic views is that the Nkoya system is no longer understood by the local actors at the conscious level, but instead has exploded into aberrant multiplicity. In the Taoist system the same five elements always play, in turn, the role of destructor, destroyed, 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 (and we shall come back to this point towards the end of this book) that the Nkoya system of clan nomenclature is not anything near the historical origin of what we may postulate, as a Working Hypothesis, to be an underlying Old World transformation cycle of elements: what the Nkoya have is a peripheral local elaboration, no longer governed by its initially informing logic, hence gone berserk.

Thirdly, despite the apparent erosion of the Nkoya system, we must realise that it is far from unique, but in fact presents very striking resem-

⁶⁴ Cf. Cook & Rosemont Jr 1984: 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.

blances 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 seems to have informed quadruple pairs of cosmogonic beings in Egyptian cosmology, many other similar applications of an element system in Africa, North America, India and Japan, and even four-element theories in early Greek philosophy. All these cosmologies will be discussed in greater or lesser detail below. Time for us to leave the Nkoya and South Central Africa behind for a while, and to embark on our long-range exploration, in space and time, of element cosmological systems.

Chapter 4. Long-range, transcontinental manifestations of a transformation cycle of elements

4.1. Element cosmological systems worldwide

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. As we shall discuss in greater detail below, four elements⁶⁵ were identified by the Presocratic Greek philosopher / shaman Empedocles of Acragas / Agrigentum in *Graecia Magna* / Southern Italy (fifth c. BCE). In the Western tradition Empedocles has been regarded as the inventor worldwide of an element-based cosmological scheme. The model was subsequently reformulated and divulged by Plato and especially Aristotle, and became the very cornerstone of Western natural science, astrology, medicine, psychology, literary and artistic symbolism and iconography⁶⁶ including colour symbolism,⁶⁷ until well into Early Modern times.⁶⁸ It entered deeply into the

⁶⁵ This concept has gained a new lease on life in the works of Deleuze and Guattari (1972; Guattari 1989); cf. Macauley 1998; van Binsbergen 2008.

⁶⁶ In Western alchemical writings the four elements tend to be represented by conventional symbols, e.g. triangles standing on their base or top, intersected or not by a horizontal line. Chevalier & Gheerbrant (1994, s.v. 'élément') claim that there are basic line patterns to represent each of the four elements, e.g. wave, zigzag, log band – which is interesting because these very patterns dominate the iconography of the Southern African divination tablets used in four-tablet divination – a divinatory practice which forms one of the principal empirical referents in this book.

⁶⁷ Cf. Lyle 2006, listing the four colours black, red, white and yellow as a basic Indo-European scheme, without however making the obvious connection with the four elements. Note the projection onto geography, where seas of all these four colours have been distinguished (albeit not unambiguously) since Ancient times. Also note

esoteric traditions of mystery cults (Eitrem 1926-1927), Hermeticism,⁶⁹ the Ancient Sabaeans of Yemen, the Qarmatians (Massignon 1974), alchemy, Islamic occult sciences (*cf.* Nasr 1964; Ullman 1972; Fahd 1966), even surfacing in Post-Modern, globally distributed digital media and games such as *Avatar*, etc. However, this present argument will explore the Working Hypothesis that, in his Western (South Italian) 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 may have merely codified, and corrupted, a thought system which, in various local variants, had been circulating throughout Eurasia a dozen millennia since the Upper Palaeolithic; or, according our Alternative Working Hypothesis, for a much shorter period but still since the Bronze Age (5-3 ka BP).

As the authorities on the Sabaeans indicate,⁷⁰ among this ethnic group the planets were known as ‘Fathers’, the elements as ‘Mothers’ – an interesting background to Islamic geomancy, where the initial set of four broken or unbroken lines, on which the entire divinatory procedure is based (*cf.* the six lines, one above the other, out of which each of the 64 hexagrams of *Yi Jing* consists: ☰ ☱ ☲ ☳ ☴ ☵, etc.), is also called ‘Mothers’. The same situation obtained in the most likely original milieu of Islamic geomancy, that of the اخوان الصفا *Iḥwān al-Ṣafā* of Iraq c. 1000 CE (de Boer 1921: 90). These scholarly contexts were all highly indebted to Plato’s *Timaeus*, in which the symbolism of the *mother* as primal matter plays an important role (*Timaeus* 52b; *cf.* Johnson 1973; Plato 1975a). In Western astrology, the reference to ‘mothers’ goes back at least to Vettius Valens.⁷¹ The latter distinguishes some twelve τῶτοι *topi*, artificial astro-

practically the same colours in Fig. 4.3 (also front cover) from Southern Africa.

⁶⁸ As late as the middle of the 19th c. CE, the London professor of chemistry Thomas Griffiths (1851) was honoured to explain to Queen Victoria of England the principles of Modern chemistry in the, then still eminently familiar, terms of the four elements of Empedocles.

⁶⁹ Virgin 1885; Klein Franke 1973; Quispel 1992; *Corpus Hermeticum* 1945-54; Yates 1964; Waite 1893.

⁷⁰ Carra de Vaux 1974; Shahrastani 1859; Chwolson 1968; de Boer 1921: 90, 1967.

⁷¹ Vettius Valens (c. 120 – c. 175 CE; *cf.* Tester 1989: 47; no reference to ‘mothers’ in this sense or in related senses is to be found in Bouché-Leclercq’s monumental study of Greek astrology; although primal matter appears here in an Empedoclean sense as *mère universelle*, Bouché-Leclercq 1899: 13, while Earth features as mother of gods

logical points on the horoscope, many of whose names resonate with the Arabic and Greek names of the sixteen basic configurations in geomancy which was to emerge nearly a millennium later; nonetheless, a detailed analysis (van Binsbergen 1996c) brings out that it is primarily *other* astrological concepts than the *topi* which inspired these geomantic configuration names. In West African Ifa divination, the expression ‘mothers’ has been preserved to indicate the sixteen basic configurations (Ellis 188; Dennett 1968 / 1910: 149).

Having examined the extent of Presocratic influence on a particularly influential alchemical text, the *Turba philosophorum*,⁷² Peter Kingsley (who from the 1990s has stressed – rightly, but much to the dislike of mainstream classicists and historians of philosophy and of natural science – Empedocles’ identity as a shaman besides that of a philosopher) states:

‘And yet behind these similarities of form and content lies something much more fundamental. Underneath the accretions of Islamic, alchemical and also Gnostic ideas, genuine teachings of the Presocratic philosophers are preserved at the very core of the *Turba* tradition. Elsewhere ((...) [Kingsley 1995a]: chs 5, 15-24) I have outlined the route followed by these Presocratic teachings before they surfaced at Akhmim in Upper Egypt during the tenth century AD; *the subsequent course of transmission as they penetrated eastwards as far as Iran; and – last but not least – the significance of the way that teachings which originally owed so much to the East eventually returned to the East.*’ (italics added) (Kingsley 1994b).⁷³

Although unwelcome to some classicists (Bremmer, for instance, rejects the very idea of the shamanistic roots of Greek poetry, including that of Empedocles; Bremmer 1993: 1993: 25), Kingsley’s emphasis on the shamanic side of Empedocles is well-taken. His ideas form merely the culmination of a process, throughout the second half of the 20th c. CE, in which the specialists came to realise the impact of Asian shamanic thought on what until then merely appeared to constitute Greek rationality. The signs of this shamanic influence on classic Greek civilisation have been manifest to those who could read them. For instance, as Jason’s companion, Medeia (significantly a Colchian, *i.e.* West Asian,

and of Heaven, *e.g.* pp. 31, 75n, 92.

⁷² Cf. Gratarolo / Waite 1896; Plessner 1954.

⁷³ On the same East-West reverberations or pendulum-swing movement, cf. Frobenius 1923: *passim*, and Needham with Ling, 1961, Vol. I.

princess) engaged in the dismemberment and cooking of her brother and of king Pelias (Apollonius Rhodius, *Argonautica*); this is clearly reminiscent of shamanism, where reviving of the dead by the proper arrangement of their bones is a common theme – right through to the *sangoma* cult in Southern Africa, where those making animal sacrifices meticulously collect the bones and guard them, for fear that enemies would get hold of these bones and undo the sacrifice. Once recognised in their proper identity, shamans (usually set apart as alien and bewildering) turn out to abound in the classical Greek tradition: Pythagoras, Abaris, Empedocles, Orpheus, Aristeas, Epimenides, Hermetimus, Parmenides. Among these, Empedocles is not the only one to be canonised as a Presocratic philosopher, in the first place. The position is summarised by MacLennan:

‘It is now well established that ancient Greek philosophy had roots in the shamanic practices common to many cultures (e.g., Dodds 1951: Ch. 5; Butterworth 1966: Ch. 4, 1970; Kingsley 1994[c], 1995: Ch. 15). The Greeks learned these techniques from the “Scythians” when they colonized the north shore of the Black Sea in the seventh century BCE and from the Thracians and Persian Magi, who also knew north-Asiatic shamanism (Hornblower & Spawforth 1996: 1375; Kingsley 1995[a]: 226-227). These practices are reflected in the stories of Orpheus, who exhibits many of the features of a “great shaman” (Dodds 1951: 147; Eliade 1964: 391-392); of Aristeas (8th-6th cents. BCE), whose soul could leave his body in trance and accompany Apollo as his raven; of Abaris (7th-6th cents. BCE), the healer-sage (*iatromantis*) who traveled on a magic arrow (a typical shamanic wand), which he later gave to Pythagoras; and of the semi-historical Epimenides (7th-6th cents. BCE), who purified Athens (596 BCE) and was also known for leaving his body while in a trance state (Avery 1962, s.v.; Dodds 1951: 140-142; Hornblower & Spawforth 1996, s.v.). They all exemplify many of the characteristics of shamanic practice, as presented by Eliade (1964 especially Ch. 11), and were closely associated with Hyperborean Apollo (reflecting, again, the northern connections). Evidence of shamanic practice is also apparent in ancient biographies of historical figures, such as the pre-Socratic philosophers Pythagoras (572-497 BCE), who descended into the underworld and claimed to have the soul of Hermetimus, an ancient shaman, and whose followers venerated the Orphica and sometimes wrote under the name “Orpheus” (Dodds 1951: 141, 143-145); Parmenides (fl. 495), whose poem, with its progress from the illusory world of duality to The One, has many of the hallmarks of a shamanic journey (Kingsley 1999, 2003); Empedocles (c. 495-435), a magical healer who boasted that he could control the weather and retrieve souls from Hades (Dodds 1951: 145-147; Kingsley 1995); and other less well-known figures. They all combined “the still undifferentiated functions of magician and naturalist, poet and philosopher, preacher, healer, and public counsel[or]” (Dodds 1951: 146) and bore the distinguished title “healer-seer” (*iatromantis*), as a good term as any for a shaman.’ (MacLennan 2006)

The Greeks' contact with the world of shamanism usually refers to the elusive ethnic category of the Hyperboreans, about whom considerable information was circulating, as evident from the following extensive passage from Diodorus Siculus (*Bibliotheca Historica*, 1933, II, 47 1-2):

47. Ἡμεῖς δ' ἐπεὶ τὰ πρὸς ἄρκτους κεκλιμένα
μέρη τῆς Ἀσίας ἠξιώσαμεν ἀναγραφῆς, οὐκ
ἀνοικεῖον εἶναι νομίζομεν τὰ περὶ τῶν Ὑπερβορέων
μυθολογούμενα διελεῖν. τῶν γὰρ τὰς παλαιὰς
μυθολογίας ἀναγεγραφῶτων Ἐκαταῖος καὶ τινες
ἑτεροὶ φασιν ἐν τοῖς ἀντιπέρας τῆς Κελτικῆς
τόποις κατὰ τὸν ὠκεανὸν εἶναι νῆσον οὐκ ἐλάττω
τῆς Σικελίας. ταύτην ὑπάρχειν μὲν κατὰ τὰς
ἄρκτους, κατοικεῖσθαι δὲ ὑπὸ τῶν ὀνομαζομένων
Ὑπερβορέων ἀπὸ τοῦ πορρωτέρω κείσθαι τῆς
βορείου πύσης· οὖσαν δ' αὐτὴν εὐγεῖν τε καὶ
πάμφωρον, ἔτι δ' εὐκρασίᾳ διαφρούσασιν, διττοὺς
2 κατ' ἔτος ἐκφέρειν καρποὺς. μυθολογοῦσι δ'
ἐν αὐτῇ τὴν Λητώ γενονέναι· διὸ καὶ τὸν Ἀπόλλω
μάλιστα τῶν ἄλλων θεῶν παρ' αὐτοῖς τιμᾶσθαι·
εἶναι δ' αὐτοὺς ὡς περ ἱερεῖς τινὰς Ἀπόλλωνος
διὰ τὸ τὸν θεὸν τοῦτον κατ' ἡμέραν ὑπ' αὐτῶν
ὑμνεῖσθαι μετ' ᾠδῆς συνεχῶς καὶ τιμᾶσθαι δια-
φερόντως. ὑπάρχειν δὲ καὶ κατὰ τὴν νῆσον
τέμενός τε Ἀπόλλωνος μεγαλοπρεπῆς καὶ ναὸν
ἀξιόλογον ἀναθήμασι πολλοῖς κεκοσμημένον, σφαι-
3 ροειδῆ τῷ σχήματι. καὶ πόλιν μὲν ὑπάρχειν
ἱερὰν τοῦ θεοῦ τοῦτου, τὴν δὲ κατοικοῦντων
αὐτῇ τοὺς πλείστους εἶναι κιθαριστὰς, καὶ
συνεχῶς ἐν τῷ ναῷ καθαρίζοντας ὕμνος λέγειν τῷ
θεῷ μετ' ᾠδῆς, ἀποσεμνύνοντας αὐτοῦ τὰς πράξεις.
4 Ἔχουν δὲ τοὺς Ὑπερβορέους ἰδίαν τινὰ διάλεκτον,
καὶ πρὸς τοὺς Ἕλληνας οἰκειότατα διακεισθαι,
καὶ μάλιστα πρὸς τοὺς Ἀθηναίους καὶ Δηλίους,
ἐκ παλαιῶν χρόνων παρεληφῶτας τὴν εὐνοίαν
ταύτην. καὶ τῶν Ἑλλήνων τινὰς μυθολογοῦσι
παραβαλεῖν εἰς Ὑπερβορέους, καὶ ἀναθήματα
5 πολυτελῆ καταλιπεῖν γράμμασιν Ἑλληνικοῖς ἐπι-
γεγραμμένα. ὡσαύτως δὲ καὶ ἐκ τῶν Ὑπερβορέων

47. Now for our part, since we have seen fit to make mention of the regions of Asia which lie to the north, we feel that it will not be foreign to our purpose to discuss the legendary accounts of the Hyperboreans.⁷⁴ Of those who have written about the ancient myths, Hecataeus and certain others say that in the regions beyond the land of the Celts⁷⁵ there lies in the ocean an island no smaller than Sicily. This island, the account continues, is situated in the north and is inhabited by the Hyperboreans, who are called by that name because their home is beyond the point whence the north wind (Boreas) blows; and the island is both fertile and productive of every crop, and since it has an unusually temperate climate it produces two harvests each year. Moreover, the following legend is told concerning it: Leto⁷⁶ was born on this island, and for that reason Apollo is honoured among them above all other gods; and the inhabitants are looked upon as priests of Apollo, after a manner, since daily they praise this god continuously in song and honour him exceedingly. And there is also on the island both a magnificent sacred precinct of Apollo and a notable temple which is adorned with many votive offerings and is spherical in shape. Furthermore, a city is there which is sacred to this god, and the majority of its inhabitants are players on the cithara; and these continually play this instrument in the temple and sing hymns of praise to the god, glorifying his deeds.

The Hyperboreans also have a language,

⁷⁴ There seems good reason (see R. Hennig, 'Die Anfänge des kulturellen und Handelsverkehrs in der Mittelmeerwelt,' *Historische Zeitschrift*, 139 (1928), 1-33) to see in this people who live 'beyond the north wind' as their name signifies, an early acquaintance of the Greeks, through the medium of the Celts, with Britain and its inhabitants. In this chapter Apollo would be the Celtic Sun-god Borvon, and the 'sacred precinct' of Apollo would be the famous Stone Age remains of Stonehenge. [*translator's original footnote*]

⁷⁵ i.e. Gaul. [*translator's original footnote*]

⁷⁶ The mother by Zeus of Apollo and Artemis. [*translator's original footnote*]

we are informed, which is peculiar to them, and are most friendly disposed towards the Greeks, and especially towards the Athenians and the Delians,⁷⁷ who have inherited this good-will from most ancient times. The myth also relates that certain Greeks visited the Hyperboreans and left behind them there costly votive offerings bearing inscriptions in Greek letters. And in the same way Abaris,⁷⁸ a Hyperborean, came to Greece in ancient times and renewed the goodwill and kinship of his people to the Delians. They say also that the [M]oon, as viewed from this island, appears to be but a little distance from the earth and to have upon it prominences, like those of the earth, which are visible to the eye. The account is also given that the god visits the island every nineteen years, the period in which the return of the stars to the same place in the heavens is accomplished; and for this reason the nineteen-year period is called by the Greeks the ‘year of Meton.’⁷⁹ At the time of this appearance of the god he both plays on the cithara and dances continuously the night through from the vernal equinox until the rising of the Pleiades, expressing in this manner his delight in his successes. And the kings of this city and the supervisors of the sacred precinct are called Boreadae, since they are descendants of Boreas, and the succession to these positions is always kept in their family.

48. But now that we have examined these matters we shall turn our account to the other parts of Asia which have not yet been ...

“Αβαριν εἰς τὴν Ἑλλάδα κατατήσαντα τὸ παλαιὸν ἀνασῶσαι τὴν πρὸς Δηλίους εὐνοίαν τε καὶ συγγένειαν. φασὶ δὲ καὶ τὴν σελήνην ἐκ ταύτης τῆς νήσου φαίνεσθαι παντελῶς ὀλίγον ἀπέχουσαν τῆς γῆς καὶ τινας ἐξοχὰς γεώδεις ἔχουσαν ἐν αὐτῇ φανεράς. λέγεται δὲ καὶ τὸν θεὸν δι’ ἐτῶν ἑνεακαίδεκα καταντῶν εἰς τὴν νήσον, ἐν οἷς αἱ τῶν ἀστρῶν ἀποκαταστάσεις ἐπὶ τέλος ἄγονται· καὶ διὰ τοῦτο τὸν ἑνεακαίδεκαετῆ χρόνον ὑπὸ τῶν Ἑλλήνων Μέτωνος ἑνιαυτὸν ὀνομάζεσθαι. κατὰ δὲ τὴν ἐπιφάνειαν ταύτην τὸν θεὸν κιθαρῖζειν τε καὶ χορεύειν συνεχῶς τὰς νύκτας ἀπὸ ἰσημερίας ἑαρινῆς ἕως πλειάδος ἀνατολῆς ἐπὶ τοῖς ἰδίοις εὐήμερημασι τερπόμενον. βασιλεύειν δὲ τῆς πόλεως ταύτης καὶ τοῦ τεμένους ἐπάρχειν τοὺς ὀνομαζομένους Βορεάδας, ἀπογόνους ὄντας Βορέου, καὶ κατὰ γένος αἰεὶ διαδέχεσθαι τὰς ἀρχάς.

48. Τούτων δ’ ἡμῖν δευκρινηθέντων μεταβιβάσομεν τὸν λόγον ἐπὶ τὰ ἕτερα μέρη τῆς Ἀσίας τὰ

Some specialists would rather see the shamanic influences in Ancient Greece as coming from the North East, from Siberia, in line with present-

⁷⁷ The island of Delos was from the earliest period of the Greek civilization a centre of the worship of Apollo. [*translator’s original footnote*]

⁷⁸ Abaris is apparently a purely mythical figure, who in some authors sailed on his arrow, as on a witch’s broomstick, through the air over rivers and seas. [*translator’s original footnote*]

⁷⁹ The ‘Metonic Cycle’ is described in Book 12. 36. The cycle of Meton, which was introduced in Athens in 432 B.C., was designed to reconcile the lunar and the solar year, the latter being reckoned at 365 ⁵/₁₉ days. That this nineteen-year cycle was actually inaugurated at this time has been maintained, most recently, by W. B. Dinsmoor, *The Archoas of Athens in the Hellenistic Age* (1931), pp. 320-1 and *passim*. [*translator’s original footnote*]

day associations. It is from there that, for instance, Guthrie (1954: 309 *f.*; echoing a basic distinction made by Nietzsche)⁸⁰ derives the power of Apollo as an rational influence mitigating and balancing the untamed version of ecstatic religion associated with Dionysus. We have seen that shamanic influences surfaced in the Ancient Near East and in Egypt already a millennium before the Presocratics rocked the archaic Greek world. Ancient Iranian and Mesopotamian *Magi*, as well as Scythians and Thracians, are now seen as intermediaries in the transmission process of shamanism to the Aegean (*cf.* West 1983: 146 *f.*).

We came to Kingsley's view on Empedocles as a shaman when examining the application of (what has generally been considered) the latter's four-element to alchemy. Now, the link between alchemy and the four-element system has received ample attention from the psychiatrist Jung.⁸¹ In the alchemical context (specifically Zosimos' *Visions*) the four elements are compared with the human body, and their separation with the tearing apart of that body. The latter, incidentally, is a common image in Antiquity, from the genitor's body supposed to be torn apart in conception according to the embryological views of Ancient Egypt and several other ancient civilisations (Stricker 1965-1989) – to the god Dionysus' body being torn apart by the Titans in Ancient Greek cultic and mythological notions – and may also resonate in the global mythology of dying vegetation gods referred to above. Also in the four-based geomantic divination of the Islamic world, Africa and Medieval to Early Modern Europe, the four basic lines (the 'mothers') are seen as head, trunk, legs and feet – the medieval geomancer Zunbul explicitly admits that the four geomantic lines stand for the four elements (Klein Franke 1973: 31); the latter author – who shows himself as ignorant of basic astrology as he proves to be unheedful of argumentative logic – explicitly suggests a link with Empedocles, but in fact the link is more indirect, the four-element doctrine having been absorbed into Greek astrology and thus passed on to Islamic geomancy, the latter being, as we have seen, *adulterated astrology*.

⁸⁰ *Cf.* Nietzsche 1972 / 1872; Benedict 1946 / 1934.

⁸¹ Jung 1944, 1946, 1987: 91 n. 25 (with references to Berthelot's standard works on the early history of chemistry, 1888 and 1893).

Local variation of element systems may be distinguished along a number of dimensions:

1. Number of elements.
2. Nature of the difference between elements.
 - a) full transformation cycle – elements change into each other according to strict rules
 - b) Intermediate forms between (a) and (c)
 - c) immutable categories without transitions or transformations from one into the other.

As far as the number of elements in the transformation cycle is concerned, Empedocles' four-element system presents the lowest number of elements among fully established element systems although in passing we will encounter inchoate forms with only three, two and even one element. Throughout Greek and Roman Antiquity a five-element system would appear to have been the standard one, adding a 'fifth element' (literally: 'quintessence') to Empedocles' famous series of: Earth, Water, Air and Fire. Nor are literate, formal element systems limited to the West. As Table 4.1 indicates, a five-fold partition is found in many parts of Eurasia, including in Hinduism and Buddhism, Japan,⁸² China (*cf.* Durkheim & Mauss 1901: 67-80), and in the Bön religion of Tibet. It was also found among the Daisanites (the followers of Barðaisan of Edessa, who – according to Ibn al-Nadim's *Fihrist* – by the 10th c. CE had scattered, from their original swamps of Southern Iraq, into Khurasan and China.⁸³ And whereas in Southwestern Asia, Africa and Europe a foursome-based geomantic divination became the rule from the end of the first millennium CE on, exceptionally also a five-some geomancy is found, for instance in the forged or simply pseudo-epigraphical *Napoleon's Book of*

⁸² An earlier version of this book's argument started out with a long description and analysis of the extent to which the Japanese cosmogonic myth on 'Izanami giving birth to Fire' and was destroyed in the process, should be read as another application of the transformation cycle of elements, under the strong classical Chinese cultural influence prevailing in Japan in the early 8th century CE, when the Taoist system had been in existence for over a millennium; *cf.* van Binsbergen 2009 and forthcoming.

⁸³ Drijvers 1966. Their series of elements has a somewhat Chinese ring (in line with West Asian / Chinese continuities to be discussed in Chapter 7, below): Fire, Wind, Water, Light, Darkness, and above these God on high. Southern Iraq was also, of course, the cradle of *cilm al-raml*, the Islamic form of geomantic divination.

Fate (Parker 1988).⁸⁴

No.	Tradition ⁸⁵	Earth	Water	Air	Fire	5th (Quintessence)	Other
1	Ancient Mesopotamian ⁸⁶	Earth	Sea	Wind / Sky	Fire		
2	Greek	Earth	Water	Air	Fire	Aether / Idea	N/A
3	Latin	Earth	Water	Air	Fire	Quintessence	N/A
4	Hindu and	Earth	Water <i>ap</i>	Air <i>marut</i>	Fire <i>agni</i>	Aether /	

⁸⁴ Throughout this book, the names of elements will be capitalised, except in original quotations when such capitalisation may mean the imposition of a one-sided interpretation.

⁸⁵ Given the severe limitations of my specialist knowledge my rendering of Eurasian traditions in Table 4.1 must inevitably remain based on secondary sources. For many details of this scheme I am indebted to Anonymous 2008; from a more recent version of that text I have inserted the Ancient Mesopotamian entry (*cf.* Rochberg 2002), but not the Egyptian one; instead, I have inserted Diop's and my own view of the Ancient Egyptian system, see below, Section 4.3.2. I have suppressed, as a recent eclectic artefact, a line 'Neo-Paganism' (more or less coinciding with the New Age movement of the later 20th c. CE). For similar reasons I have omitted from this table a line 'Seven Chakras philosophy (combining Hindu and Buddhist themes)', for which the following entries were specified in the original source: *Sahasrara*, 'Crown': Thought / Space; *Ajña*, 'Third Eye': Light / Dark; *Vishuddhi*, 'Throat': Ether / Sound; *Anahata*, 'Heart': Air; *Manipura*, 'Navel': Fire; *Svadhithana*, 'Sacral': Water; *Muladhara*, 'Root': Earth.

⁸⁶ *I.e.* Sumerian and Babylonian; although differing in period and linguistic affiliation, the ritual and mythological system of both civilisations was largely continuous; *cf.* Lambert 1975; Kramer 1959: 79, where the four (not yet five) Sumerian principal gods appear almost as elements. Specialists' attribution of element concepts in the Ancient Mesopotamian context is somewhat uncertain and arbitrary: elsewhere, the same leading Assyriologist Lambert (1980) speaks of three primal elements: Water, Earth and Time.

⁸⁷ 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. Also *cf.* Lusthaus 2011; Günther 1996: 115 *f.* The aggregates of the five elements, in other words the actual forms of appearance of things, are called *skandha* in Buddhist esoteric literature – a concept to which we shall return below in the Nkoya context. The *Caraka Samhita*, a major source for the South Asian Ayurveda system of medicine, speaks (IV.v.2-5) of 'six elements: Earth, Water, Fire, Wind, Ether, and the unmanifested Brahman.' However, with Kakar (1983: 229 *f.*) this number is reduced to the first five. Given the strong Hellenistic influence exerted on Central and South Asia from the late 1st millennium BCE onwards (Banerjee

	Buddhist ⁸⁷	<i>khsiti</i> or <i>bhumi</i>	or <i>jala</i>	or <i>pavan</i> (air or wind);	or <i>tejas</i>	Sound and <i>byom</i> or <i>akasha</i> (aether)	
5	Japanese: <i>Godai</i> 五大	Earth 地 <i>chi</i>	Water 水 <i>sui, mizu</i>	Wind 風 <i>fu, kaze</i>	Fire 火 <i>ka,</i> <i>hi</i>	Void / Sky / Heaven (空) <i>Kū,</i> <i>sora</i>	Con- scious- ness
6	Chinese <i>Wu Xing</i> 五行 'Five Phases' ⁸⁸	Earth 土 <i>tū</i>	Water 水 <i>shuǐ</i>	N/A ⁸⁹	Fire 火 <i>huǒ</i>	Void	Metal 金 <i>jīn,</i> Wood 木 <i>mù</i>
7	Bön (Tibet)	Earth	Water	Air	Fire	Space	N/A
8	Ancient Egypt	Earth	Water	Air	Fire		Sky, Aether

Table 4.1. Four or more elements in various Eurasian traditions.

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

4.2. The transformation cycle of elements in East Asia: Two classical Chinese correlative systems

The wisdom systems we find in classic, literate East Asian civilisations are known as 'correlative systems':⁹⁰ reality is subdivided into a limited number of named symbolic domains, and each of these domains systematically takes on a specific value on a number of cosmological and hu-

1981), also very conspicuous in the realm of wisdom systems, cosmologies and divination (*cf.* Pingree 1978), probably the Hindu and Buddhist listings in Table 4.1 are far from independent inventions, but instead are indebted to the Greek four-element system attributed to Empedocles, which had become the general Greek norm by Hellenistic times. This is also the view I shall adopt in the concluding Chapter, 9.

⁸⁸ *Cf.* Fung Yu-lan 1952: II, 13; Needham 1975; Needham *c.s.*, II, 260 ff; Maciocia 2005; Eberhard 1993 / 1986: 93, 105, 309 and 1933.

⁸⁹ We note that Air is not a Chinese classical element, although the concept of 氣 Qi / Chi comes close.

⁹⁰ Needham *c.s.* 1956; Fiskejo 2000; Carus 1898; *cf.* footnote 3, above. Gadd 1966 makes clear that from the very beginning (early 2nd mill. BCE) 'the two queens of Babylonian science, the extispicium and astrology', constituted correlative systems.

man-existential dimensions (the heavens, minerals, animal life, plant life, kinship, politics, colours, music, topography etc.) so that the entire cosmos can be subsumed in a matrix whose columns define symbolic domains and whose rows define cosmological / existential dimensions (*cf.* Table 4.2). Correlative systems are, however, not limited to East Asia. A familiar example of a correlative system is Ancient Greek astrology (Bouché-Leclercq 1879, 1899; Tester 1989; Pingree 1978) which developed in the middle of the first millennium BCE under Mesopotamian and Egyptian influence, and subsequently greatly influenced divination, arts and *belles lettres* in Europe, the Islamic world and South Asia. Correlative systems are powerful, comprehensive and tautological cosmological statements, conducive to argued meaning and connections in personal and societal affairs, and therefore an inexhaustible source of inspiration for divination.

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 nature of each 'element' at each moment in each specific situation is ephemeral and incidental, giving way to another element phase under specific circumstances.

Fig. 4.1 renders, as a special case, the Taoist, classic Chinese transformation cycle in its simplest form (*cf.* Needham *c.s.* 1956; Fiskejo 2000). Destruction and Production are the two basic relations between elements in this proto-historic transformation cycle. Derived from Production and Destruction are the secondary relations Furtherance / Blessing and Hindrance / Insult, respectively.

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

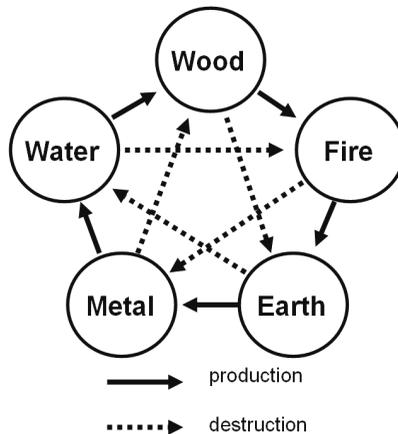
'Wood destroys (conquers(...)) Earth, but Metal controls (...) the process
Metal destroys (conquers (...)) Wood, but Fire controls (...) the process
Fire destroys (conquers (...)) Metal, but Water controls (...) the process
Water destroys (conquers (...)) Fire, but Earth controls (...) the process
Earth destroys (conquers (...)) Water, but Wood controls (...) the process'

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

shown the productive relations.

This cycle of transformation essentially defines three roles: the Destructor, the Destroyed, and the Catalyst (Fig. 4.2). Even more elaborate versions have been published, in which the cycles shown here are complemented by other cycles.

The essence of the Chinese Taoist transformation cycle of elements 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. Constituting a particular element is 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 absent from the Taoist system, which is geared to a constant flow of immanentalism, – in other words, which is an expression of a worldview that at no point needs to take recourse to the idea of an order of Being that is radically and absolutely different from the natural experiential order of the here and now, in which the human experience evolves itself.



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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.

Fig. 4.1. Basic transformations in the classic Taoist cycle of elements.

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 controls the process – as some sort of catalyst.

Against this background we can also situate the famous *Yi Jing* system of changes, whose dynamic logic resides in the systematic ways in which superimposed pairs of trigrams (☰, ☷, ☱, ☴, ☲, ☵, ☳, ☶: all the $2^3 = 8$ three-item permutations that can be made of broken and unbroken lines, are combined into $2^6 = 64$ named hexagrams, *i.e.* six-item configurations, *e.g.* ☰☷ ☱☴ ☲☵ ☳☶ etc.); between these hexagrams, and between the aspects of reality to which they are held to refer, systematic transformations are supposed to exist, whose generation and interpretation is the basis of *Yi Jing* as a cosmological, divinatory and psychological system revolving on systematic transformations, the subject of numerous comments in the West, by Legge, Wilhelm, Jung, etc.

These two classical Chinese correlative systems largely set the scene as far as East Asia is concerned. Let us now review the intermediate forms defined in Section 3.1.

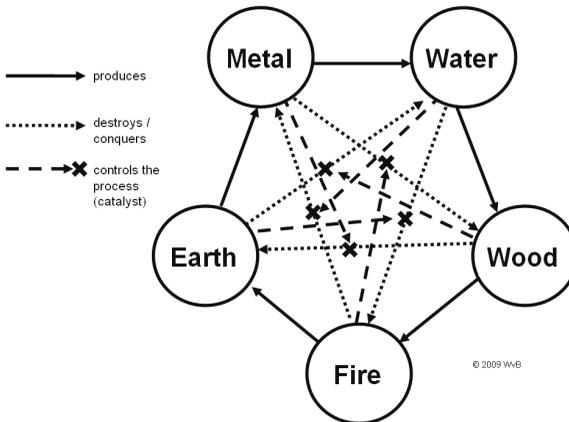


Fig. 4.2. The Taoist five-element transformation cycle according to Needham with Ling.

I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
	Trigram Figure (vertical and rotated)	Binary Value	Name	Translation:	Image in Nature	Direction	Family Relationship	Body Part	Attribute	Stage/ State	Animal
1		111	乾 <i>qián</i>	the Creative, Force	heaven, aether (天)	northwest	father	head	strong	creative	horse
2		110	兌 <i>dài</i>	the Joyous, Open	swamp, marsh (澤)	west	third daughter	mouth	pleasure	tranquil (complete devotion)	sheep
3		101	離 <i>lí</i>	the Clinging, Radiance	fire (火)	south	second daughter	eye	light-giving, dependence	clinging, clarity, adaptable	pheasant
4		100	震 <i>zhèn</i>	the Arousing, Shake	Thunder (雷)	east	first son	foot	inciting movement	initiative	dragon
5		011	巽 <i>xùn</i>	the Gentle, Ground	wind (風), wood (木)	southeast	first daughter	thigh	penetrating	gentle entrance	fowl
6		010	坎 <i>kǎn</i>	the Abyssal, Gorge	water (水)	north	second son	ear	dangerous	in-motion	pig
7		001	艮 <i>gèn</i>	Keeping Still, Bound	mountain (山)	northeast	third son	hand	resting, stand-still	completion	wolf, dog
8		000	坤 <i>kūn</i>	the Receptive, Field	earth (地)	southwest	mother	belly	devoted, yielding	receptive	cow

The translation of the trigram names in column V mainly derives from R. Wilhelm (1924, 1931; cf. Jung 1974; Wilhelm & Cary 1951).

Table 4.2. General overview of the *Yi Jing* as a correlative system.

4.3. Intermediate forms between the full transformation cycle and the system of four immutable categories

In this section we shall deal with some intermediate forms between the two extremes

- a) full transformation cycle
- b) discarded transformation cycle with elements as fixed immutable positions,

in sub-Saharan Africa, Ancient Egypt, and North America.

Before we set out on this comparative exercise, let us remind ourselves of one mytheme which has very wide distribution and that seems intimately related to the conception of a transformation cycle of elements: this is the combat myth, studied in detail in an impressive cross-cultural study by Fontenrose (1980), and also found in many Flood myths worldwide (Isaak 2006). In 2009 I proposed to interpret the combat theme as the destructive phase of the transformation cycle of elements, which suggests a very wide applicability of this concept, including North America, possibly going back, in some early form, to the Upper Palaeolithic.

4.3.1. Indications of element systems in sub-Saharan Africa

Traces of an element system with four or more categories may be found in 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 discussed in Chapter 3 above. But other examples may be found.

Although complicated by the presence of an overarching Sky god Olorun and of a demiurge Obatala, the pantheon of Yoruba gods does have strong reminiscences of the Hesiodic and Egyptian cosmology, with an implied transformation cycle of elements:

‘Their principal gods are: 1. Olorun, the [S]ky-god [AETHER?], who is the personification of the firmament; he is the equivalent of the Nyan-kupon of the Tshis, Nyonmo of the Gas, and Mawu of the Ewes. The Egyptian equivalent

was Pet (...).⁹¹ The Yorubas, like the Egyptians, believed the [S]ky to be a solid body, which curved over the earth so as to cover it like a vaulted roof. (...) Olorun is too distant, or too indifferent, to interfere in the affairs of this world. He has no images, symbols, priests or temples, and is only invoked in times of calamity when the lesser gods will not answer their worshippers. 2. Obatala, who was made by Olorun, and manages the heavens and the earth for him. He is a [S]ky-god with human attributes. He made the first man and woman out of clay, and his equivalent among the gods of Egypt is Ptah, whom we see at Philae fashioning a king on a potter's wheel. As a judge he possesses some of the attributes of the Egyptian god Osiris. [AIR?, AITHER ?] 3. Odudua, the wife of Obatala, is always represented as a seated woman nursing a child; in this respect she resembles the Egyptian goddess Isis, but as the patroness of love her Egyptian equivalent is Hathor. 4 and 5. Odudua bore her husband a boy and girl called Aganju and Yemaja, who represent Land [EARTH] and Water [WATER] respectively. The brother and sister married, and their son was called Orungan, *i.e.*, the Air. [AIR] The following gods were the fruit of the unlawful intercourse of Orungan with his mother Yemaja: Dada, a vegetable god [WOOD]; Shango, lightning god [FIRE?]; Ogun, god of iron [METAL]⁹² and war; Olokun, sea-god; Olosa, lagoon-god; Oya, Niger-god; Oshun, river-god; Oba, river-god; Orisha Oko, god of agriculture; Oshosi, god of hunters; Oke, god of mountains; Aje Shaluga, god of wealth; Shankpanna, smallpox-god; Orun, the Sun [FIRE?]; and Oshu, the [M]oon. Oshumare, the rainbow, is a servant of Shango, and his messenger Ara is the thunderclap; his slave is Biri, the darkness [CHAOS]. Shango hanged himself, but did not die, for he went into the earth and there became a god (*orisha*).⁹³ 6. Ifa, god of divination, who causes pregnancy, and presides over births. 7. Elegba, a phallic divinity; his symbol is a short knobbed club, which was originally intended to be a representation of the phallus. Circumcision and excision are connected with his worship. 8. Ogun, the war-god. The priests of Ogun take out the hearts of human victims, dry and powder them, mix them with rum, and sell them to people who wish to acquire great courage.' (Budge 1911: 372 *f.*, summarising Ellis 1887: 1-69, my bracketed insertions – WvB).

In Togo, a traditional story featuring *les quatre fils de la veuve* ('the widow's four sons') is a thinly disguised evocation of the four elements (Prilop 1985). What is a widow? An adult woman without a husband – we may consider ourselves to be in the presence of a transformation of

⁹¹ *I.e.* pt , the common Ancient Egyptian designation of 'Heaven' – WvB.

⁹² At this junction I may point out that notions of transformation are detectable in Niger-Congo speaking, especially Bantu-speaking Africa, in the context of metallurgy; *e.g.* De Maret & Gosselain 1993; Herbert 1993.

⁹³ It is a cliché of New Age writing to point out the shamanic parallel between Shango and Odinn (who according to *Havamal, Edda* (de Vries 1980) hung upside down from the world tree for nine days and thus acquired esoteric knowledge *e.g.* of the runes). Dumézil (1979 / 1959: 53 *f.*) minimises the shamanistic strand in Odinn.

the cosmogonic virgin Mother of the Waters, or of a terrestrial equivalent of that concept (where the four sons could be, not just the four elements, but also the four directions – a common ambiguity throughout the comparative study of element systems).

By the same token, Nommo, the culture hero / creator of the Dogon of Mali, was supposed to have woven the four elements together (Griaule 1948; Griaule & Dieterlen 1965).

A further indication of a four-element system in Africa may be seen in the fact that the 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), applying what I have elsewhere called Fairman's dilemma,⁹⁴ interprets it as a sign of Ancient Egyptian continuity in latter-day West Africa.

In his influential book *At the back of the black man's mind: Or, Notes on the kingly office in West Africa*, the well-informed trader Dennett (1906: 166 *f.*) writes, with reference to the Lower Congo region, of the divine name Nzambi (with slight variations widely distributed throughout West and Central Africa):

'The name for God is NZAMBI and its literal meaning is the personal essence (IMBI) of the fours (ZIA or ZA = four). What then are the fours? They are the groups each of four powers called BAKICI BACI ['basic elements'].'

Foursomes feature prominently in Dennett's ethnography: four great estates, four winds, four days of the week, four walls of the Yoruba kingdom, and a divine foursome Shango / Oya / Oba and Oshun. Remarkably, also the Zambian Nkoya situate some primordial foursome (*mavuma anā*, 'the four wombs / matrilineal descent groups'; *wunā*, 'the four[some]') near the beginning of history (*Likota lya Bankoya*, Ch. 38), and several other fundamental aspects of their politico-mythical organisation are presented in terms of foursomes (van Binsbergen 1992: *passim*), yet no present-day informant could explain the cosmological significance of this emphasis to me.

⁹⁴ Fairman 1965: similarities between (a) Ancient Egypt and (b) sub-Saharan Africa can be attributed to (a)'s influence on (b), but also to (b)'s influence on (a); *cf.* van Binsbergen 2011c.

Dennett also pays some attention (1906: 269 *f.*) to geomantic divination on the basis of such a foursome, in line with the fact that we see an insistence on foursomes in all African geomantic divination systems (e.g. Bohannan 1975), from four-tablet divination in Southern Africa to the four symbols making up a geomantic unit in West Africa (also *cf.* *Sixteen Cowries* (Bascom 1980) as a geomancy-derived 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). Possible traces of an 8-element model (*cf.* the Nkoya's six-element model) transformed into clan names may be found among the Congolese Bushong people (Cotterell 1989: 190; *cf.* Werner 1916 / 1964: 144). Here the creator is called Bumba, a white and anthropomorphic 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 nonetheless 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, eagle, fish, goat, heron, leopard, tortoise – very possibly an ancient list of clans, fewer in number, yet reminiscent of, the Babylonian and Chinese zodiacs, Moon stations (South Asia: *nakshatra*) and constellations, and of the Nkoya clan names, although we still ought to ascertain whether these eight names were still clan names among the Bushong in historical times.

It is very rare for African clan names to imply a *transformative, cyclical and catalytic* element system – in fact the Nkoya one is my only example. Meanwhile, individual clan names such as 'Mushroom', 'Vulva', 'Crocodile' have a very wide geographical distribution throughout sub-Saharan Africa. They may have been an independent invention from that region. However, for other clan names transcontinental continuity is obvious. Among the Ashanti twelve different clans are distinguished (Stricker 1963-1989; Rattray 1927, 1930); this reminds us, not only of the zodiac, but particularly of the twelve different tribes attributed to Ancient Israel, and of similar 12-based socio-political arrangements in Ancient Etruria, Ancient Greece, modern North Africa, and even Ancient China – a pattern for which often the term *amphiktyony* is used,⁹⁵ and which I propose

⁹⁵ van Binsbergen & Woudhuizen 2011: 112n with extensive references. For the wide

should be counted among the Pelasgian traits emerged in West Asia and from there spread in all four directions according to the ‘cross-model’. Identification as West Asian and Pelasgian suggests a possible link with the putative West Asian highly pigmented proto-Africans, – so that we may have our African cake and eat it at the same time, but the solution seems too uncertain and far-fetched to convince.



Fig. 4.3. A drawing by the Zulu lightning doctor Laduma Madela.

‘Aus dem geborstenen Ei der Mnengischlange erscheinen zwei männliche und

distribution of zodiacal notions all over North and West Africa, perhaps as a further indication of an underlying amphiktyonic pattern, see Pâques 1964 – which at the same time may serve as an indication of the spread of the four-element system in circum-Saharan Africa.

zwei weibliche Schlangenköpfe (...): Überschrift: «Oho! Das Ei der Mnengischlange brach auf. Siehe, es bricht an vielen Stellen auf.» Inschrift unten: «Siehe, es kommen vier Köpfe heraus, zwei von Männern, zwei von Frauen.⁹⁶ Beachte die Kopfringe (der Männer), beachte die Haartürme der Frauen. Wenn das Ei geborsten ist, heißt es, die Buben sollen die Ziegen holen und rasch heimbringen. Wenn sie da sind, ergreift man eine Ziege und wirft sie in die Grube mit dem Wasser, wo das Ei drin ist. Oh, sofort färbt sich das Wasser vom Blut der Ziege, die von der vielköpfigen Schlange getötet wird. Diese Schlange hat ihr Gutes und ihr Böses. Sie ist ein Werkzeug der Medizinmänner, besonders der **onyangamtha-kathi** und der **ohodoba**, die töten und wiederauferwecken (...).⁹⁷»

Also Southern Africa offers hints at a four-element system. For many years the German anthropologist Katesa Schlosser worked together with the Zulu lightning doctor Laduma Madela, South Africa, in order to record his complex esoteric knowledge. Fig. 4.3 renders one of his drawings (Schlosser 1992: Farbtafel II, Abbildung 6, pp. 42-43), with an explication (in Zulu) in Madela's own handwriting. The figure is strongly reminiscent of the Cosmic Egg from which four elements emerge – and of Western alchemical symbolic drawings, for that matter.

A case apart in the African context is Madagascar. Here we find, in the locational augury system reminiscent of Chinese *feng shui* 風水, strong emphasis on *four* elements.⁹⁷ Beaujard, one of today's leading authors on Madagascar culture, interprets this in terms of Indonesian influence. However, since over the past two millennia the literate, scholarly traditions of Hinduism, Buddhism and Islam have exercised a considerable influence upon Indonesia, I submit that this Indonesian link should not be considered in its own right but as an expression of South and West Asian

⁹⁶ 'It is characteristic of the Mnengis snake that it has several heads. Its name is derived from *mingi*, "many".' – original footnote. Schlosser's explanation of the name is probably a mere popular etymology (WvB).

⁹⁷ Cf. Berthier 1913; Beaujard 1988; Ferrand 1908. Also, a well-studied Arabian-Malagasy astrological text (Ferrand 1905) sets out the Malagasy variant of geomantic divination called *sikidy*, offering a discussion of illnesses linked to specific days, of sacrifices, and of destinies always with reference to a foursome consisting of Winds, Lands, Waters and Fires – in other words, the four-element system. Meanwhile, scholarship (Steinschneider 1877, 1956 / 1904; Trautmann 1939-1940; Hébert 1961; van Binsbergen 1996a) has firmly established the continuity between Malagasy *sikidy* geomantic divination, West African *Ifa*, and Southern African *Hakata* four-tablet divination, and their common origin in Islamic *ʿilm al-raml* from Southern Iraq near 1000 CE – cf. Ch. 2, above.

element cosmologies, thus brought to Africa via South East Asia, *i.e.* the ‘Sunda’ connection (*cf.* Oppenheimer 1998; Dick-Read 2005), in which also East Asian components may have been assimilated. My current research⁹⁸ explores the extent, direction and periodisation of transcontinental influence in Africa’s pre- and protohistory. Strong indications have been found of traits (*e.g.* specific genetic markers; musical instruments such as the xylophone, gong and breast harp; Ancient Roman currency; cowry currency; geomantic divination; Buddhist influence in kingship and ritual including ecstatic cults) of Sunda influence travelling from the Indian Ocean, rounding Cape of Good Hope, ending up in West Africa, and from there spreading again into Central and South Central Africa. This Sunda connection might offer a partial explanation of the four-element attestations in West Africa – besides trans-Saharan Assyrian, Egyptian, Graeco-Roman, and Arab influence. Below we shall see that the Nkoya case, with strong indications not only of Upper Palaeolithic and Bronze Age substrates but, exceptionally, also of Asian intrusions in recent centuries, is rather comparable with that of Madagascar.

Above we referred to the claim of a four-element system among the Dogon. 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 1991; Clifford 1988; we come back to this point in Chapter 7). Yet 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. To some extent, the ‘Back-to-Africa’ migration from c. 15 ka BP onward, and the Pelasgian ‘cross-model’ from the Late Bronze Age onward, constitute likely mechanisms to account 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.⁹⁹ Yet I am inclined, just like in the Nkoya and the Madagascar case, to invoke for the Dogon case another, rather more recent influence, stemming from the Ancient Near East including Egypt in the last millennium BCE, and

⁹⁸ My work in connection with the 2012 Leiden conference.

⁹⁹ For an application of these ideas to African mythology, see van Binsbergen 2010a. Brown 1926: 110 *f.* implies great Mediterranean continuities in the Tswana pantheon.

intensified in the course of the second millennium CE under Arab influence.

4.3.2. Indications of an element system in Ancient Egypt

In various Egyptian cosmogonies from the Old Kingdom,¹⁰⁰ personalised and narrative, mythical evocations of a classification scheme can be detected which, in effect, look like a four- or five element system. Claims to this effect were already made by the pioneer Afrocentrist writer Cheikh Anta Diop (1991: 377f; cf. Padró 1980) but were ridiculed under the impact of Eurocentric hegemonic ideology – even though Diop, a physicist and Egyptologist, was eminently placed to appreciate the natural-science implications of the Egyptian proto-scientific classification.

A case in point is Fig. 4.4, which shows that the Heliopolitan cosmology of the Old Kingdom may be read as an element system.

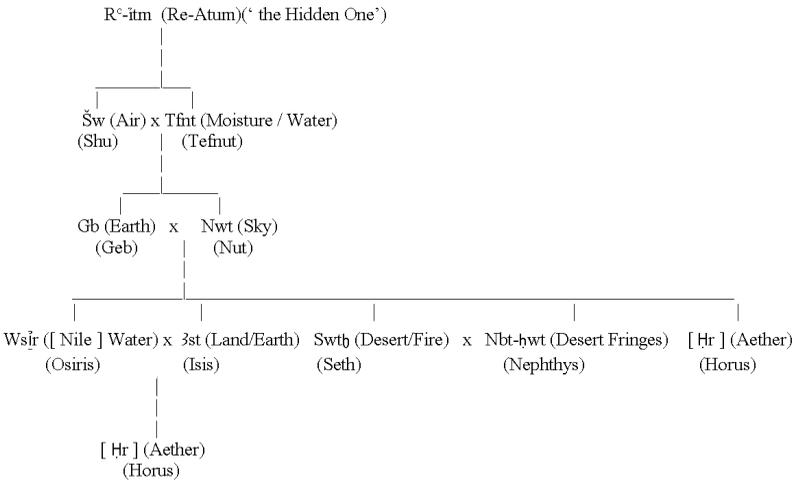


Fig. 4.4. An element system underlying the Heliopolitan cosmogony of Ancient Egypt.

¹⁰⁰ Third millennium BCE, two thousand years before Empedocles; these cosmogonies are attested in numerous iconographical representations, although some of their most important textual attestations e.g. the Shabaka Stone, are much more recent, dating from the Egyptian Late Period (Breasted 1901; van den Dungen 2010).

By contrast to this cosmogony of Heliopolis, there is the Hermopolitan Ogdoad – ‘eightsome’ – consisting of four gendered pairs 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 Huḥ). This unmistakably constitutes a quasi-Empedoclean four-element system; there is considerable affinity with the Ancient Greek cosmogonic scheme in Hesiod’s *Theogonia*.

In the Old Kingdom, the nine gods of the Heliopolitan Ennead (Atum > Shu and Tefnut > Isis, Nephthys, Seth, Osiris, Horus > Horus the Younger) could be construed as referring to element positions (as indicated in Fig. 4.4). Although mixed with other personified mythical elements, the themes Water / Air / Earth / Fire can be clearly identified here. 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 (Fig. 4.5) are suggestive of a four-element concept. Many more examples could be adduced, for instance the feline goddess Bastet being depicted wielding her *sistrum* (a rattling instrument) and holding an aegis-like object (*cf.* the Greek goddess Athena, also with Egyptian parallels in Neith) and with her four kittens nicely arranged and sitting in attention in front of her (Ronnberg *c.s.* 2011: 300-301): our Fig. 4.6.



Fig. 4.5. Indications of a four-element system in Ancient Egypt: Four Sons of Horus.
The four sons of Horus represented as lids on the four Canopian Vases containing the

viscera of pharaoh Tut-^cAnḥ-Amon (early 14th century BCE, XVIIIth dynasty, New Kingdom), now in the British Museum, London, United Kingdom. In their iconography we recognise the elements Air (falcon), Water (crocodile), Land (jackal), and Fire (a human with a red face).



Fig. 4.6. The Ancient Egyptian feline goddess Bastet with a foursome of kittens, possibly an evocation of a four-element cycle of transformation, Late Period, c. 664-630 BCE.



Fig. 4.7. Indications of a four-element system in Ancient Egypt.

Four goddesses guarding the viscera of pharaoh Tut-^cAnḥ-Amon (early 14th century BCE, 18th dynasty, New Kingdom), now in the Egyptian Museum, Cairo, Egypt. The foursome may be interpreted as, among other associations, evoking a four-element

system: Neith / Nt (Water), Selket / *srqt* (scorpion goddess, Fire), Nephthys (as spouse of Seth / Swtj she governs the desert fringe, but as ‘Mistress of the House’, Nbt-Hwt, she may be associated with the Air as the House of the Sky god Horus, *cf.*

Ht-Hr / Hathor), and Isis / ʒst (Earth, impregnated by Osiris / Wsir who is often equated with the River Nile). Photograph: © Araldo de Luca, in: Bongioanni & Sole Croce 2001: 303, with thanks.

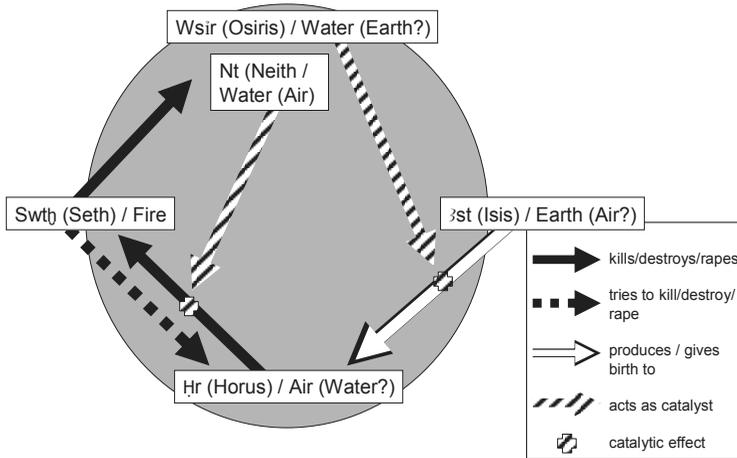


Fig. 4.8. A rudimentary transformation cycle of elements: Seth and Horus.

Although the details are admittedly inconsistent, indications of a transformation cycle of elements may certainly be discerned in the most cherished and sacred mythological narrative of Ancient Egypt, that of the conflict between Seth and Osiris, Isis’ conception from the dead Osiris, her production of Horus, and the latter’s struggle with Seth with physical including sexual violence, which eventually, through the intervention of the ancient goddess Neith (identifying as Sky goddess threatening to bring down the Sky, but in fact as Mother of the Waters including those Above *i.e.* the Sky), resulted in Horus’ victory and judicial vindication. However, that here we have to do with a highly imperfect form of the transformative element cycle, is clear from the fact that various values (Water, Earth, Air) might be attributed to Osiris (often equated with the river Nile), Isis and Horus (whose domain, as a falcon-shaped god, is the Sky) – whereas Horus rapes not only Seth but also his mother Isis (which suggests that she is primarily Earth and Horus primarily Heaven, *cf.* Ancient Greek, Yoruba and Oceanian mythology¹⁰¹ where the pre-cosmogonic contact between Heaven and Earth is one of

¹⁰¹ The Maori myth of the primal gods Papa and Rangi locked in intercourse (Grey 1855: 1 f; Cotterell 1989: 244; my fieldnotes); the Nigerian primal gods Obatala and Odudua (Heaven and Earth), similarly engaged (Ellis 1894: Ch. II. 3; Scheub 2000); the Ancient Greek myth of Uranus and Gaia, whose unending embrace was violently disturbed by their son Cronus emasculating his father and opening the way for cos-

incessant intercourse); cf. Hopfner 1940-1941: II, 175; Plutarch 1934-1935, *De Iside et Osiride*; Fairman 1935; Gardiner 1944.

Ancient Egyptian stories are also full of transformations which on closer scrutiny might well turn out to be narrative renderings of a transformation cycle of elements, e.g. the *Story of the Two Brothers*:

‘Bata, Anubis’ brother, flees after a Potifar-like incident [cf. *Genesis* 37:36 f. – WvB], to Syria, where the Ennead has a wife for him made by Chnum. This wife is almost violated by Sea. Bata has emasculated himself and has hidden his heart in a pine tree. Etc. Bata becomes a bull, then an avocado tree, then a piece of furniture, whose plinter kills the bad woman. Bata ends up as king.’ (Willis 1994: 53).¹⁰²

Fontenrose briefly refers to the story as an Egyptian instance of his cherished combat myth (1980 / 1959: 190-192, 207, 258) but he misses the possible element implications. This is all the more regrettable because these implications are particularly compelling in Bata’s case:

‘Now all the main characters in this story are gods: Anpu is Anubis, and Bata is a god who is conceived in serpent form, or rather, mixed form—the Bata snake had four human bodies and four pairs of human legs at each end of his body.’ (Fontenrose 1980 / 1959: 192; cf. Fig. 4.3 from Southern Africa!)

What does emerge in Fontenrose’s treatment is that Bata belongs to a class of gods or heroes whose destruction is caused by a female partner. This of course corresponds with the destruction phase in the transformation cycle of elements, which I have suggested (van Binsbergen 2010e) to be at the root of the combat myth with its near-global distribution. Fontenrose, who sees parallels between the Bata and Humbaba / Gilgamesh narratives (1980: 192) identifies Deianeira¹⁰³ and Delilah (Samson’s partner in the Biblical book of *Judges* 16:4 f.) as equivalents of Bata’s wife – while Fontenrose also indicates the parallel with Potiphar’s wife.

mogony: Hesiod (1914), *Theogonia*, 133 f.

¹⁰² For the full story, the original hieroglyphic text, and extensive commentary and interpretation, cf. Moldenke 1898; Hollis 1990. The story is also included in various collections of Ancient Egyptian stories. The wife’s rape is comparable to that of Isis by Seth and by Horus (see above) and that of Orpheus’s wife Eurydice by Aristaeus (see below), which will be demonstrated to be a transformation of Ancient Egyptian themes.

¹⁰³ Deianeira, wife of the Greek deified hero Heracles; Diodorus Siculus, *Bibliotheca historica*, IV 36; Sophocles, *Trachiniai*, 555; Ovid, *Metamorphoses*, IX, 201; Seneca, *Hercules Oetaeus*, 196; Pausanias, *Descriptio Graeciae*, X, 38 1.

But many more instances could be cited. In Nkoya mythology, King Shihoka Nalinanga meets his doom through sexual intercourse with an artificial woman (*cf.* Bata's wife) that was created by his envious sister Likambi (van Binsbergen 1992, 2010a). Perhaps there is an echo here (I have identified more such echoes) of the Celtic King Arthur meeting his doom through Morgana and Mordred, and of another Celtic mytheme, that of the mermaid-like Melusine (Higley 1999); also note that it was Pandora, engineered by Hephaestus at Zeus' request, that brought disaster over humankind (Hesiod, *Theogonia*, 560 *f.*). In the Hebrew tradition the proverbial evil woman is Lilith, alleged to have been Adam's original wife and implied to be the source of his destruction (Patai 1990). As Higley points out, Melusine and Lilith are akin to the Lamia figure which also features extensively in Fontenrose (1980). Further afield, but relevant to our intercultural argument, is that it is as an artificial woman in the shape of Gautama's wife Yasodhara, that Mara ('Delusion') seeks to seduce the Buddha (Musaeus-Higgin 2000: 237). As for the interpretation of the Bata figure specifically, the parallels with Heracles (whose Levantine equivalent is Melqart, 'City King', *cf.* Marduk as the solar chief god of Babylon), Gilgamesh and Samson (*cf.* Proto-Afroasiatic *šam- 'Sun'; Starostin & Starostin 1998-2008, 'Afroasiatic etymology') suggest that his underlying identity is that of Sun / Light / Life, as opposed to Night / Darkness / Death (*cf.* Anubis, Humbaba). Fischer (1975) claims that the name Bata may be associated with a verb meaning 'beating on the ground', which not only structurally evokes the beaming and setting Sun's down-directed action, but also brings to mind multi-layered features of the geomantic symbolism.

This does not even exhaust the potential of myths to inform us on the existence, or absence, of a transformative element cycle in Ancient Egypt. Myths can often be seen to cross geographical, cultural and linguistic boundaries, and given the tremendous impact Egypt has had on the Mediterranean region during three millennia, we may even expect Graeco-Roman mythical traditions to illuminate us on Egypt. One of the points on which Bernal was attacked by classicists was his claim that Ancient Greek myths were considerably indebted to Ancient Egypt. In one of my early contributions to the *Black Athena* debate I joined in this chorus, arguing that specifically the myth of Hephaestus and Athena had Central Mediterranean and Anatolian echoes, rather than Egyptian ones. I

later expanded this argument into a full-size book draft, revising it completely, and turning my critical attention from Bernal to Blažek and his Hephæstus < Ptaḥ etymological proposal (van Binsbergen 1997d, in preparation (b)). Meanwhile, my detailed analysis of the Aristæus myth as found with Ovid and Virgil was proving me wrong and Bernal right: here the clues for an Egyptianising reading were overwhelming, even though the myth is principally attested, not even from Greek but from Latin sources. We find ourselves here in a position comparable to that of Bruno Stricker (1967-1989): Ancient Greek and Roman writers texts turn out to be so close to the Egyptian world view that the former may convincingly be used to elucidate otherwise obscure aspects and implications of the latter. A summary and Egyptianising reading of the Aristæus myth is here presented in Table 4.3, columns A and B. With the same stone we can kill another bird that is far more relevant in the context of the present book: if read against an Egyptological background, the Aristæus myth turns out to reveal an elaborate evocation of an element transformation system (Table 4.3: right-hand column) – even though we have to admit that (as is to be expected when the transmitters of the myth no longer perceive its element cosmology background) the identification of elements and their specific transformations and catalysts does not come out totally consistently.

As a peasant farmer, more specifically as a culture hero inventing such homely achievements as cheese-making and bee-keeping, Aristæus¹⁰⁴ is a principal agricultural god in the Graecianising Roman tradition. He may be considered an evocation of the Neolithic, early Pelasgian, modes of production – which, as Woudhuizen and I argue in detail elsewhere¹⁰⁵ was also strong in proto-historical Italy, partly but certainly not entirely due to the Etruscan influx. There was also another Aristaios:¹⁰⁶ one of the Gigantes who fled the primal Battle with the Gods and was hidden by his mother Earth in the Island Sicily in the shape of a dung beetle; also for Aristaios-2 there is an unmistakable Ancient Egyptian parallel showing

¹⁰⁴ Sources: Ovid (1838), *Fasti*, 1, 363 f.; Virgil (1886), *Georgica*, 4, 281 f.; Atsma 2000-2008, s.v. ‘Aristæus (1)’.

¹⁰⁵ van Binsbergen & Woudhuizen 2011: *passim*, see that book’s Index of Proper Names, s.v. ‘Pelasgia(n(s))’; van Binsbergen, in press (a).

¹⁰⁶ See: Suidas (1853), s.v. ‘Aristaios’ and ‘Aitnaios kantharos’; Atsma 2000-2008, s.v. ‘Aristæus (2)’.

A. myth and comment	B. Egyptianising interpretation	interpretation in terms of a transformation cycle of elements
<p>1. <i>Aristaeus</i>, [= 'The Best', epithet of several Greek gods] <i>son of Apollo</i></p> <p>2. <i>and Cyrene</i> [= 'Sovereign Queen' / the Libyan town of Cyrene / the Egyptian goddess 'Libyan' Neith]</p>	<p>Hpri / Re^c, the sun-god and male creator-god</p> <p>Neith, mistress of the Waters Above and Below. In Ancient Egyptian mythology, Re^c is occasionally implied to be Neith's son himself. During the Bronze Age, all over the Old World female gods were demoted in favour of celestial male gods (van Binsbergen & Woudhuizen 2011: Table 6.4, p. 142), and the same relationship exists between Neith and Re^c. As son of Neith and Re^c (but as such unattested in documented, the character of Aristaeus seems to be an echo of the confrontation between Neith and Re^c. The Aristaeus character seems to reflect the reconciliation of this tension inherent in this masculinisation and verticalisation of the world view. Moreover it reflects the Early-Dynastic tension – probably mythical rather than factual – between</p> <ul style="list-style-type: none"> • the Neith / theocratic / female-centred / West Asian-orientated / Pelasgian-orientated Lower Egypt, and • the male-centred, bureaucratic, African-orientated Thinite state of Upper Egypt <p>(cf. Wilkinson 2001; Edwards 1971; Emery 1961; Kemp 1989)</p>	<p>Apollo = Sun = FIRE</p> <p>Cyrene = Neith = WATER</p> <p>What could come from the marriage of FIRE and WATER? Vapour, AIR, AETHER, which gives the formula: FIRE*WATER=AIR or AETHER.....(1)</p> <p>However, this does not make sense from the perspective of the transformative cycle of elements. According to the latter discourse, elements do not mate on an equal footing, but just one element produces another by annihilation, under the catalytic influence of a third element. The Egyptian and generally Ancient conception of generation (Stricker 1967-1985) seems to be that the father's body is annihilated, while the mother's body is rather catalytically involved. This suggests the formula</p> <p>FIRE > AIR or AETHER under WATER as catalyst....(2) or (considering the realities of iron production) more likely</p> <p>FIRE > METAL under WATER as catalyst.....(3),</p> <p>in other words in the logic of the transformative cycle of elements Aristaeus is a candidate for METAL (Neith is also the goddess of arms), and less likely for AIR or AETHER. Metal is otherwise absent in the cyclical element transformation systems of the Western Old World – but it could be that the Aristaeus myth is a secret initiatory text for metalworkers, emerged in West Asia, which (while being transmitted East to give rise to the METAL and WOOD cycles there; see Chapter 7, below) subsequently absorbed Egyptian content, and then was transmitted to Italy – not unlike the Etruscans (Woudhuizen 2008; van Binsbergen & Woudhuizen 2011)</p> <p>Whatever element Aristaeus may represent, his rape of Eurydice seems to stand for Destruction of another element (Eurydice), in the transformation cycle of elements</p>
<p>3. (<i>Aristaeus</i>,) <i>master of bee-keeping, has, or covets, illicit intercourse</i></p>	<p>bit, 'bee', high-priestess of Neith (Mistress of the Waters Above and Below), and Ruler of Lower Egypt. In my interpretation of the Ancient Egyptian royal title <i>mswt-bit</i> ('She of the Sedge and the Bee'), the bee represents Heaven, the sedge Earth, confrontation of Upper and Lower Egypt in Early Dynastic times</p> <p>Nwt / Heaven as 'House of the Sun'; Tftt</p>	
<p>4. <i>with Eurydice</i> [= Wide Justice' The first creatures, Shu and Tftt,</p>		<p>Eurydice's name seems to refer to the celestial canopy, therefore she could be AIR or AETHER. That Eurydice is</p>

<p>were often equated with Sun and Moon as the Eyes of Horus; In Ancient Mesopotamia, it is not the Moon but the all-seeing Sun / Šamaš which is the heavenly personification of justice] <i>wife of</i></p> <p>5. <i>Orpheus</i>] for which name Bernal 1987: 71 f. suggests the Ancient Egyptian etymology <i>irpʿt</i> ‘Hereditary Prince’ (but his etymologies have been badly received by most specialists, and this particular one certainly leaves the final –t, normally a feminine suffix, unexplained). Like other Greek heroes including Menelaus and Helena, Orpheus (who like Menelaus wears a leopard skin; van Binsbergen 2004 / 2013) is claimed to have visited Egypt]</p>	<p>Geb (Bernal 1987: 71f); Šw.</p>	<p>specifically killed by a snake, which as argued in the present book has widespread EARTH connotations, implies that she could not be EARTH herself. The solar and watery descent of her rapist Aristaeus (METAL?), leaves us in doubt as to the specific element connotations of Eurydice.</p> <p>AETHER or AIR ?</p>
<p>6. <i>Eurydice then flies</i>.</p> <p>7. <i>trips on a snake, is bitten and dies</i>.</p>	<p>an extension of the Neith / Northern motif to that of the primordial snake enemy, Apophis, whom Neith (as Mistress of the Waters [Below]) produced by spitting (Hart 1993, s.v. Apophis] ; alternatively, the pharaoh’s protective deity, the cobra Wꜣḡyt</p> <p>Isis and Nephthys; or Wꜣḡyt and Njḡt as the Two Ladies (nbty: in the shape of a vulture and a cobra) protecting the pharaoh as Horus</p> <p>Thwarting of Aristaeus’s Neith-derived power as bit, or the power of bit in itself, or his bit returne, the Neith priest(ess)hood, curtailed: Heliopolitan theology curbing the Neith cult; Neith priestesses killed as funerary human sacrifices at First-Dynasty royal tombs (Emery 1961)</p> <p>resilience of Lower Egyptian traits and interests</p> <p>Pharos, too, is in Lower Egypt</p>	<p>chasing is Destruction of one element by another /AIR or AETHER destroyed by EARTH (snake), perhaps with METAL (Aristaeus) as a catalyst.....(4)</p>
<p>8. <i>Eurydice’s sisters</i></p>	<p>other elements</p>	<p>other elements</p>
<p>9. <i>subsequently kill Aristaeus’s bees</i>.</p>	<p>the Neith cult’s powers curbed by the rise of the masculine, buterautric pharaonic state as religiously and symbolically underpinned by non-Neith related themes; the Neith</p>	<p>killing is Destruction in the transformation cycle of elements</p>
<p>10. <i>Aristaeus, on Cyrene’s advice</i></p> <p>11. <i>feters the Pharos-based oracular sea-god Proteus [= ‘First’]</i></p>	<p>appeal to the transformative cycle of elements; Proteus evokes transformation; fettering = Hindrance, an attenuated form of Destruction</p>	<p>appeal to the transformative cycle of elements; Proteus evokes transformation; fettering = Hindrance, an attenuated form of Destruction</p>
<p>12. <i>Aristaeus learns that the bees have died in retaliation for Eurydice’s death</i>.</p>	<p>if AIR or AETHER (Eurydice) is destroyed by EARTH (snake) with METAL (Aristaeus) as a catalyst (4), what then is being destroyed in what is narratively represented as bees? Are</p>	<p>if AIR or AETHER (Eurydice) is destroyed by EARTH (snake) with METAL (Aristaeus) as a catalyst (4), what then is being destroyed in what is narratively represented as bees? Are</p>

	<p>not Aristaeus and the bees expressions of one and the same identity? The transformative cycle appears to enter into a referential loop here – understandably since the owners of the myth presumably has lost conscious knowledge both of the transformative cycle and of its Egyptian mythological application</p>		
<p>13. Aristaeus kills four bulls and four cows as propitiatory sacrifice</p>	<p>The four paired items evoke the Hermopolitan Ogdoad and cosmogony. The Lower Egyptian, female bee /bit element engages with the male and solar bull (k3) element evocative of the Upper Egyptian, male principle; here the male fire-associated sun-god emerges as the 'Bull of the Emead', having usurped female Neith's watery creative prerogative</p>	<p>not Aristaeus and the bees expressions of one and the same identity? The transformative cycle appears to enter into a referential loop here – understandably since the owners of the myth presumably has lost conscious knowledge both of the transformative cycle and of its Egyptian mythological application</p>	
<p>14. Aristaeus, on Cyrene's advice, leaves the bovine carcasses in a copse</p>	<p>insistence on the power of the Neith cult or of Lower Egyptian traits and interests in general; the Upper Egyptian bull (k3) element has to be transmuted into the Lower Egyptian bee / bit element through a process of transformation – in other words, the Unification of the Two Lands</p>	<p>the four paired items evoke the four elements and / or the four directions; their killing evokes transformation; the solar bull may be interpreted as AIR or AETHER (celestial aspect emphasised) or as FIRE (heat aspect emphasised), which makes us enter another loop</p>	
<p>15. for eight days [Ogdoad]</p>	<p>the Heliopolitan Emead minus its leader and progenitor. Atum, Atum is a male primordial god (cf. Aristaeus en Nuaah) who produces the first creatures, Sw and Tint, in a way which is variously described (masturbation, spitting) but always in terms implying the absence of female reproductive organs. Atum represents the male usurpation, in the course of the consolidation of the early Egyptian state, through the Heliopolitan theology among other means, of female centred cosmology exemplified in the Neith cult.</p>	<p>FIRE or AIR or AETHER undergoes the transformation of destruction, under WOOD (otherwise absent in the cyclical element transformation systems of the Western Old World) as a catalyst, and produces whatever element the bees stand for.....(5)</p>	
<p>16. After a funerary sacrifice to Orpheus, who had meanwhile died,</p>	<p>evocation of Neith as the mistress of death and the underworld</p>	<p>the number eight invokes the four elements and/or the four directions, each paired gender-wise</p>	
<p>17. the carcasses are teeming with bees</p>	<p>the bees as the sign of life resurrected from death; but also a symbolic triumph of Neith's living emblems over the dead and decaying substance of the masculine, bureaucratic state cult; all this amalgamated in the character of Osiris who is at the same time the expression of masculinisation, and (as Neith's vizier, and as the ultimate pupa resurrecting from death) the continuation of the Neith cult in a new form.</p>	<p>(a) Destruction of EARTH or AETHER (Orpheus), who here also seems to feature as catalyst in the transformation of bulls into bees – whatever their specific element identification</p>	
<p>18. on the ninth day.</p>	<p>the Heliopolitan Emead</p>		

Table 4.3. The Aristaeus myth analysed as a reflection of Early Dynastic Egyptian history, and as an esoteric text on the transformation cycle of elements

that underneath this pathetic figure lurks a demoted major god: as a symbol of eternity and rebirth,  Hpri, represented as a dung beetle, is one of the principal Ancient Egyptian gods, with Horus a manifestation of Rē^c.¹⁰⁷ Like the Nestis theonym we will discuss below, the Aristaeus myth is another argument for substantial Egyptian influence on Italy in protohistorical times. Viewed from an Egyptological perspective, the Aristaeus myth can be interpreted as a reflection of the legendary struggle in Early Dynastic times – enshrined in the notion of the Unification of the Two Lands by ^cAha or Menes – between¹⁰⁸

- Neith / theocratic / female-centred / West Asian- orientated / Pelasgian-orientated Lower Egypt, and
- the Horus / male-centred, bureaucratic, African-orientated Thinite state of Upper Egypt

The argument on the Aristaeus myth as an esoteric text on the transformation cycle of elements is extensively given in Table 4.3 and need not be repeated here.

By and large, the Egyptian expressions reminiscent of an element system are rather too ornate and too ‘narrativised’ to suggest the very *origin* of such a system in the Nile Delta in the Early Bronze Age.

If we take the view that some rudimentary transformative cyclical element system could be a Pelasgian trait, then its origin should be sought rather in West to Central Asia. However, from its very beginning in the Early Bronze Age, dynastic Egypt has undergone considerable West Asian influence: West Asian gods such as ^cnt / Anat, qdš / Qadesh, ršf /

¹⁰⁷ Aristaeus thus has the trappings, not only of a culture hero, but even of a cosmogonic god. As a (inevitably late, and distorted) compromise (‘son’) between the postulated two successive cosmogonic forces, Primal Waters and Heaven, Aristaeus has something of the framework or matrix out of which reality is being made; *cf.* the biblical נח Nuh (Hebrew ‘Rest’ / Egyptian ‘Horizon of the Primal Waters / of the Primal Waters Above’), who also functions (van Binsbergen & Woudhuizen 2011: Ch. 6) as such a matrix (and, again, even as a cosmogonic god) in regard of his sons (Japhet, Ham and Šem) whose names – as argued *ibidem* – have similar connotations: Heat, Heaven, etc.

¹⁰⁸ *Cf.* Wilkinson 2001; Edwards 1971; Emery 1961; Kemp 1989.

Reshef and pth / Ptah, chariots, Hyksos kings; shamanic influences in leopard-skin symbolism (as on the 1st-Dynasty Nrmr tablet) and in the royal diadem (as in Tut-^cAnḥ-Amon's tomb); even Neith's name (although a surprising Austric etymology is available) may have an Uralic etymology exemplifying the general continuity between Delta culture and West Asia.¹⁰⁹ Egypt has displayed, and like Syro-Palestine has been recognised in Antiquity to display, many Pelasgian traits. It is therefore quite likely that (like the bee and reed themes), also the Egyptian element themes discussed here constitute a predynastic Pelasgian heritage.

Is it conceivable that the Presocratic four-element system is a late adulteration of the Ancient Egyptian element theology? This is an attractive thought. My proposals, below, to read, in the Empedoclean doxology, Nestis as Neith, and to equate, *ibidem*, Zeus and Hera with Šw / Shu and Tfnt / Tefnut, are cases in point. In the few centuries before the emergence of Presocratic philosophy there was an intensive traffic between the declining and fragmented pharaonic state, and the Aegean, the latter being a source of mercenaries and traders – thus continuing an established Bronze Age pattern. Many Greek thinkers of the Classical Age are reputed to have visited Egypt in their quest for learning. If, as we have suggested in connection with Table 4.3, Egyptian influence was strong in Italy, Empedocles could have picked up the Egyptian inspiration even at home. And there is another parallel example of Egyptian prototypes being appropriated and adapted into a formal system, that became a world-wide success: the *alphabet*, based on the acronymic principle available in the Egyptian hieroglyphic writing system, and worked (mainly by the Phoenicians and Aramaeans) into an alphabetical concept that conquered much of Eurasia (Diringer 1996; Gardiner 1916; Naveh 1982).

Whereas these Egyptian attestations refer to Bronze Age contexts, the many extensive references to a specifically four-element system in the Egyptian Hermetic literature (especially the text *Korē Kosmou* / 'Virgin of the World'; Virgin 1885), briefly referred to above, are much more recent (early centuries on the Common Era), and certainly cannot be considered independent from the Presocratic usage.

¹⁰⁹ van Binsbergen & Woudhuizen 2011: Table 28.4, pp. 370 *f.*, Table 4.4, p. 87, and *passim*, and references there.

4.3.3. The recognition of an element system in North America

Let us now turn to an examination of indications of an element system in the New World. The possibility of cultural borrowing from the Old World to the New World across the Pacific cannot be ruled out, considering the long-standing and high quality of East and South Asian navigation, and the numerous studies claiming trans-Pacific transmission with regard to other cultural items. The continuity between Sino-Caucasian, a dominant linguistic macrophylum in East and North Asia, and the Na-Denē cluster is another indication of such transcontinental relationships. By the same token, the possibility of a trans-Atlantic transmission of Bronze Age, relatively developed, element systems is suggested by continuities in the fields of comparative mythology (*e.g.* in regard of agricultural gods producing crops from their dying body), ethnography (incidental cases of circumcision) and population genetics (high incidence of the RH*cde both in Europe among seafaring groups (Basque region and Baltic), and on the mouth of the St Lawrence River (Cavalli-Sforza *et al.* 1994: appendix distribution maps, ‘RH*cde’, no. 88).

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 Zuni,¹¹⁰ and neighbouring peoples such as the Sia (Parsons 1936), Pueblo (Parsons 1929), and Hopi (Fewkes 1900).

Alexander (1916), in his authoritative overview of North American mythology, dedicates an entire chapter to what he calls ‘the gods of the elements’, but he mainly uses the word ‘element’ in the modern North Atlantic sense of ‘the manifestations of the weather – wind, rain, ice and snow’; and when he uses the word ‘element’ in a physico-cosmological sense, he seems to project onto the North American material notions borrowed from the four-element system as ingrained in North Atlantic culture in the course of the last 2.5 millennia. Even so, we find traces of an element system reminiscent of the East Asian cyclical systems dis-

¹¹⁰ Cf. Li An-Che 1937; Parsons 1916; Judd 1947; Swann 1994. 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.

cussed above:

‘The tribal circle of the Omaha was divided into two groups, the Sky-People occupying the northern, and the Earth-People the southern, semi-circle. The Sky represented the masculine, the Earth the feminine, element in nature; the human race was supposed to be born of the union of Earth-People and Sky-People; and in the tribe marriage was not customary within either of these two groups, but only between members of Earth clans and members of Sky clans. Each group also had its own chieftain and ceremonial, so that the whole tribe possessed a dual organization, corresponding to the great dualism of nature.

J. O. Dorsey¹¹¹ found a similar scheme prevalent throughout the Siouan stock, and this scheme he generalized by the figure of a quartered circle. The quarters of one half, which was the side of peace, were devoted respectively to Earth and Water; the quarters of the masculine, or Sky half, which was the side of war, were sacred to the spirits of Fire and Air. Powers of Earth, Water, Fire, and Air formed the great groups of the elemental gods.’ (Alexander 1916: 97*f.*).

The iconographic and mythological evidence suggesting the existence of a four-element transformative system in Native North America could be augmented *ad libitum*, for instance with the pattern of four, apparently cosmogonic, frogs near a water pool, in Wilito Wilson’s 1942 Navaho sand painting rendered here as Fig. 4.9. Like in Ancient Egypt, frogs with their amphibian ambiguity between water and land, seem to evoke the pre-cosmogonic state of boundary-less chaos, to be resolved, at the moment of cosmogony, by the Separation of Water and Land, or (by a typologically later cosmology), by the Separation of Heaven and Earth; in the local emic explanation however, the reference is not cosmogonic – the frogs at the level of the actors’ consciousness represent maize-eating humans transformed into amphibians (Ronnberg *c.s.* 2011: 191 after Haile & Wyman 1957: 193).

Another pictorial indication of what could be a cycle of elements, is found in the rock art of the Lower Pecos River, Texas, USA, attributed to the 2nd-3rd millennium BCE (Fig. 4.11).

¹¹¹ J.O. Dorsey, missionary and ethnographer, writing in the 1880s-90s, his publications on the Siouan tribes are listed in Alexander 1916: 321 – WvB.

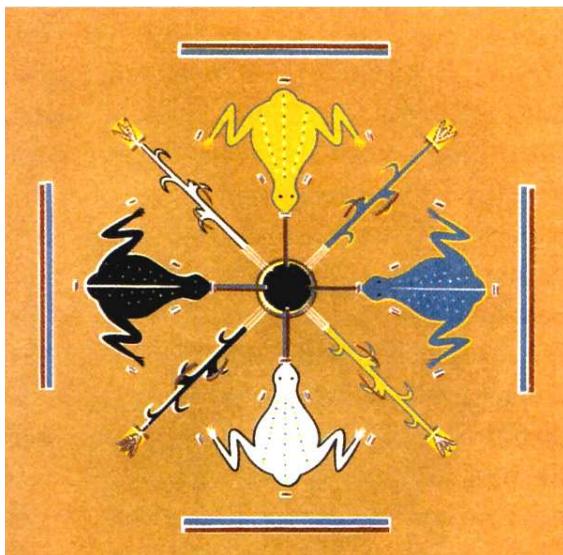


Fig. 4.9. Navaho sand painting arguably suggestive of a four-element transformation cycle.



Fig. 4.10. Anasazi wall painting from New Mexico, ca. 16th c. CE.

Fig. 4.10 demonstrates that even in the absence of indigenous texts, images can present clues as to ancient thought systems. An element cosmology appears to be represented, as is clear from the accompanying scholarly description:

‘ABB. 29 - Wandgemälde, Kuaua, N. M. In dem hier gezeigten Ausschnitt aus einer größeren Szene, die mit Aussaat, Regen und Fruchtbarkeit zu tun hat, sind, von links beginnend, folgende Figuren zu sehen: Eine Wildgans [AIR], aus deren Schnabel Regen [WATER] strömt. Eine menschliche Figur, mit Maske und Federkrone geschmückt, die einen Stab in der Hand hält und wahrscheinlich den »Blitzmacher« [FIRE] wiedergeben soll. Ein Fisch [WATER], von dem aus einerseits Regen [WATER] herniederfällt, andererseits ein Regenbogen [AIR] zu einem schwarzen Adler [AIR] geht, in dessen Schnabel er sich mit einem Blitz [FIRE] und einem zur Erde [EARTH] fallenden Strome von Samen vereinigt. In dem Samenstrom fliegt [AIR] eine Pfeilspitze [AIR] oder eine Fledermaus [AIR], die wieder Regen [WATER] verteilt. Feuchtigkeit [WATER] geht auch von dem unter dem Adler [AIR] befindlichen Topf aus, aus dem ein Blitz [FIRE] aufsteigt. Ganz rechts sind Fußspuren [EARTH], Pfeilspitzen und rote Steine [EARTH] zu sehen, die mit einem zeremoniellen Wettlauf [CYCLICITY?] zu tun haben. Stilistisch läßt sich das Gemälde nicht mit denen des Jeddito-Tales in Verbindung bringen. Layer G-26, Südwest-Ecke, Kiva III, Kuaua, N[ew M]exico, Ca. 16. Jh., Regressive-Pueblo-Periode, Anasazi-Tradition... (Haberland 1965: 97 and Fig. 29; my bracketed insertions – WvB).



Original painting by Forrest Kirkland. Photo scans courtesy of the Texas Archaeological Research Library, the University of Texas at Austin; cf. Turpin 1990.

Fig. 4.11. Revolution on the celestial axis, or evidence of transformation cycle of elements, as depicted in Lower Pecos River Art, Texas, USA, 3rd-2nd mill. BCE.

In addition to these iconographic indications, there is the mythological evidence of a transformation 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 transformation cycle, with Flood being simply the Water element dramatised, while a divine trickster in animal shape tends to both activate, and efface, all boundaries and systematics at the same time.¹¹² Cases in point are the following:

FROM THE SALISHAN-SPEAKING SKAGIT PEOPLE OF THE STATE OF WASHINGTON, USA: The Creator made the earth and gave four names [FOUR ELEMENT SYSTEM?] for it – for the *Sun*, [FIRE?] *waters*, [WATER] *soil* [EARTH] and *forests* [WOOD].¹¹³ 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 [WOOD] the change came in the form of a Flood. [WATER] 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 [WATER] and the forest [WOOD] 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. [EARTH] Then they spoke many different languages, [CONFUSION OF LANGUAGES AFTER THE FLOOD] and Doquebuth blew them back to the places they lived before the Flood. [WATER] Someday, another Flood [WATER] will come and change the world again. (source: Clark 1953: 139-141, via Isaak 2006; bracketed insertions mine).

FROM THE (ORIGINALLY PROBABLY HOKAN-SPEAKING) SHASTA PEOPLE (NORTHERN CALIFORNIA INTERIOR, USA): Coyote [a widespread trickster figure] 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

¹¹² The question whether these North American Flood myths could be considered derivations from the Judaeo-Christian-Islamic tradition, I have considered elsewhere and answered, *grosso modo*, negatively (van Binsbergen with Isaak 2008).

¹¹³ This is unmistakably a series of four elements 'Fire', 'Water', 'Earth' and 'Wood'.

found refuge there. After the water receded, they came down, made new homes, and became the ancestors of all the animal people today. (source: Clark 1953: 12, via Isaak 2006; bracketed insertions mine).

FROM THE MENOMINI / MENOMINEE PEOPLE (WISCONSIN-MICHIGAN BORDER, USA, ALGONKIAN-SPEAKING): Manabush [a trickster figure] 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 [EARTH], so the Ana Maqkiu gave up the search just as the water [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. Manabush 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 [EARTH] in many places. Manabush climbed a great pine tree [WOOD] on the highest mountain. When the waters [WATER] 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 [WATER] to stop. Seeing water everywhere, Manabush called to otter to dive down and bring up some earth [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 [EARTH], rubbed it between his hands, and threw it on the water [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. (source: Judson 1914: 21-25, via Isaak 2006; bracketed insertions are mine – WvB).

Especially in the last story it is evident that the elements are distinguished and that they are systematically invoked as producing or destroying (or furthering or constraining, respectively) each other – as in a transformation cycle of elements.

While in the above North American mythological cases the presence of an element system has to be inferred through interpretation, the situation is rather more conspicuous though not less puzzling in Ancient Mexico, where the anthropologist Nuttall claimed to find the following parallels with the Old World:

‘In the Old and the New World alike, are found, in the same close association, (1) the purple industry and skill in weaving; (2) the use of pearls and conch-shell trumpets; (3) the mining, working and trafficking in copper, silver and gold; (4) the tetrarchial form of government; (5) the conception of ‘Four Elements’; (6) the cyclical form of calendar. Those scholars who assert that all of the foregoing must have developed independently will ever be confronted by the persistent and unassailable fact that, throughout America, the aborigines unanimously disclaim all share in their production and assign their introduction to strangers of superior culture from distant and unknown part’ (Nuttall 1909: 383 as quoted in Smith 1929: 11).

We shall return to Nuttall’s work in Chapter 8. Meanwhile, let us proceed to Western Eurasia, where in the last two millennia a correlative system of four immutable categories has established itself as the norm – until it was supplanted, in turn, much less than two centuries ago, by Modern science’s atomic theory of numerous categories that are mainly immutable but many of which have in fact turned out to be mutable under conditions of radioactivity. Time to consider, at the Western end of the Eurasia, the Presocratic nature philosophers.

Chapter 5. The Presocratics in Western Eurasia: Four immutable elemental categories as the norm throughout Western Eurasia for the last two millennia

5.1. The Presocratics

Western philosophy and natural science are commonly held to have begun in Ancient Greece, with the Presocratic philosophers each seeking to identify the nature of primal matter: Thales (Water), Anaximenes (Air), Heraclitus (Fire), Xenophanes (Earth) and Empedocles (Water, Air, Earth, Fire) – all flourishing in the middle of the 1st mill. BCE.

The distinction between Greek philosophy before and after Socrates was introduced around 1800 CE by Hegel and Schleiermacher; the Presocratics had a considerable influence on European Romantic poets such as Hölderlin, whereas the designation ‘Presocratics’ (always begrudged by Modern scholarship) was coined by Nietzsche.¹¹⁴ The extensive corpus of sources on Presocratic philosophy was first systematically brought together by Diels¹¹⁵ and subsequently considered in a vast literature.¹¹⁶ In this corpus, Aristotle takes pride of place. He represents the Presocratics, notably Empedocles, in a way that – as we shall see – still could be read

¹¹⁴ Nietzsche 1923 (1873); cf. Huehn 2001, who also points out critically alternative designations.

¹¹⁵ Diels 1960 / 1903, cf. 1899; also cf. Burkert 1999.

¹¹⁶ The vast literature on the Presocratics includes, among much else: Allen & Furley 1975; Bakalis 2005; Barnes 1979; Bernabé 2001; Buchheim 1994; Burnet 1934; Capelle 1935; Cornford 1962; Fairbanks 1898; Grünwald 1991; Guthrie 1978; Kirk *et al.* 1983; Lami 1991; Macauley 1998; Mansfeld 1983-1987; Snell 1955.

to imply the cyclical nature of the system. It was mainly Aristotle's version of Empedocles' four-element doctrine (*but deprived of its implicitly cyclical character*) that was subsequently enshrined in Graeco-Roman, Arabic, Indian and European natural science, astrology,¹¹⁷ other forms of divination, medicine, iconography, etc. as one of the central paradigms leading to Modern science and Modern thought.

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 (Cooper 1988, *s.v.* 'vestments'), in classic Arabian *'ud*-(*i.e.* lute-)centred musical theory (Howard 1993), in geomancy (*'ilm al-raml*), which emerged in Iraq at the end of the 1st millennium CE in the context of the philosophical movement of the *Iḥwān al-Ṣafā*. All these later interpretations combined to produce an orthodoxy where the four elements had become a rigid, conventionalised classification system in which all notion of a transformation cycle had been lost.

In view of the enigmatic, unspecified nature of the 'Urim and Thummim as pre-Exilic Israelite ritual divination apparatus, and the enormous literature on this topic, Cooper's suggestion as to an Empedoclean background must be treated with suspicion. The went goes *in disuse* after the Babylonian Exile, a century before Empedocles. A traditional translation of the Hebrew terms is 'lights' and 'perfections', respectively (*cf.* Strong 1989: 1058, 1093; Dahlby n.d.), but their plural Hebrew morphology has been found puzzling (Kitz 1997), perhaps suggestive of superficial localisations of words from other languages than Hebrew, *e.g.* Ancient Egyptian, Akkadian, or Greek; or, within the Hebrew domain, relating to other roots than those usually adduced, *e.g.* תהום *t-hom*, 'abyss' (*Genesis* 1:2). By analogy with an Assyrian form of divination, Horowitz & Hurowitz (1992) suggest an interpretation in terms of psephomancy *i.e.* divination by means of pebbles, thus setting a standard for two decades now and bringing the 'Urim and Thummim procedure close to divination methods

¹¹⁷ Pingree 1978 splendidly offers an overview of the transcultural connections involved.

– including geomantic ones – in sub-Saharan Africa, especially Southern Africa. (Cf. Coon 1977: 136 *f.*, where on the basis of the unreliable Trilles (1932) a Pygmy hunting divination rite is described ‘comparable to the Urim and Thummim’). Many authors (e.g. Reiner 1960: 25; Rowley 1956: 28 *f.*; Vriezen 1963: 74) claim a mechanical, one-bit ‘yes / no’ function for the ‘Urim and Thummim oracle, but if that were true it would not make sense to have more than one element (stone, gem, stick) involved – a single element falling in two different positions, e.g. facing up or down, is already sufficient to produce yes-no answers. Hence Mary Douglas’ insistence (1999) that more complex answers must have been possible (*I Sam.* 28:6 reports a *neutral* outcome, for instance, in addition to mere ‘yes / no’), and that the positions where the elements end up in a imaginary astronomical or astrological grid may influence the outcome – in the sense of the *microdramatics* that the anthropologist Werbner (1989) sees involved in Southern African cleromantic divination, which also applies to the bones oracles and basket oracles of Southern and South Central Africa, and which, in the Ancient Mediterranean region, moreover underlies the casting of dice on the calibrated so-called Tabula Bianchini, for adulterated astrological purposes (Bouché-Leclercq 1899: 213, 227). Such microdramatics are entirely absent in the geomantic four-tablet oracles of Southern and West Africa and of the Indian Ocean, where the outcome is entirely determined by the stochastic production of any of the 2ⁿ combinations, as interpreted in the light of a fixed, abstract oracular catalogue. Therefore it is interesting that Greek gods whose shrines have a cleromantic function, especially those of Heracles, are claimed to have Levantine / Phoenician connotations.¹¹⁸ In the same Phoenician direction point suggestions that the ‘Urim and Thummim are associated with the alphabet (Robertson 1961; Auerbach 1953). The topic is of considerable interest to our present argument, especially because, in the sphere of divination, it might be suspected to provide a missing link between (a) the Aegean, (b) the more specifically Pelasgian realm of West Asia, and (c) the proposed West Asian cosmological continuities between West Asia and China (see below, Ch. 7, on Terrien de Lacouperie). Such continuity, at least, is the opinion of the Sinologist Carus

¹¹⁸ E.g. Levy 1934; Van Berchem 1967. The Levantine claim implies that these gods and shrines hail from the region associated not only with West Semitic speakers but also with Pelasgians. That both identities may be found within one and the same regional community is the point of Fig. 7.2, below.

(1911, *cf.* 1898 / 1902 and 1907), who sees close parallels between the 'Urim and Thummin on the one hand, and Chinese 羅盤 *Lo Pan / luó pán* divination on the other; and who stresses Sumerian / Chinese continuity. Similarly the Sinologist Walters 1992: 131:

'What the Urim and Thummim were can only be guessed at, but it is entirely probable that they were similar to the two ancient traditional methods that are still found being used in Chinese temples today. These are the two blocks of wood called *chiao pai* and the bundle of sticks known as *chim*.'

Perhaps as an unreferenced echo from Terrien de Lacouperie, Karst (1931a: 464, 1931b: 93 *f.*) suggested a pre-Semitic or pre-Semitic background for these divinatory instruments, no doubt on comparative-linguistic grounds which however are not made explicit.

Nor does the above exhaust the applications of an element system in the Greek, and by extension Indo-European, context. It has long been recognised by classicists that the rudimentary outlines of a four-element system can already be found in Homer and Hesiod, dated to the 8th-7th c. BCE (*cf.* Fontenrose 1958: 213, 221 *f.*; Cerri 1998; Longrigg 1976). For example (it is Poseidon who speaks):

τρῆς γάρ τ' ἐκ Κρόνου εἰμὲν ἀδελφοὶ οὐς τέκετο Πῆρα
Ζεὺς καὶ ἐγώ, τρίτατος δ' Αἴθης ἐνέροισιν ἀνάσσω.
τριχθὰ δὲ πάντα δέδασται, ἕκαστος δ' ἔμμορε τιμῆς:
ἦτοι ἐγὼν ἔλαχον πολὴν ἄλα ναίμεν αἰεὶ
παλλομένων, Αἴθης δ' ἔλαχε ζόφον ἠερόεντα,
Ζεὺς δ' ἔλαχ' οὐρανὸν εὐρὺν ἐν αἰθέρι καὶ νεφέλῃσι:
γαῖα δ' ἔτι ζυγὴ πάντων καὶ μακρὸς Ὀλυμπος.

ἐκ Χάος δ' Ἐρεβός τε μέλαινα τε Νύξ ἐγένοντο
Νυκτὸς δ' αὐτ' Αἰθήρ τε καὶ Ἥμερῃ ἐξεγένοντο,
οὐς τέκε κυσαμένη Ἐρῆβει φιλότῃ μιγεῖσα.
Γαῖα δὲ τοι πρῶτον μὲν ἐγείνατο ἴσον ἑαυτῇ
Οὐρανὸν ἀστερόενθ', ἵνα μιν περὶ πάντα καλύπτου,
ἄρ' εἴη μακάρεσσι θεοῖς ἔδος ἀσφαλῶς αἰεὶ.

'We were three brothers whom Rhea bore to Saturn – Jove, myself, and Hades who rules the world below. Heaven and Earth were divided into three parts, and each of us was to have an equal share. When we cast lots, it fell to me to have my dwelling in the sea for evermore; Hades took the darkness of the realms under the earth, while air and sky and clouds were the portion that fell to Jove; but earth and great Olympus are the common property of all.' (Homer, *Iliad*, XV, 184 *f.*; English tr. Samuel Butler.)

'From Chaos came forth Erebus and black Night; but of Night were born Aether and Day, whom she conceived and bare from union in love with Erebus. And Earth first bare starry

Heaven, equal to herself, to
cover her on every side, and to
be an ever-sure abiding-place
for the blessed gods.' (Hesiod,
Theogonia, 116*f.*: (English
translation Hugh G. Evelyn-
White)

A further case in point is the Homeric struggle of Achilles (hero before Troy, a sea god in the Black Sea region, but¹¹⁹ structurally to the equated with Earth), aided by Hephaestus, *i.e.* Fire, at the instigation of Athena (= Air?), against the River Scamander (Water) (Homer, *Iliad* XX, 74 *f.*, XXI, 136 *f.*). In a recent paper Nick Allen (2010) 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.¹²⁰ There is a parallel in Nordic mythology: the rain god Freyr on the day of Ragnarok (the Nordic Apocalypse) will battle without weapons (for he gave his sword away to

¹¹⁹ For reasons beyond our present scope; briefly, as son of a sea goddess, Achilles structurally (under the Separation-of-Water-and-Land cosmogony) corresponds with 'Land', hence 'Earth'.

¹²⁰ My recently drafted extensive study, with the rather too epigonistically-Bernalian, working title *Black Vulcan* (van Binsbergen, in preparation (b); written to contest my friend Blažek's (2010b) claim that the name *Hēphaistos* [Hephaestus] should be considered a reflex of the Ancient Egyptian theonym Pth [Ptah] casts further light on the extensive, and early (8th century BCE as the oldest date for the composition of the Homeric poems) applicability of the transformation cycle of elements in the Ancient Greek context and its regional antecedents in West Asia, where the Hephaestus cult is said to originate. Interestingly, Fire is an exceptionally capricious and destructive case as compared to the other elements, not just in Ancient Greek mythology – also *cf.* the disasters attending the descent from Heaven of the non-personified Fire in the hands of Prometheus, and (for further comparative significance) inside a reed stalk or *narthex*, of all possibilities – but also in Uralic mythology (where Canto II of the *Kalevala* may be read as a narratised transformation cycle of elements, and the birth of Iron, *cf.* Fire, in Canto IX creates dramatic conditions comparable to those attending Hephaestus' childhood; Lönnrot 1866, Tamminen 1928), and on the other end of the Eurasian Steppe belt, the Japanese gods カグツチ Fire / Kagutsuchi and スサノオ Storm / Rain / Ocean Susanowo, with comparable destructive impetuousness. I suspect a case could be made (it has been made, but not yet on solid grounds) for Fire being among a more original, smaller set of elements than four, five, six or eight, perhaps paired with *Water* – and later augmented and systematised with the addition of Earth, Wood, Metal, Air, etc. Fire, and to a lesser extent Water (but see what it does to Fire!) are much more obviously aggressive and destructive than the other elements, and the cycles of destruction and production (insult and blessing) in transformation may have been primarily inspired by Fire and Water.

Skirnir), and will be the first to be killed by the formidable Surt (a Fire Giant) – again enacting the same scheme of Water being destroyed by Fire.¹²¹ Vlastos (1955: 74) and Stokes (1962-1963: 33) suggest that in archaic Greek thought, Chaos / Tartarus, as an element in its own right, was considered the origin of the three elements Air, Earth and Water / sea (Longrigg 1976: 426f). Also the well-known Greek myth of the birth of Athena, adult and fully armed, from the head of her parthenogenetic father Zeus,¹²² while the divine blacksmith Hephaestus splits the head open with his hammer, could be considered an incomplete evocation of a transformative element cycle.



Source: Majer 1687: 67, cf. Seligmann n.d.: 133

Fig. 5.1. *The birth of Athena as an instance of the transformative cycle of elements.*

Thus the narrative of the birth of Athena seems to amount to the follow-

¹²¹ By further comparison, in the Nkoya narrative of king Shihoka Nalinanga and his sister who is his main enemy, the dry / wet opposition is applied in several ways. The king's name means 'Snake, Child or Parent of Drought', and although producing boats, he lives in the forest, while his counterpart lives in the open Flood Plain, as the structural exponent of the Mother of the Waters, who in vain claims her privilege of supremacy, after her position has already been redefined from intergeneration (Virgin Mother and Only Child, who becomes her lover) to intrageneration Elder Sister / Younger Brother – with further humiliation in stock for the Elder Sister. The opposition between Rain and Drought is, however, not just a binary cosmological opposition, but may be interpreted as part of a transformation cycle involving, besides Fire and Water, also Earth, Air, Metal, and possibly other elements such as Aether.

¹²² Cf. Hesiod, *Theogonia*, 886 f., 924 f., 929a f.; Pindar (1865), *Olympian Ode*, 7, 33 f.; Apollodorus, *Bibliotheca*, 1, 20; Philostratus the Elder, *Imagines*, 2, 27; Philostratus, *Vita Apollonii*, 6, 19; Atsma, Theoi, s.v. 'Athena'.

ing element transformative formula:

Zeus → Athena / with Hephaestus as catalyst
Air (Earth?) → Water^{123?} / with Fire as catalyst

Note, however, that the logic of the transformation cycle of elements is rather misunderstood in Fig. 5.1 (a late-17th c. fanciful alchemical rendition of the Greek narrative: Hephaestus / Vulcan appears with all the insignia of his identity as Fire (the smithy in the background, with blazing furnace, tongs, hammer in the foreground) but Zeus / Jupiter also holds fire in his right hand – in mythology his main emblem is the thunderbolt. In the background, where (as during Zeus' visit to Danae) it rains gold, note an apocryphal couple (Sol with Aphrodite / Venus) making love under a canopy under the encouraging eye of Eros / Cupid, while a narcissistic Apollo poses on a pedestal, holding his bow. The title of the copper-plate (*Aurum pluit, dum nascitur Pallas Rhodi, & Sol concumbit Veneri*) refers to gold-making: the birth of Athena (with Sun making love to Venus in the back) evokes the liberation of gold from its surroundings, and the triumph of mind over matter.

If the Ancients had been totally unaware of the notion of a cyclical transformation of elements, one could not understand a major, widely received text like Ovid's *Metamorphoses* (cf. della Corte 1985), many stories in which could be read as illustrations of the transformative element cycle. Another indication of the Ancients' implicit awareness of a transformative element cycle, with the idea of elements seeking to dominate each other, may be read into the *Allegoriae Homericae* by Heraclitus Ponticus (388-315 BCE):

'Thus the chaining of Hera (*Iliad*, III, 277) is explained as the union of the elements (...); the hurling of Hephaestus through the air (*Iliad*, I, 592) signifies the earthly fire, which is weaker than the heavenly flame' (Geffken 1908: 329).

¹²³ Whatever the transformations which Athena has undergone so as to become the (Pelagian-associated) principal patroness of Athens and of arts and crafts, her prime identity is that of an aquatic goddess, for reasons which I set out in van Binsbergen 2011d – ultimately, she (and the same applies to her cognates Neith, Anat, Anahita, Nyambi etc.) may be seen as a late manifestation of the putative, prehistoric Mother of the Waters.

The four elements then appear, in the established later use, as fixed ontological positions, which have their own immutable inherent characteristics. The world is composed, not of an unending systematic cycle of transformations in which one substance constantly transforms into another, but of the varying amalgamation of four fundamentally different substances which each remain constant in the process.

The idea of such absolute differences appears to owe a considerable historical and conceptual debt to the logic of writing and of a writing-based formalised science. Letters are like immutable elements, texts their permutations; both ‘letters’ and ‘elements’ were called *stoicheion* in Greek, (*cf.* footnote 133, below). A four-element system is no longer a merely 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. However, we must not exaggerate this effect of writing and the state, for also Taoism, with its emphasis on cyclical transformation, is a product of a literate state with priests and proto-science. 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 Empedoclean 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.

A closer look at Empedocles, Aristotle and Plato suggests that the discarding of the transformation cycle and the fixing of elements in immutable, parallel ontological positions may have occurred not in classical Greek civilisation but only in later centuries, and that this later reading has then been projected back into the emendation, understanding and reception of classical sources.

In 2005 James Butler challenged mainstream Empedocles interpretations by stressing the latter’s concept of *effluvia* over that of *rhizomata*, thus

evoking an image of fluidity that may well be in line with that of a transformation cycle of elements. In Butler's words (2005: 215),

'Taking as a guiding theme his [Empedocles'] claim that "there are effluvia from all things that have come to be" (Diels & Kranz B 89), the author presents a reading of Empedocles that stresses the central role of effluvia in his natural philosophy. In presentations of Empedocles, the tradition has usually emphasized the importance of the elements – Earth, Air, Water, Fire, Love, and Strife. But as an alternative to that tradition, the author here argues that one must bring to the forefront the role of the effluvia, which give to Empedocles' cosmology a fluid, viscous character. The history of western natural science has been dominated by a mechanics of solid bodies following, however indirectly, in the tradition of the atoms and void of early Greek atomism. Empedocles represents a forgotten exception to that history, and the present argument attempts to return to his philosophy, unearth its fluid mechanical foundations, and presents a challenging alternative to the dominant physical paradigm.'

5.2. Empedocles

5.2.1. Empedocles: Introduction

There exists an enormous literature on the Four Elements in the Graeco-Roman tradition, and specifically on Empedocles.¹²⁴ Most of this literature (up to the late 20th century CE) tends to ignore the wider, global ramifications of element systems, and to see Empedocles as the unprecedented inventor of the foursome. Already in the light of the Homeric and Hesiodic passages cited above, this seems untenable. Moreover, we already see the nucleus of a four-element doctrine when another Pre-socratic philosopher, Anaximenes, nearly a century before Empedocles, considered Air the original element, which however turns into Fire through thinning, and then into Water, Earth and Stone.

In the most recent decades the Empedoclean corpus was augmented by a

¹²⁴ The literature on Empedocles includes, among many other publications: Baltzer 1879; Barnes 1982; Bidez 1884, 1896; Biès 1969; Bollack 1965-1969; Burkert 1962, 1975; Classen 1970; Cornford 1926; Diels 1880, 1898; Dumont *et al.* 1988; Ferwerda 1997; Feshbach 1988; Kingsley 1995a; Lambridis 1976; Leonard 1908; Lommatzsch 1830; Macauley 1998, 2005; Millerd 1908; O'Keefe 1969; Osborne 2000, 2005; Parry 2005; Primavesi 1998a, 1998b; Tiedemann 1781; Trépanier 2004; Vitek n.d.; Wagner 2000; Wright 1995, 1997.

few new papyri finds. These new Strassbourg fragments¹²⁵ are rather uncertain and their importance for Empedocles studies is widely considered to have been exaggerated by their editors (Vítek 2004; Laks 2001). Even so, they seem to suggest that Empedocles left only one combined physical / moral-purification text, not two separate texts (Campbell 2004-2005). However, it may go too far to suggest, with Osborne (1987: 48f; 2005) that Empedocles envisaged in the first place to propound, not a cosmology, but a moral philosophy to regulate the lives of humans.

The received reading of Empedocles has been that, for him, reality consists of an ever varying mixture of immutable elements (*rhizomata* ῥιζώματα), which were conceived of as minute discrete particles but not necessarily as atoms (Longrigg 1976: 437f). This compromise between mutability and immutability is considered to be Empedocles' answer to Parmenides' paralysing ontological claim of total immutability (*cf.* Heidel 1906). Finkelberg (1997) argues that this aspect of Empedocles' theory originates in Xenophanes's theory of the mixture of original bodies. In this light we might also view Empedocles' theory of element interaction (*cf.* Acri 1870): the small divisible parts of each element are supposed to enter the pores of each other element during the maximum dominance of Strife – one of the two phases (the other being Love) the cosmological process of the world goes through in a perpetual cycle (Solmsen 1965). Table 5.1 presents the core of Empedocles' doctrine.

Greek	English	identification
6. τέσσαρα γὰρ πάντων ῥιζώματα πρῶτον ἄκουε/ Ζεὺς ἀργῆς	6. And first the fourfold root of all things: hear! – White gleaming Zeus,	
Ἦθη τε φερέσβιος ἦδ' / Αἰδωνεύς (...)	Life-bringing Here Dis,	Fire Air Earth
Νῆστις θ', ἦ δακρούς τε γγει κρούνωμα βρότειον. / 7 ἀγένητα,	And Nestis whose tears bedew mortality. 7. Uncreated	Water
8. (...) ἄλλο δέ τοι ἐρέω φύσις οὐδενός ἔστιν ἀπάντων / θνητῶν, οὐδέ τις οὐλομένου θανάτοιο τελευτή, / ἀλλὰ μόνον μίξις τε διάλλαξις τε μιγέντων / ἔστί, φύσις δ' ἐπὶ τοῖς ὀνομάζεται	8 But when in man, wild beast, or bird, or bush, / These elements commingle and arrive	

¹²⁵ Curd 2002; Janko 2004; Martin 1998; Martin & Primavesi 1998b; van der Ben 1999.

<p>ἀνθρώποισιν. 9. οἱ δ' ὅτε μὲν κατὰ φῶτα μιγέντ' εἰς αιθέρ' ἴκωνται / ἢ κατὰ θηρῶν ἀγροτέρων γένος ἢ κατὰ θάμων / ἢ ἐ κατ' οἰωνῶν, τότε μὲν τὸ [λέγουσι] γενέσθαι / εὔτε δ' ἀποκρινθῶσι, τὰ δ' αὐ̄ δυσδαίμονα πότμον / ἢ θέμις [οὐ] καλέουσι, νόμοι δ' ἐπίφημι καὶ αὐτός./ 10. θάνατον . . . ἀλοίτην. / 11. νήπιον οὐ γὰρ σφιν δολιχόφρονές εἰσι μέριμναι, / οἱ δὴ γίγνεσθαι πάρος οὐκ ἔδον ἐλπίζουσιν / ἢ τι καταθνήσκειν τε καὶ ἐξόλλυσθαι ἀπάντη. / 12. ἔκ τε γὰρ οὐδ' ἀμ' ἐόντος ἀμήχανόν ἔστι γενέσθαι / καὶ τ' ἐὼν ἐξαπολέσθαι ἀνήυστον καὶ ἄπυστον / αἰεὶ γὰρ τῆι γ' ἔσται, ὅπῃ κέ τις αἰὲν ἐρείδῃ.</p>	<p>9 The realms of light, the thoughtless deem it 'birth'; / When they dispart, 't is '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 't will be forever where 't is set.</p>	
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Source: Leonard 1908, based on Aetius' *Placita Philosophorum* I, 3; *Doxographi Graeci* 287 – Diels 1879

Table 5.1. *The four elements according to Empedocles.*

5.2.2. Remarks to Table 5.1 (Empedocles' doxology)

Since Antiquity, scholars have been in disagreement (Kingsley 1994a) as to the specific interpretation of the four theonyms in terms of the four elements enumerated by Aristotle (*Meteorologica* (339a 15-19 and 36-b2; for Greek text see six pages down). Wellmann (1905) sums up the major disagreements:

'...Solcher Grundstoffe oder Elemente, die er noch nicht Elemente (στοιχεῖα) nennt, sondern Wurzeln (ρίζωματα) von allem, nimmt er nun vier an, nämlich Feuer, Luft, Wasser und Erde, oder, wie er sie mythologisch bezeichnet. Ζεὺς, Ἥρη, Ἄιδωνεύς, Νῆστις. Über die Bedeutung dieser Benennungen gab es später zwei verschiedene Ansichten: nach der einen, die sich auf Theophrast zurückführen läßt, ist unter Here die Luft, unter Aidoneus die Erde zu verstehen, nach der anderen, die schon Krates von Mallos vertreten zu haben scheint, bedeutet Here die Erde und Aidoneus die Luft. Darüber, daß mit Zeus (für den auch Hephaistos oder Helios eintritt) das Feuer und mit Nestis das Wasser gemeint sei, herrschte im Altertum kein Zweifel. Die neueren Gelehrten halten Theophrasts Auslegung für die richtige, nur Thiele [(...) (1897)] meint Zeus, müsse die Luft, Here die Erde bezeichnen.'

Some have interpreted Hera as Earth, which however leaves Air unac-

counted for.¹²⁶ On the basis of the transcontinental methodological principle cited at the end of Chapter 1, we are justified to look to other manifestations of element systems elsewhere for arguments in favour of a particular attribution. 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 Šw (Shu), his sister and spouse would be homologous to Tfn̄t (Tefnut), *i.e.* Moisture, Mist, Air – in line with Theophrastus’ view. Meanwhile, nonetheless, the disagreement continues over the element interpretation of Empedocles theonymic doxology (Thiele 1897; Wellmann 1905; Snell 1943; Kingsley 1994a). Kingsley, however, was severely criticised by Mansfeld (1995) and O’Brien (1998):

‘Kingsley seeks to revive the nineteenth-century thesis that Aidoneus, an alternative name for Hades, god of the underworld, is fire, that Zeus (the rival candidate for fire) is air, and that Hera (the rival candidate for air) is earth.’ (O’Brien 1998; the same interpretation of Aidoneus is followed in the Dutch translation of the *Fragments* (Ferwerda 1997); on Plato’s view that Hera is equal to Air and not to Earth, *cf.* Sprague 1972).

According to Longrigg (1976) Empedocles himself did not attach great value to the identification of the theonyms with specific elements.

The name Αἰδωνεύς that is here used for Dis / Hades, is often equated with the Hebrew expression אֲדֹנָי *Adonai* ‘Lord’, as a designation of the High God. The identification and interpretation of Nestis here pose considerable problems and have been considered by several scholars.¹²⁷ The once leading classicist Von Wilamowitz-Möllendorff (1931: 20) considered Nestis *verschollen*, ‘unheard of’, and denies her name a Greek etymology. Vlastos (1947) calls the name ‘so inconsequential that its very identity remains in doubt’. Yet Nestis comes back elsewhere among Empedocles’ *Fragments*, I, 96 (Leonard 1908: 45):¹²⁸

¹²⁶ Chitwood (1986) speaks, with reference to the same passage, of ‘bright-shining Hera’, unconvincingly applying ἀσγῆς (‘bright, as lightning’) to her and not to lightning-throwing Zeus. The most authoritative Greek-English dictionary (Liddell & Scott 1901: *s.v.* ἀσγῆς) translates Empedocles’ expression ‘Ζεὺς ἀσγῆς’ as ‘fire’.

¹²⁷ Sedley 1999; Barnes 1998: 461; Kingsley 1995a: 359; Picot 2004; Sheppard 1996.

¹²⁸ Fairbanks (1898: 183) gives a substantially different translation: ‘And the kindly earth in its broad hollows received two out of the eight parts of bright Nestis [*i.e.* Water – WvB], and four of Hephaistos [*i.e.* Fire – WvB], and they became white

ἡ δὲ χθὼν ἐπίηρος ἐν εὐστέρνοις χοάνουσι
τῶ δύο τῶν ὀκτῶ μερέων λάχε Νήστιδος αἰγλης,
τέσσαρα δ' Ἡφαίστιοιο· τὰ δ' ὄστέα λευκὰ γένοντο
Ἄρμονιῆς κόλλημισιν ἀρηρότα θεσπεσίηθεν.

Kind Earth for her broad-breasted melting-
pots,
Of the eight parts got two of Lucid Nestis,
And of Hephaest[u]s four. Thence came
white bones,
Divinely joined by glue of Harmony.

Some scholars have assumed, on the basis of the Empedoclean attestations alone, that Nestis was a water goddess in Southern Italy. For Kingsley (tacitly following Leonard 1908: 68, who in turn refers to van ten Brink and Heyne as discussed by Zeller 1881: II, 117 *f.*) she appears as a Sicilian cult name of the underworld goddess Persephone / Proserpina – which does not seem to tally with the probable underworld connotations of *Aidoneus*, listed as a distinctly different element evocation – if Nestis is the underworld / Earth, what is *Aidoneus* still doing in this summing up? However, perhaps a more satisfactory identification of Nestis (also in view of the Egyptian undercurrents attending the identification of Hera, above) is *Neith* (Ancient Egypt's major goddess of the waters throughout the dynastic period), with the possibility of 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 abundant (Lambrou-Phillipson 1990), but so was the case in many parts of the Early to Middle Iron Age Mediterranean.

Another approach to Nestis would be via the comparative mythology of divine tears. Of this, Fig. 5.1 presents the global distribution, showing that the mytheme of divine tears producing humans is so rare that a common origin may be suspected for the individual attestations even though distributed (probably as a result of Pelasgian transmission) across the three continents of the Old World. However, the mytheme 'divine tears produce other major aspects of reality than humans, especially water-related ones' is rather more common, and links Northern Europe via the Mediterranean to the Middle East and (by a strange parallelism which we have already noticed) to Oceania.

bones, fitted together marvellously by the glues of Harmony'.

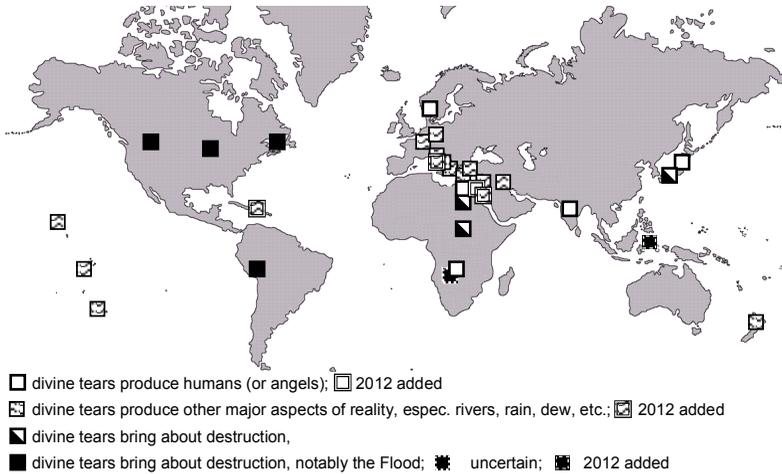


Fig. 5.2. *Distributional aspects of the global comparative mythology of divine tears.*

Most data point in this diagram have been adequately presented and referenced elsewhere (van Binsbergen 2010a: 197 *f.*). The present discussion allows me to add a few extra data, identified as such in the Figure, and to be accounted as follows. From Graeco-Roman mythology, several more cases than I recognised in 2010 can be cited about surface waters created by divine tears, *e.g.* the Cygnean Lake (Ovid 1815, *Metamorphoses*, VII, 371 *f.*). From the tradition of Judaism we may add that the Tears of the Archangel Michael produced the Cherubim (a class of angels), and those shed at the death of Abraham produced precious stones (Davidson 1967, *s.v.* ‘Michael’). Moreover, Rabbinical wisdom speaks of the ‘channel whereby the tears of God flow downward into the world’ (Fishbane 2003). Also in the Taino culture, Jamaica, in Early Modern times, divine tears were equated with rain (Ronnberg *c.s.* 2011: 357). Among the many stories worldwide where *human mortals’* tears give rise to surface waters or cause the Flood, some may be singled out because their protagonist may be suspected to be a god in human disguise featuring in a transformed Flood myth; thus a case from Halmaheira, Indonesia, involving a variety of the unilateral being known as Luwe or Mwendanjangula in Africa but also

widespread elsewhere.¹²⁹ Although my Egyptological references in 2010 were correct and fairly complete, the picture could be further refined; notably as regards the precise identity indicated for the weeper (which for instance could be the Earth god Geb, whose

‘tears filled the seas and his semen fertilized the Sky goddess, Nut, who produced Isis, Osiris, Seth, and Nephthys’; Andrews 2000: 80; Ions 1983).

The Egyptian mytheme ‘humans from divine tears’ is usually (e.g. Pinch 1994: 68) attributed to punning on Ancient Egyptian  *remt* ‘people’ and *remj*  ‘tears’. In some contexts the tears produce not humans but bees. Moreover, it is specifically in the *Coffin Texts*, from the late 3rd mill. BCE on (de Buck 1935-1961: VII, 465a; Faulkner 2004), that the oldest attestation is found of mankind springing from the tears of the Sun’s (Rē^c) eye. The Ancient Greeks attributed the inundation of the Nile to the tears of Isis when violated by her brother Seth or her son Horus.¹³⁰ Isis’ violation is described, among other places, in the *Papyrus Harris VII*, 10 (12th c. BCE). Still in Ancient Egypt, all substances used in embalming were supposed to derive from the tears which the gods shed at the death of Osiris (Anonymous, ‘Osiris cult’).

There is meanwhile a most interesting connection between this ‘divine tears produce humans’ complex, leopard symbolism (the leopard skin is spotted / sprinkle as if caused by rain), and the inexhaustible subject of the Pleiades – the latter widely connected with tears and rain through various aetiological myths and calendrical events marking the onset of the planting season (occasionally with promiscuous sexual rites) and, months later, the remembrance of the dead. Throughout the Old World there seem to have been periods when (as suggested by ancient string figures) the Pleiades were considered the most important stars in heaven; and in this respect China, West Asia, Africa, North America, and the European Upper Palaeolithic show remarkable convergence – just as there is a general and ancient tendency, with unmistakable shamanic overtones, to

¹²⁹ von Sicard 1968-1969: 793; Bezemer 1904: 385; the global distribution of the mytheme of the unilateral being is given in Fig. 9.10 of van Binsbergen 2010a: 199.

¹³⁰ Hopfner 1940-1941: II, 175; Plutarch 1934-1935, *De Iside et Osiride*; Frankfort 1948: 179.

interpret the Milky Way as the ‘road of the souls’, to Heaven or to the Underworld. The persistent symbolism of seven or six dots can be encountered from the Upper Palaeolithic to the Bronze Age; in Ancient Mesopotamia it was particularly marked, and we cannot rule out the possibility that it is in the Pleiades – featuring prominently in the context of ancient cosmologies – that the initially notational system of geomancy in the form of either open or filled dots (another application of the ubiquitous theme of the dark / light opposition) finds its specific origin (Carus 1911 reminds us that, in *Yi Jing*, the system of broken and unbroken lines was only introduced after the invention of the writing brush; thus also Legge 1993: 363 *f.*). However, fuller treatment of the Pleiades would require a book in its own right.¹³¹

Equating Nestis with Neith would take us down to an ancient layer implied in Egyptian mythology, where Neith, as the Mother of the Waters, is still the goddess of Heaven (‘Waters Above’) as well as of the surface waters and even of the Waters Below, the Abyss – thus revealing her pre-Re^c kinship with Tiamat, T-hom and Leviathan. Thus Nestis’ tears may be assumed to be related to the tears of Rē^c out of which humankind was supposed to have found its origin (another possible link between South Italy and Ancient Egypt), but also to 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 (*cf.* van Binsbergen 1992, 2010a).

5.2.3. Empedocles’ evocation of the elements to be interpreted as a transformation cycle

Especially from lines 8 *f.* in Table 5.1 it is clear that even for Empedocles the four elements constitute 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. Aristotle stresses that the four ele-

¹³¹ *Cf.* Bates 1914: 179; Baudouin 1916a, 1916b; Cavaignac 1959; Harva / Holmberg 1938; Miller 1988; Rappenglück 1997, 1999; Elliot Smith 1919: 212 *f.*; Stanley 1926; van Buren 1939-1941 (but see Goff 1963); Walters 1989: 75.

ments constantly transform into each other.¹³²

‘... τεττάρων δόντων τούτων, πυρὸς καὶ
ἀέρος καὶ ὕδατος καὶ γῆς, τὸ μὲν τούτοις
πάσιν ἐπιπολάζον εἶναι πῦρ τὸ δ^α
ὑφιστάμενον γῆν· δύο δ^β, ἃ πρὸς αὐτὰ
τούτοις ἀνάλογον ἔχει, ἀῖρ μὲν γὰρ
πυρὸς ἐγγύτατα τῶν ἄλλων, ὕδωρ δὲ
γῆς...

‘...four bodies (somata, σώματα) are
Fire, Air, Water, Earth; Fire occupies
the highest place among them all, Earth
the lowest, and two elements corre-
spond to these in their relation to one
another, air being nearest to Fire, Water
to Earth...’ (Aristotle, *Meteorologica*,
339a15-19; initial capitals interpreted
WvB)

This Aristotle quote already demonstrates that that philosopher conceived of the four elements, not as totally separated, parallel ontological givens, but as hierarchically ordered along one dimension, from Fire on top, via Air and Water, to Earth. Michelini’s 1993 argument ‘The Dance of the Elements: Fragment B 17 of Empedocles’ might be read in a similar vein. Contrary to the received post-classical conception of the four-element doctrine, there can be no doubt that for Aristotle, the elements would constantly change into each other, as steps in a transformation cycle:

‘φαμὲν δὲ πῦρ καὶ ἀέρα καὶ ὕδωρ καὶ γῆν
γίνεσθαι ἐξ ἀλλήλων, καὶ ἕκαστον ἐν
ἐκαστῷ ὑπάρχειν τούτων δυνάμει,
ὡσπερ καὶ τῶν ἄλλων οἷς ἐν τι καὶ
ταῦτόν ὑπόκειται, εἰς ὃ ἀναλύονται
ἔσχατον.’

‘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.*’
(Aristotle, *Meteorologica*, 339a36-b2;
capitals WvB)

Already in Plato (*cf.* O’Brien 2003) we find resonances of these Empedoclean ideas but in a vaguer form:

[48b] ἀναχωρητέον, καὶ λαβοῦσιν αὐτῶν
τούτων προσήκουσαν ἐτέραν ἀρχὴν
αὐθις αὐ, καθάπερ περὶ τῶν τότε νῦν
οὔτω περὶ τούτων πάλιν ἀρκτέον ἀπ’
ἀρχῆς. τὴν δὴ πρὸ τῆς οὐρανοῦ γενέσεως
πυρὸς ὕδατος τε καὶ ἀέρος καὶ γῆς φύσιν
θεατέον αὐτήν καὶ τὰ πρὸ τούτου πάθη·
νῦν γὰρ οὐδεὶς πα γένεσιν αὐτῶν
μεμήνηκεν, ἀλλ’ ὡς εἰδόσιν πῦρ ὅτι ποτέ

[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

¹³² However, like the later Stoics, Aristotle adds a fifth element, Aether, to the four familiar ones of Empedocles.

ἐστὶν καὶ ἕκαστον αὐτῶν λέγομεν ἀρχὰς
αὐτὰ τιθέμενοι στοιχεῖα¹³³ τοῦ παντός,
προσῆκον αὐτοῖς οὐδ' ἂν ὥς ἐν συλλαβῆς

men know what fire is, and each of these things, and we call them principles and presume that they are elements of the Universe, although in truth they do not so much as deserve to be likened with any likelihood (Plato, *Timaeus*, 48b; capitals WvB).

If the cyclical transformation of elements is at all recognised by modern scholars in the Greek four-element system, it is mainly as a secondary interpretation of Empedocles by Aristotle and Plato.¹³⁴ Thus the Nobel-prize winning chemist Arrhenius (who also credits Empedocles with the discovery of the Law of Conservation of Matter; 1907: 14) wrote:

‘As far back as about 500 b.c, Empedocles had already introduced the notion that everything consists of four elements; Earth, Water, Air, and Fire. These elements of antiquity correspond more nearly to what we now call states of aggregation, if we except fire (which is equivalent to hot gases). Consequently Plato and Aristotle asserted that the elements might be converted one into the other. For instance, we read the following passage in *Timaios*: “We believe from observation that water becomes stone and earth by condensation, and wind and air by subdivision; ignited air becomes fire, but this, when condensed and extinguished, again takes the form of Air, and the latter is then transformed to mist, which resolves into water. Lastly, rocks and earth are produced from water.” To put it more simply, it had been observed that by cooling hot gases (“fire”) cool gases (“air”) were obtained, and that by condensation of moist Air one got water-drops, which might be united to give ordinary water. On the other hand, out of water were deposited solid substances, which had formerly been suspended or dissolved in the water. The ancient philosophers evidently only considered the *qualities* of the bodies, and therefore the hypothesis of the transformation of one element into another was a natural consequence. This hypothesis dominated the alchemistic view of the nature of substances. Again, the [P]hlogiston¹³⁵ [H]ypothesis is only a variety of the

¹³³ στοιχεῖον, *stoicheion*, here applied to physical ‘element,’ was the regular term for ‘letter’ of the alphabet; Cf. *Theaet.* 203 B f., *Rep.* 402 A f. The basic meaning appears to be ‘item in a series, calibration point, item determining rank order’ (van den Es 1896, s.v.; Liddell & Scott 1901, s.v.).

¹³⁴ Especially in Plato’s *Republic* (1975b), there is much emphasis on the number four, and one even believes to encounter, especially in Book VIII, some of the specific symbolic personages associated with the sixteen configurations of geomantic divination – as if the latter was conceived under direct influence of Plato. Contrary to common belief, it was Plato, not Aristotle, who dominated Islamic philosophy in the late 1st millennium CE, when *ilm al-raml* was invented.

¹³⁵ ‘Phlogiston’ refers to Joachim Becher’s 17th-c. CE hypothesis, soon to be discarded, that matter contains an enigmatic substance, without weight, extension, colour, taste etc., which is evicted through combustion – WvB.

[T]ransformation [H]ypothesis.’ (Arrhenius 1907: 12f)

Around the turn of the 20th century it was a popular idea among historians of science and philosophy that Empedocles, as the supposed author of the four-element system, arrived at his insight by a simple extension of the observable aggregation states of matter. Thus the once leading historian of philosophy Überweg (1891: 40):

‘The triad: fire (including air), water, earth, corresponds with the three “aggregate states” of matter (as they are now called); Empedocles (...), separating air more distinctly from fire, first arrived at the distinction of the four so-called elements.’

Although the Western Empedocles reception was largely dependent on Aristotle’s rendering of the former’s thought, Aristotle’s Empedocles reading has been severely and convincingly criticised for centuries (Cudworth 1678; Leclerc 1712: 78 *f.*). This debate still goes on, for instance, Longrigg (1976) takes exception with Aristotle’s view that Empedocles came to his four-element doctrine simply by adding the element Earth to the other three elements already circulating in Presocratic thought; and in the light of the world-wide parallels discussed in the present argument, Aristotle was certainly wrong on this point.¹³⁶

Not all modern commentators agree on the immutability allegedly ascribed to Empedocles’ *rhizomata* by Aristotle. Thus Osborne (1987: 44):

‘Aristotle does not say that Empedocles denied that the elements could lose and gain their *differentiae*; in fact he specifically attributes to him the doctrine that they do lose and gain their *differentiae* in changing into and out of the one. (...) What Empedocles is supposed to have denied is that one element might lose its own *differentiae* and gain those of another; a part which was earth before ought only to become earth again after it leaves the one. Aristotle’s criticism goes home only on his assumption that the elements lose not only their actual characteristics but also their potential *differentiae*, a distinction which Aristotle does not import here though he might have done. On his view no part of the sphere can be distinguished, even by having the capacity to become earth rather than water or vice versa. Thus so far from suggesting that

¹³⁶ Meanwhile, also Longrigg (1976: 44; *cf.* Lloyd 1964) is to be faulted for claiming, with the majority of commentators (*e.g.* Campbell 2004-2005), that Empedocles’ originality consisted in the latter’s insistence on the four elements being unchangeable and irreducible. Such insistence, in my opinion, only emerged in the subsequent *reception* of Empedocles.

Empedocles' one [sic] is a mixture, Aristotle envisages it as an absolute unity from which all distinctions, actual or potential, have been eliminated.'

Although Western scholarship has generally failed to recognise the extent to which the Empedoclean cosmology can be seen as an element transformation cycle,¹³⁷ yet it is increasingly becoming aware of the central cyclical element in that cosmology,¹³⁸ even if this expresses itself in a different way than the cyclical transition of one element into another.

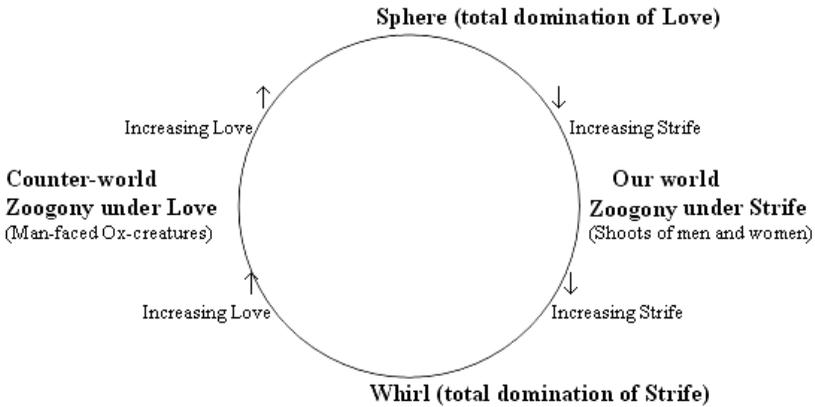
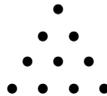


Fig. 5.3. Campbell's (2004-2005) rendering of Empedocles' Cosmic Cycle.

¹³⁷ That underneath the four-element system of the Presocratics lures a five-element one, is suggested by the symbolic reading of the Pythagoreans' sacred symbol, the Pythagorean *tetractys* (Meier-Oeser 1998 with full references),



where the foursomes that dominate the figure are raised to a five-some by highlighting the one central dot – and subsequently the five-some is interpreted as the five senses, and equated with Wood, the one element in which the Chinese set differs from the Presocratic one (Graves 1988: 189).

¹³⁸ Cf. dos Santos Gomez 2004; Graham 1988, 2005; Laks 2005; Long 1974; Minar 1963; Mugler 1953; O'Brien 1967, 1969; Pierris, 2005; Primavesi 1998b, 2005; Sedley 2005; Trépanier 2003; van der Ben 1984.

While many modern commentators have acknowledged the cyclical nature of Empedocles' worldview (*cf.* Mugler 1953: 30f), this is usually taken to mean, not a transformation cycle of elements, but a cyclical progression from a state (the cosmic Sphere) where all elements are totally fused under the all-dominant influence of Love, to the disintegration of that Sphere down to the element level under the all-dominant influence of Strife, and so on *ad infinitum*. Campbell (2004-2005) offers a useful diagram (my Fig. 5.3) of this process (also *cf.* Wilcox 2001 and Empedocles' Sphere).

Moving from perfect fusion of the elements in some sort of primordial globe / sphere, via total separation and fragmentation, back to perfect fusion, Empedocles' is essentially a cyclical cosmology – in Franklin's words (2002) it:

'is a self-governing, self-balancing, cyclical system – and is in fact depicted as a wheel',

which, when all is said and done, comes quite close to the idea of a transformation cycle of elements.

Another way in which some substrate underlying Old World transformation cycle of elements can be seen to surface in Empedocles' work, is in the central role he attributes to two paramount principles: 'Love' (φιλία *Philia*; Ἀφροδίτη *Aphrodite*) and 'Strife' (νεῖκος *Neikos*).¹³⁹ Although lacking the sense of 'one element transforming into another under the positive or negative catalytic influence of a third element', one may still recognise here the two basic functions of 'production' versus 'destruction' (*cf.* Fig. 5.3). Love (or Fusion) and Strife (or Separation) are incessantly involved in a universal cycle, taking the world from

- (a) being a Sphere of totally fused elements, via
- (b) a state of total separation of the elements, back to
- (c) the Sphere of totally fused elements (*cf.* Brown 1984).

¹³⁹ Aristotle *Physica*, 8. I, 15, *de Anima* I. 2, 10; Brun 1966; Campbell 2004-2005; Hershbell 1974; Pierris 2003; Solmsen 1965; Todoua 2005; Wada 1997.

From a viewpoint of comparative mythology, Empedocles' Sphere is another variant of the Cosmic Egg,¹⁴⁰ a major theme in cosmogonies distributed over mainly Eurasia and Oceania (van Binsbergen 2011b, see Fig. 5.4 – another example of Pelasgian distribution over time) and represented in the Ancient Greek world with the Dioscuri and their sisters Helena and Clytemnaestra, born from the eggs of Leda as a swann impregnated by Zeus in similar disguise.

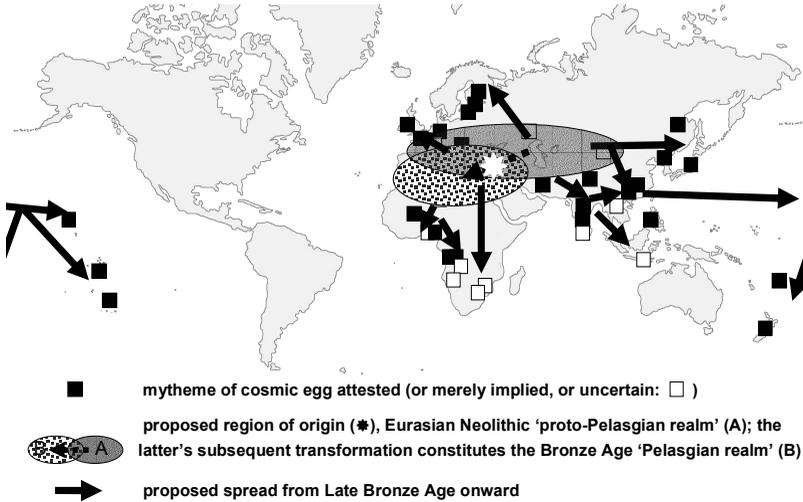


Fig. 5.4. Global distribution and tentative historical reconstruction of the mytheme of the Cosmic Egg

For details and sources of data points see: van Binsbergen 2011b¹⁴¹

¹⁴⁰ In addition to notions apparently derived (via Orphic cult milieus) from the mytheme of the Cosmic Egg, and probably – as we shall see – the very notion of a transformation cycle of elements, there may yet be other non-Hellenic, essentially Pelasgian features that have entered Ancient Greek science, for instance the deviant *ferdariae* order of planets, which is also found with Apollonius of Tyana; cf. Tester 1989: 169.

¹⁴¹ Although the proposed historical reconstruction appears to me the most plausible, and tallies with that of scores of other supposedly Pelasgian traits (cf. van Binsbergen 2010a, and in press (a); van Binsbergen & Woudhuizen 2011: 372 f.), it is only fair to indicate an alternative interpretation, in terms of Oppenheimer's (1998) Sunda Hypothesis – situating the origin of the mytheme of the Cosmic Egg in South East Asia, and assuming it to have spread, not only north and east into East Asia and Oceania, but also west, on the wings of the postulated Sunda maritime expansion in the course of the first half of the Holocene. Oppenheimer claims that the core mythologies of the

With a lapse into ‘misplaced concreteness’ (Whitehead 1997: 52, 58), Campbell (2004-2005) claims that, for Empedocles, the four elements

‘...correspond closely to their expression at the macroscopic level of nature, with the traditional quadripartite division of the cosmos into earth, sea, air, and the fiery aether of the heavenly bodies: these four naturally occurring ‘elements’ of the cosmos clearly represent a fundamental natural division of matter at the largest scale. This division at the macroscopic level of reality is applied reductively at the microscopic level to produce a parallelism between the constituents of matter and the fundamental constituents of the cosmos, but the reduction of the world into four types of material particles does not deny the reality of the world we see, but instead validates it. Empedocles stresses this parallel between the elements at the different levels of reality by using the terms ‘Sun’ ‘sea’ and ‘Earth’ [*sic*] interchangeably with ‘fire’, ‘water’ and ‘earth’. Of the four elements, although Empedocles stresses their equality of powers, fire is also granted a special role both in its hardening effect on mixtures of the other elements and also as the fundamental principle of living things.’

Did Empedocles personally invent the very notion of element?

The comparative perspective in the present argument suggests otherwise – the idea of a elementary form of Being implied in all manifestations of the visible world, was ‘in the air’ in the Greek Presocratic world, and was anticipated by Orphic (ultimately Pelasgian) notions of the Cosmic Egg, Night, Chaos, Time, or Earth and Water as primary givens.¹⁴² Stauffer (1986) reminds us of the parallels between the Ionians’ view of Water and Earth, and the mythology of the Ancient Near East. Also Kingsley (1994c, 1995a) traces the extensive background, in space and time, within which Empedocles’ ideas emerged as much less than totally original. In a more extended transcontinental perspective, in terms of our two Working Hypotheses, the widespread parallels to Empedocles’ system *suggest* that the notion of element had already been commonly accepted for one or two millennia when Empedocles formulated his doctrine.

Ancient Near East including the Bible thus have a prehistoric Sunda origin. I have elsewhere argued why specifically in regard of Ancient Near Eastern myths this is very implausible (van Binsbergen with Isaak 2008), although as a general hypothesis of transcontinental influence Oppenheimer’s model has, as admitted above, considerable value especially for the study of Africa – so much so that in the context of the 2012 Leiden conference I presented (2012e) a paper setting out the genetic, comparative religious, archaeological and ethnographic evidence in favour of what I have come to designate as the ‘*Oppenheimer—Tauchmann—Dick-Read Hypothesis*’.

¹⁴² Freeman 1948: 51 *f.*; on the link between the Presocratics and the Orpheus complex, also *cf.* Burkert 1968; on the World Egg and the innumerable worlds derived from it, *cf.* Cornford 1934: 16.

Once we have been alerted to the possibility of a transformation cycle of elements to be implied in relatively archaic Ancient Greek expressions, from Empedocles' time and even before, we may look at Hellenic iconography with a different eye. For instance, aquatic gods are known for their shape-shifting – Proteus (thought to dwell near the island of Pharos off the Egyptian coast, near Alexandria) and Scamander being cases in point. In this light the four stages which the sea goddess Thetis struggles through in her attempt to escape from her shameful marriage with a mortal, Peleus,¹⁴³ have all the appearances of a transformation cycle of elements: Fire, Water, Lion and Snake (my Fig. 5.5; from Ronnberg *c.s.* 2011: 773, with thanks).¹⁴⁴



Fig. 5.5. *Peithinos' rendering of Thetis' metamorphoses, kylix, 6th c. BCE.*

¹⁴³ Peleus was to be Achilles' father; as noted before, Achilles was venerated as a sea god in his own right, especially in the Pontic region.

¹⁴⁴ By the etymological punning on 'earth' / 'snake' to be discussed below (footnote 159), we may confidently interpret 'snake' as 'Earth' here, which leaves 'lion' to be interpreted as 'Air' – perhaps by analogy with the Sun, to which often a lionine nature is attributed in ancient cosmologies. Another, somewhat suspect, indication of a four-element transformation cycle is to be found in the following quotation from Graves 1988 / 1948: 415, probably (the statement is unreferenced; notoriously, Graves considers himself above bibliographical diligence) paraphrased from the 5th-c. CE Latin writer Macrobius (1848), *Saturnalia*, I, 18f:

'the oracle of Colophon, one of the twelve Ionian cities of Asia Minor, gave the nature of the transcendent God Iao as fourfold. In the Winter he was Hades, or Cronos; in the Spring, Zeus; in the Summer, Helios (the Sun); in the Autumn, Iao, or Dionysus'.

Such suggestions of a nearly world-wide ancient substrate element system are intriguing and find much support in our ethnographic overview in the preceding Chapter. Yet, given the state of proto-globalisation that prevailed in many parts of the world from well before Empedocles, it just remains remotely possible that all these apparent element systems throughout the Old World and North America were, in fact, indebted to Presocratic thought. Towards the end of this argument, in Figs. 9.1 and 9.3, we will come back to this question and answer it.

Did Empedocles personally invent the four-element doctrine? This question has been considered repeatedly in the literature. Thus Longrigg (1963: 171 *f. n.* 16):

‘...the suggestion has been made that there is evidence of the four element theory before Empedocles. O. Gigon (*Untersuchungen zu Heraklit* [Leipzig 1935-1 p. 99] writes: ‘Man kann kaum Frg. 126 für Heraklit beanspruchen und zugleich die Vier-Elementenlehre ihm absprechen’ and uses this fragment as evidence for accepting air as Heraclitean in Frg. 76. K. Reinhardt (*Parmenides* [Bonn 1916] p. 223) even goes so far as to hold that since no one can have known of the four elements as early as the traditional date of Heraclitus, this date must be wrong and the latter was actually younger than Parmenides. [*Thus assuming, in fact, that Empedocles was the author of the four-element doctrine; however, we have seen that one excursion to Egypt under the New Kingdom, or even Old Kingdom, would have been enough to learn about the elements many centuries before Heraclitus, let alone Empedocles – WvB*] G.S. Kirk, however, rightly points out (*Heraclitus: The Cosmic Fragments* [Cambridge 1954] pp. 342-44) that the mention of air in Frg. 76 is almost certainly due to Stoic influence and that Frgs. 31 and 36 show sufficiently clearly that Heraclitus held that there were three, not four, world masses.’

Aristotle¹⁴⁵ presents Empedocles as the inventor of the four element doctrine. Longrigg (1976) however rightly stresses that Empedocles was not the only one to have a four-element doctrine but that such a doctrine was a general characteristic of the entire Milesian school:

‘In claiming that his elements are of fundamental importance in the physical world, Empedocles presents a theory which is in accordance with traditional belief. As C.H. Kahn has pointed out,¹⁴⁶ it is clear from the evidence which has survived of Milesian cosmology and cosmogony that ‘their conception of the natural world contained, in potential form, a view of earth, water, air and

¹⁴⁵ Aristotle, *Metaphysics* 985aS2 [Diels-Kranz 31A37]. 984a8 and 988a20 *f.*; *De generatione et corruptione* 329a.

¹⁴⁶ Kahn 1960: 149; reference in the original.

fire as ‘members’ or ‘portions’ of the cosmos.” Simplicius, in a passage where he is closely following Theophrastus, actually defines Anaximander’s doctrine by reference to the four-element theory and concludes: ‘It is clear that having observed the change of the four elements into one another, he did not think fit to make any one of these the material substrate, but something else besides these.’ A similar interpretation is given by Aristotle when he records the opinion of “those who say that there is a single simple infinite body . . . besides the elements, from which they generate the latter.” (It is generally agreed that Aristotle’s reference here is to Anaximander.) Although it is just as much of an anachronism to project back to the sixth century the four-element theory as it is to ascribe to Anaximander the Aristotelian material cause, the beliefs here described may be accepted as Milesian, for, as has been seen above, Anaximander explains the phenomena apparent on and around the earth by interactions of fire, air, and terrestrial water. In like manner a speaker in Cicero credits Anaximenes with what resembles a four-element theory...’ (Longrigg 1976: 425)

Gigon (1935: 99) sees not Empedocles but Heraclitus as the originator of the four-element system, but Longrigg (1976: 44) finds this unconvincing.

Yet, with his general emphasis on movement and change, it is Heraclitus, more than any other Ancient Greek philosopher, who has retained an awareness of the transformation cycle that links the elements in the underlying, Pre-Hellenic, presumably Pelasgian conception. Patrick (1889: 14, 26) even credits Heraclitus with the notion that the elements are continually passing into one another. Little of this awareness, however, has been retained in the general Modern reception of the Presocratics.

Even regardless of the question as to Empedocles’ originality vis-à-vis the Ionian philosophers, it is central to our present argument to ask whether the Presocratic four-element doctrine was a Greek invention, or was merely the surfacing, in Western Eurasia, of a much more widespread and much older cosmological substrate. The latter view, of course, is the one advocated by our two Working Hypotheses. But this argument does not stand on its own. Partly under the influence of the *Black Athena* debate as initiated by Martin Bernal (1987), but also as a direct result of painstaking specialist research into the intellectual ramifications in the Eastern Mediterranean in Antiquity¹⁴⁷ there has been, in recent decades, a

¹⁴⁷ West 1971; Dodds 1951: 145-156; Böhme 1989: 29-41; Bidez & Cumont 1938.

trend¹⁴⁸ to stress Empedocles' characteristics as a magician and shaman conversant with West Asian initiatory traditions, and to play down his qualities as a philosopher. This trend was foreshadowed already in the 19th century (Gruppe 1887; Gladisch 1858).¹⁴⁹ Unfortunately, the passionate criticism of this trend often seems to be triggered by the critics' Eurocentrism, considering the idea of an original, antecedent-less, incomparable Greek philosophy the cornerstone of their European identity. Long before it was vocally exposed by Bernal 1987, this Eurocentric if not racist prejudice was already discarded by the scholarly *Ex Oriente Lux* ('*Light Comes from the East*') movement (Ball 1899; Lepsius 1903; Winckler 1905; Szemerényi 1974 – in addition to a German scholarly journal for Ancient History, the expression *Ex Oriente Lux* has also formed the title for the leading Dutch journal and scholarly association in this domain from the 1930s onward). There is also a typological and ideological problem here: while the identity construction of Europe and the North Atlantic region as a whole, via-à-vis the rest of the world, has often stressed alleged European rationality versus non-European obscurantism, there can be no doubt that decisive early intellectual achievements during the Bronze Age were made in West, South and East Asia and in North Eastern Africa (Egypt), only to reach South-eastern Europe (the Aegean) subsequently, the latter constituting an economic and cultural periphery. Reconstructing continuities between the European and non-European historic cultural achievements therefore should be seen as an admonition to thankfulness on the part of Europeans, and not as an historical insult.

But while thus inclined to play down the exalted position North Atlantic specialists have accorded Empedocles, we end up with the paradox that the four-element system, deprived of such aspects of cyclical transformation as it may initially have had in the Middle to Late Bronze Age and Early Iron Age Aegean and West Asia, still proved to be eminently successful and a path-breaking achievement on the road to Modern, global

¹⁴⁸ Biès 1968, 1969; Kingsley 1995a, 1995b, the latter much criticised in the scholarly literature; e.g. Mansfeld 1995; O'Brien 1998; Picot 2000.

¹⁴⁹ Gladisch 1858 was dismissed by a principal present-day Empedocles bibliographer as a 'very fantastic and improbable identification of Empedoclean teaching with Egyptian beliefs' (Vitek 2004), yet this appears in a different light once we take into account the strong indications (see Chapter 4) for a four-element doctrine in Ancient Egypt.

natural science and medicine. One might ask whether the number four is really all that arbitrary as a basis for a world-view. Ever since Empedocles until quite recently the Western tradition of thought has distinguished four elements. This conception cannot be separated from the image – widespread in Eurasia including South East Asia, as well as in Africa and the Americas, and hence probably of great antiquity – of the world as supported by the four corners or pillars of the directions. The latter foursome is directly connected with the specific anatomy of the human body and therefore of the human gaze: left / right symmetry combined with front / back symmetry yields four basic orientations. I submit that the emphasis on four, and the trend toward immutable, clearly demarcated categories between which no continuous transition takes place, is due to interference from the concept of four directions / the earth's four corners.

However, there may be other sources for the preoccupation with four, as suggested in the Assyriologist Gadd's statement 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[outh], N[orth], W[est], E[ast]; 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.’

When Kammerzell (1994), in his approach to leopard symbolism of the Ancient Near East and especially Ancient Egypt, suggests that – according to his not uncontroversial etymology – this species appears as the ‘four animal’, he attributes this to the four toes out of which the ripping 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; van Binsbergen 2004 / 2013). Also the elaborate mantle with which the priest-king (or god) of Mohenjo-Daro is depicted in a well-known statue, is evidently a transformed leopard skin (still retaining traces of red) with the rosettes rendered as a foursome (a three-leaved clover with a central dot).

Numerous significant foursomes occur in the symbolism and iconography of many peoples¹⁵⁰ – only a few examples are: the four trigons of the zodiac (significantly named after the four elements); the four humours of Galenus (blood, black bile, yellow bile, and phlegm); the four ages of man (Golden, Silver, Bronze and Iron); the four virtues – justice, fortitude, prudence and temperance – of Plato (in his *Meno*; Plato 1962) but also of the Chinese philosopher Meng-Tze 孟子 (Mencius; probably no relation of Meno); the four noble truths of Buddhism (life means suffering; the origin of suffering is attachment; the cessation of suffering is attainable; the specific path to the cessation of suffering); the four horsemen of the Apocalypse; the four different suits (clubs, diamonds, hearts and spades) of the deck of cards; the four modalities of *al-ʿud* in classical Arabian musical theory; the paired foursomes of the Hermopolitan cosmogonic myth in Ancient Egypt; the four principal characters in classical Chinese opera; the four tonalities of Middle Chinese; the four principal castes of India; the four Books each in four Parts of the *Veda*; the four interlocking worlds of the Kabbalah; the four Archangels; the Four Lights of Gnostic mysticism. Many of these foursomes may ultimately be predicated on the four-element system; others are unlikely to be so.

There are even indications to the effect that the number four plays a special role in the world order even regardless of the agency of human subjectivity, for instance: physicists distinguish between four basic interactions in nature which for the time being have not yet been subsumed under one unifying theory (gravity, electromagnetic force, strong nuclear force, weak nuclear force); the four-colour problem in mathematics (‘why is four the minimum number of colours one needs to colour a political world map while avoiding that adjacent countries have the same colour?’) has only recently been solved; quantum mechanics limits to four the

¹⁵⁰ Cf. Frobenius 1923: 81: ‘Sepp, Pott, Brinton und vielen anderen fiel es schon auf, daß bei ganz bestimmten Völkern die 4 eine besondere Rolle spielt’. However, Frobenius’ elaboration of this point is very different from mine. Given to something like geographical mysticism, it is his impression (1923: 94*f.*) that different continents are dominated by different numbers: the ‘peripheral remnant cultures of the Extreme South’ = 2; Africa and Asia = 3; South Asia, Oceania and Meso-America = 4. Frobenius’s characterisation, arbitrary and sweeping though it may sound, might be a very faint echo of what I reconstruct in the present book as an Upper Palaeolithic four-element system, which Frobenius with his usual perceptiveness then may have picked up intuitively.

number of sub-shells (within each principal shell) in which electrons may find themselves, in such a way that each electron can be described with four quantum numbers – at least, to the extent to which we may limit the description to electrostatic interaction between electron and nucleus; each DNA and RNA protein turns out to be composed of a combination of four amino-acids; stability of carbon atoms in a compound requires the absorption or emission of four electrons (hence the tetraeder molecular model), and as a result carbon could become the fundamental building brick of life on the planet Earth.

*Did Empedocles, after all, hit on one of the most significant aspects of the architecture of the world? Or, rather, to the extent to which he was merely replicating a four-element system that may already have been around for millennia, had humankind already discovered the number four as a major key to reality at a very early stage? Is that why two, four and eight are the only numerals reconstructed for *Borean? And what might have given putative prehistoric proto-philosophers the idea of such a four-based key (the human body's two-fold symmetry? the almost universal gender duality of Nature? the four phases of the Moon? divine or extra-terrestrial inspiration...)?*

Or have even the Modern scientists formulating these four-based recent theories, unconsciously still been influenced by Empedocles? Must we discard our Working Hypothesis of a transcontinental, Upper Palaeolithic substrate element system, even give up our Bronze-Age Alternative Working Hypothesis, and join those singing the praises of Empedocles as a unique genius who (much in line with the myth of the Greek genius in general, as rightly challenged by Bernal 1987) allegedly invented his shockingly insightful theory out of the blue, without historical antecedents?

We have still several steps to go before this particular question can be satisfactorily answered. Let us now, in the next Chapter, leave Graeco-Roman Antiquity, and turn to the Palaeolithic, in order to explore such antecedents as (in terms of our Working Hypothesis) may have prepared the ground for the Presocratics.

Chapter 6. Exploring the long-range pre- and protohistory of element cosmologies: Steps in the unfolding of human thought faculties

6.1. Explorations into the Middle Palaeolithic prehistory of element cosmologies

Can we say something about the oldest forms of the transformation cycle of elements, and estimate their antiquity? Recent reconstructions in the field of comparative mythology allow us a glimpse into the remote past of human thought.

We have seen that the various element cosmologies studied above have often been used for divination. We shall now probe into the joint history of element cosmologies and divination, seeking to delve even deeper than the Upper Palaeolithic, if possible. Unexpected indications concerning the antiquity of element systems come to light when we manage to plausibly reconstruct some of the mythological contents of Pandora's Box.¹⁵¹ Starting with a sample of African cosmogonic myths recorded in historical times, I have presented a distributional argument tentatively identifying the mythemic nuclei ('Narrative Complexes') in these African myths, and attempted to trace their prehistoric trajectory through space and time after the Out-of-Africa Exodus; the reconstruction method is a form of argued distributional triangulation, and has so far been executed and written up entirely without any explicit or conscious reference to divination. If a Narrative Complex occurs in sub-Saharan Africa, New Guinea, Australia,

¹⁵¹ van Binsbergen 2006a, 2006b; Table 6.1 below, *cf.* Tables 2.1 and 2.2 above.

it is likely to have found itself in Pandora's Box, because for reasons of ecological adaptation Anatomically Modern Humans, in their first sallies Out of Africa, c. 60-80 ka BP, initially seem to have kept close to the Indian Ocean shores until reaching New Guinea and Australia (which before the Early Holocene global rise of the sea level by 200 m could have been completed with dry feet except for a 70 km patch of open sea South of Timor – proof of humans' early nautical abilities; cf. Bednarik 1997, 1999), but without populating the other continents yet. Meanwhile Table 6.1 suggests that divinatory patterns as recorded in historical times, and their implications in terms of element systems, so unmistakably echo the specific reconstructed contents of Pandora's Box, at the onset of the Middle Palaeolithic, that we may persuade ourselves to see continuity between the two periods, and thus acquire an inkling of what may have been a surprisingly rich divinatory life in the Middle to Upper Palaeolithic, in Africa as well as in other continents where Anatomically Modern Humans gradually took the, element-relevant, contents of Pandora's Box. This step is admittedly not without risks: even if the complex reconstruction underlying Table 6.1 was executed without any conscious thought of divination and element systems, still the same author who processed these data and compiled the Table has been so preoccupied with divination and element systems over the past quarter of a century, that it cannot be ruled out that that domain of empirical analysis inadvertently seeped into the comparative mythology domain, rendering the results somewhat dependent upon one another. However, that is a risk I am prepared to admit, and yet to take.

Narrative Complex (NC) (nuclear mytheme) reconstructed to have been in Pandora's Box	Narrative Complex no.	proposed use of this mytheme in Middle and Upper Palaeolithic proto-divination as suggested by divinatory patterns in historical times¹⁵²	proposed element in transformation cycle
The Lightning Bird (and the World Egg)	4	lightning as omen fowl as divinatory ani-	Air, Aether; Fire

¹⁵² The literature on the numerous forms of divination through space and time is enormous, and cannot be adequately represented here. I limit myself to a minimum selection per item. Rich source on the comparative study of divination are: Hastings 1908-1921: IV, 775-830; Le Scouézec *et al.* 1965.

¹⁵³ Hastings 1908-1921, II, 55, iv. 820-826 (Roman divination); III, 697 (cock omen).

		mal ¹⁵³	
The Stones (as Earth; in the Late Palaeolithic / proto-Neolithic probably revised to become 8a. The Stones / Meteorites as Connection between Heaven and Earth)	8	psephomancy (divination by pebbles); ¹⁵⁴ divination from stones and rocks ¹⁵⁵	Earth; Aether, Air; Metal (e.g. sidereal iron)
The Moon	9	Moon as omen, ¹⁵⁶ proto-astrology	?
The Earth as primary (apparently, NC 10 was subsequently revised towards 'The Earth as the Source of Cattle, in the Neolithic)	10	earth omens, proto-geomancy	Earth
From under the Tree (probably subsequently diversified into 12a 'The world and humanity from the tree', and 12c 'The Leg-Child')	12	divination by trees, branches, twigs; ¹⁵⁷ cleromancy with wooden tablets etc. ¹⁵⁸	Wood
The Cosmic / Rainbow Snake	13	snake as divinatory animal, snake omens ¹⁵⁹	Aether, Air; Earth
The Spider (probably subsequently transformed into 15a 'The Feminine Arts' in proto-Neolithic times)	15	spider as omen and divinatory animal ¹⁶⁰	? (Aether, Air)

Table 6.1. The divinatory and element-cosmological significance of the reconstructed mythological contents of Pandora's Box, Africa, 80-60 ka BP and earlier.

Apparently, the element-cosmological classification systems which exerted a major influence upon literate divination systems of the post-Neolithic period already had some detectable roots in Pandora's Box, at

¹⁵⁴ Horowitz & Hurowitz 1992.

¹⁵⁵ Hastings 1908-1921: XI, 866-867.

¹⁵⁶ Hastings 1908-1921: XII, 64-65.

¹⁵⁷ Hastings 1908-1921: II, 832, XII, 455b-457.

¹⁵⁸ See above, Chapter 2 and *passim*.

¹⁵⁹ Hastings 1908-1921: I, 526b-527, and XI, 406. Confusion with Earth possible because of homonymy: Starostin & Starostin 1998-2008, 'Indo-European etymology' note that proto-Indo-European: *dg'hem- 'earth' (Pokorny 1959-69: I 662 *f.*; Buck n.d.: 16) is '[h]ard to distinguish from the reflexes of *g'hem- #3258. All Italic forms (Lat[in] humus, etc.) may in fact belong there'; the reference is to proto-Indo-European *g'(h)em-, *g'(h)mēy- 'snake, worm' (Pokorny 1959-69: I, 790).

¹⁶⁰ Hastings 1908-1921: I, 528.

least 60 ka earlier.

The only major ‘element’ missing out in Table 6.1 is *Water*; and the only NarCom left without a suggested element association is the Moon. Realising that in many cosmologies, as well as in most astrologies of the Old World, the Moon tends to be associated with water, we may readily fill this gap. Needless to remind the reader of the prominent role water, and its mirroring surface, plays in divination through space and time (*cf.* Hastings 1908-1921: XII, 707). 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 tended (van Binsbergen 2006b, 2010a) to situate the emergence of a water-centred Narrative Complex (Flood myths!) much later than Pandora’s Box, but perhaps the systematics of Table 6.1 should bring us to reconsider such an argument now. Witzel (2010, 2012) suggests that Flood myths should be placed in Pandora’s Box.

Above I referred to my hypothesis of a succession of two distinct types of cosmogony in the Upper Palaeolithic:

- (a) revolving on the Separation of Water and Land;
- (b) revolving on the Separation of Heaven and Earth.

Here, too, we may detect indications of an incipient element cosmology. If conceived in that light, (a) would be about the emergence of the proposed primary (proto-)elements Water and Earth, whereas (b) could be revolving on the separation of the (proto-)elements Earth and Fire (\approx Sun) – after a transformation that resulted in a down-playing of the watery connotations of the Sky (as ‘Waters [Above]’), and, with the emergence of naked-eye astronomy, the luminaries’ growth into more important aspects of the Sky than the latter’s Water associations. Given the striking paucity of *Borean reconstructed lexical items for ‘Sky’ and ‘Moon’ (only: HVKMV and TVLKV, respectively) against as many as seven for ‘Sun’ (CVVVV, HVKV, KVMV, NVJV, NVRV, PVCV, TVNV), dating this transformation to post-*Borean times would put us on even more slippery ground than usual in the course of my admittedly conjectural argument.

Another advantage of operationalising the presence of element cosmologies through their use in divination is that element cosmologies in them-

selves patently do not leave any archaeological traces, whereas divination systems may, albeit infrequently. The archaeological case for *Upper Palaeolithic* divination is theoretically quite plausible, yet it has remained empirically thin – the only truly convincing case being two engraved bones from the Remouchamps caves in Belgium (Dewez 1974), to which we shall return below (Fig. 8.6). 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 Hüyük¹⁶¹ (now supplanted by much older finds in the region – Badisches Landesmuseum 2007); and China towards the end of the Neolithic (Nai 1963; Li *et al.* 2003).

6.2. Indications of a four-element cosmology in the painted cave at Lascaux, France, in the Upper Palaeolithic

6.2.1. Introduction

But archaeology does not totally leave us in the dark. One way of establishing the likely existence of a four-element system in the Upper Palaeolithic is by seeking to intersubjectively interpret the iconography which that period has left us abundantly.

This takes us to the ‘painted caves’, notably those of the Franco-Cantabrian region in South-western France and Northern Spain.¹⁶² It is here that Leroi-Gourhan (1958) has found convincing indications, not so much of an element cosmology, but of a gendered cosmology, *i.e.* with male and female as the dominant opposition. Michael Rappenglück (1999), a German archaeoastronomer, interpreted one of the most famous scenes of the painted cave of Lascaux (Fig. 6.1) as an astronomical statement, in a splendidly documented and referenced comparative and struc-

¹⁶¹ Hodder 2007: 111, by analogy with belaboured skulls from Neolithic Palestine.

¹⁶² The literature on the Lascaux painted cave is enormous. For an introduction, see: Allain & Leroi-Gourhan 1979; Clottes & Lewis-Williams 1996. It would be very much in the spirit of the present argument to try and lend an African extension to my explorations in Palaeolithic iconography with a view of identifying element cosmologies; some possible elements towards such an extension will be adduced further down in this Chapter.

turalist argument which earned him a doctoral degree from Munich University in 1998.

Let us look closely at this scene. Apart from a short, apparently hooked, line below the, apparently, lying man and another, longer line crossing the behind of the large animal painted at the right side of the scene, it renders four items:

- an (apparently ithyphallic) man lying with extended arms
- a bird on a stick
- a woolly rhinoceros to the left, and
- a bison to the right.

Four items depicted in a dramatic scene which seems to involve the death of a human – it is not impossible that a four-element cosmology is being depicted here, but the number four in itself is hardly sufficient reason to jump to such a conclusion.¹⁶³



Communauté Montignac, Département Dordogne, Région Aquitaine, France.

Fig. 6.1. The famous 'dead man' scene from Le Puits, Grotte de Lascaux.

¹⁶³ There is also a horse depicted near the Lascaux picture (Rappenglück 1998: 61), but this is inconspicuous and at some distance; by an enormous stretch of the imagination, it might be interpreted as an evocation of 'Aether' – the horse is the most frequently depicted animal in Eurasian rock art, and (by anachronistic analogy with the horses of Poseidon, Helios, Demeter and Hades) often seems to have the connotation of 'Waters Above and Below', *i.e.* 'Heaven, Ocean, Underworld'.

If the scene does evoke a four-element cosmology, could we try to be more specific and identify the four elements, possibly retrieve their names across the seventeen millennia that separate us from the time of origin? Here we have nothing than informed conjecture to go by, but against the massive comparative proto- and prehistoric evidence adduced in the present book, the attempt is justified. The remarkable, global convergence in that evidence also seems to justify the idea that the most likely elements to be expected are Air-Water-Earth-Fire, so that our task would be, in the first place, to find grounds for attributing any of these four elements to the four items in the scene.

A hint as to which item represents Earth derives from a long debate concerning the etymology of the Greek theonym Ἀθήνη Athena, and of the Greek word ἄνθρωπος *ánthrōpos*, ‘man, in the sense of human’.¹⁶⁴ The converging evidence leads to a so-called *global etymology* (on this concept, cf. Bengtson & Ruhlen 1994) semantically revolving on ‘earth / bottom / human’, as if humans were primarily conceived as ‘those on the ground, those dwelling at the bottom’. Here we can benefit from the *Borean Hypothesis. In my recent analyses of African comparative mythology and Mediterranean Bronze Age ethnicity I have demonstrated the considerable heuristic power of Starostin’s and Fleming’s views, extensively using their *Borean Hypothesis and its proposed results. I have traced the ‘earth / bottom / human’ complex in the following terms:¹⁶⁵

The root *-ntu / -nto* ‘human, person’, although only one of hundreds of reconstructed proto-Bantu roots (cf. Guthrie 1948, 1967-1971: **-nto*, Guthrie no. 1789; Meeussen 1980: **-ntu*), is found in many or all languages of the large Bantu family (a division of the Niger-Congo or Niger-Kordofan phylum). It was so conspicuous in the eyes of Bleek (1851 – the first European linguist to subject these languages to thorough comparative study), that he named them ‘Bantu languages’ after that root (*ba-* being a common form of the plural personal nominal prefix). However, *-ntu / -nto* is not exclusive to the Bantu family. This is already clear from proto-Austronesian **taw*, ‘human, raw’ (Adelaar 1995). Looking for an etymology of the puzzling Greek word *ánthrōpos* ‘human’, the Dutch linguist Ode (1927) had the felicitous inspiration to see this word as a reflex of what he claims to be proto-Indo-European **-nt*, ‘under’ (cf. the

¹⁶⁴ Ode 1927; Bernal 1987, 2001, 2006; Lefkowitz & McLean Rogers 1996; and references there.

¹⁶⁵ van Binsbergen 2010c; van Binsbergen & Woudhuizen 2011: 78 f.

more consensually established proto-Indo-European: **ndho* ‘under’, Pokorny 1959-69: I, 323) – thus proposing an underlying semantics of humans as ‘ground or underworld dwellers’. This, incidentally, also offered Ode an interesting etymology of the long contested Ancient Greek theonym Athena as an underworld goddess.¹⁶⁶ Along this line, many more possible (pseudo-?) cognates from many language phyla come into view. The background assumption in this kind of historical linguistic reconstruction is that standard methods of historical and comparative linguistics allow us, with intersubjective scientific plausibility, to reconstruct progressively older levels of parent forms, right up to the oldest possible reconstruction, *Borean; nearly all linguistic macrophyla spoken today contain, among an admixture of forms of unidentified provenance, also reflexes from *Borean. Against this background, (pseudo-?) cognates of Bantu *-ntu / -nto* seem to be proto-Afroasiatic **tVʔ*, ‘a kind of soil’ (cf. Old Egyptian *t / t3*, ‘earth’, e.g. *T3wy* ‘the Two Lands’ = Upper and Lower Egypt, with cognates in Central and East Chadic and in Low East Cushitic), from *Borean **TVHV*, ‘earth’; a reflex of this root is also found in Sino-Caucasian notably as Chinese *土 tǔ* (modern Beijing Chinese), *thā* (Classic Old Chinese), ‘land, soil’, Karlgren code: 0062 a-c, suggested to be of Austric origin: notably proto-Austronesian **buRtaq* ‘earth, soil’, proto-Austroasiatic **tej* ‘earth’, Proto-Miao-Yao **Ctau* (cf. Bengtson & Ruhlen 1994: 60, *tak*, however the latter two authors – according to Starostin & Starostin 1998-2008 ‘Long-range etymologies’ s.v. **TVHV*, ‘earth’ – seem to confuse the reflexes of *Borean **TVHV* with those of **TVKV*). Considering the incidental similarities between Southern and Eastern African Khoisan, and North Caucasian,¹⁶⁷ one should not be surprised that also some Khoisan language families seem to attach to the very old and very widespread earth / human complex which we have identified here: South Khoisan (Taa): **taʔ*, **tuʔ*, ‘person’; North Khoisan (proto-Zhu) **žu*, ‘person’ – Central Khoisan has **khoe*, etc. ‘person’, which might well be a transformation of **žu*. (Note that here, too, like in Bantu, it is the word for ‘human’ that produces the ethnonyms Taa, Zhu and Khoe / Khoi, or Khoekhoe / Khoikhoi) Further possibilities are contained in the reflexes of another *Borean root **TVHV*, ‘bottom’, which however is both semantically and phonologically so close to **TVHV* ‘earth’ (however, in *Borean reconstructions, the vowels, indicated by **-V*, had to remain unspecified and therefore could differ) that we may well have to do with one and the same word: thus proto-Sino-Tibetan **diəH* ‘bottom’ (e.g. Chinese 底 **təjʔ* ‘bottom’ Karlgren code 0590 c; 底 **təjʔ*, ‘root, base’, Karlgren code 0590 d) from proto-Sino-Caucasian **dVHV*, ‘bottom’; from the same *Borean root **TVHV*, ‘bottom’, also Afro-

¹⁶⁶ For alternative etymologies, of the name *Athena*, cf. Hrozný 1951: 228; Fauth 1979a; Bernal 1987 (contested by Jasanoff & Nussbaum 1996, Egberts 1997; van Binsbergen 1997c / 2010a); and Blažek 2007.

¹⁶⁷ Which the geneticists Cavalli-Sforza *et al.* 1994 have sought to explain by suggesting that today’s Khoisan speakers are a hybrid African-Asian population which had still ancestors in West Asia 10,000 years ago – they are another possible example of the Back-to-Africa movement. I will come back to this point in Chapter 7.

asiatic **duh-*, ‘low’ (e.g. Egyptian: *dḥ* (21) ‘low’, East Chadic: **dwaHdaH-* ‘down’) as well as proto-Austroasiatic **dʔ uj* (also **tucj* ‘tail, vagina’), proto-Miao-Yao **ʔoji.B* ‘tail’, Proto-Austronesian: **hudi* ‘buttocks’ (not in Proto-Austronesian B) (also **udehi* ‘last, behind’ – the latter, Austric forms being predicated on a semantics of ‘lower part of the rump’, cf. English ‘bottom’) (cf. Peiros 1998: 157, 165; Starostin & Starostin 1998-2008).

Table 6.2. Example of a global etymology: The complex ‘earth / bottom / human’.

Against this elaborate background the identification of the reclining human in our Lascaux scene with a putative element ‘Earth’ seems not too far-fetched.

This identification (to which the Underworld aspect of death lends further credibility – e.g., the Neolithic Mother goddess, and her apparent descendants Athena and the latter’s Egyptian counterpart Neith, have been extensively discussed as *death* goddesses; cf. Gimbutas 1981, 1991, Bernal 1987; Ode 1927) reinforces our suspicion that the scene is a depiction of the four familiar elements. So our next step would be to recognise the bird on a stick as a possible evocation of the element ‘Air’. This leaves the other items, the bison and the woolly rhinoceros, to be identified as evocations of Water / Fire, not necessarily in that order.

In the last few years, in my approaches to prehistoric meaning I have tended to rely on semantic reconstructions based on Starostin and Fleming’s *Borean Hypothesis, and this approach I will apply again in order to try and throw light on the intriguing Lascaux scene. But research is an intersubjective undertaking. So just like we let ourselves be guided by existing scholarly literature which suggested to us the interpretation of the reclining man in terms of the proto-element Earth, let us have a brief glance at the literature on the bison in Palaeolithic contexts, before applying our own idiosyncratic method.

After the horse, the bison is about the most frequently depicted animal in Upper Palaeolithic iconography, which suggests that it was important both as food and as symbol. Some of the oldest three-dimensional sculptures in the history of art were in fact figures of bisons (from mammoth ivory, at Vogelherd, Germany; from clay, at Tuc d’Audoubert – Charet 1948; moreover bison representations feature on spear throwers). Perhaps bison imagery even predated Anatomically Modern Humans in Europe:

the life-long explorer of prehistoric thought James Harrod (2010) suggested that the stone block that covers the burial of a Neanderthal child at La Ferrassie, c. 60 ka BP (*cf.* van Binsbergen 2000c with extensive references), had been deliberately given the specific shape of a bison calf. The suggestion is appealing, considering that the first professionally excavated and published Neanderthal skeleton (from La-Chapelle-aux-Saints; Farizy & Vandermeersch 1997 with references) was surrounded with broken bones of both bison and woolly rhinoceros – two animals in our Lascaux image.

The popular mythographer Joseph Campbell (1992: 73 *f.*) somewhat over-confidently claims continuity between the bison myths and rites of Plains Native Americans in historical times, and the bison images of the European Upper Palaeolithic. Yet a plausible case could be made for continuity, through space and time, between the bison astragals used for gambling and divination among Native Americans (Dewez 1974; Culin 1898: 828 *f.*), the symbolic significance of bison in Upper Palaeolithic Europe, and the reliance on astragals for divination both in Graeco-Roman Antiquity, East and Central Asia, and Southern Africa.

Breuil (1909) has suggested a zodiacal analogy between the bisons depicted in the Upper Palaeolithic (although the stupendous Lascaux cave was only to be discovered, decades later, in 1940), and the oldest documented constellations from the Ancient Near East. And in fact, both in Ancient Mesopotamia and in Ancient Egypt was Heaven represented by bovines, *e.g.* the celestial cow in the Gilgamesh Epic, and numerous Egyptian representations from Early Dynastic times on rendering Heaven as a cow.¹⁶⁸ But – to the limited extent to which we may identify the dots as prehistoric representations of stars – there are also other suggestions of the stellar connotations of Upper Palaeolithic bisons: they are surprisingly often associated with dots, in one case (the Marsoulas cave, France) even entirely made up of dots. Peyrony (1934: 76 *f.*, with references) cites several more specific cases from the Franco-Cantabrian region (the caves of Font de Gaume, Pindal, Castillo, Niaux) of the same bison / dots association. Above, reference was made to my hypothesis of an Upper Pa-

¹⁶⁸ Houlihan 1996; Germond 2001; Hendrickx 2002; de Liagre Böhl 1958; Kovacs 1985; Nrmr palette. Also in the Archaic Greek context, with Homer (*e.g.* *Odyssey*, I, 8), the Sun god / Sky owns *cattle*, to the detriment of Odysseus' companions.

laeolithic Mother Goddess as Mother of the Waters, parthenogenetically producing Land and being subsequently fertilised by the latter; in this respect she may have been the Mother of the Waters Above, in other words mistress of a still dimly conceptualised Heaven. This may explain why so many Upper Palaeolithic bison representations involve *women*: the Venus of Laussel holding a bison horn calibrated for thirteen lunar months; and representations of pregnant women or women giving birth near or on bisons (the sites of La Madeleine, Angles-sur-l'Anglin, and L'Abri du Facteur at Tursac; Delporte 1968; Straffon 2007; Soetens 2008). Palaeolithic bison / Goddess connections were also recognised by Kelley Hays-Gilpin (2003: her Fig. 3.4). We will soon see how excellently all this tallies with the interpretation of the prehistoric bison as emanating from my *Borean-inspired linguistic approach to the Lascaux scene: as the element Water.

Although called to question by Conkey (1984), who rejects the idea of a standard and repetitive 'mythogram' allegedly reflecting regionally wide-spread cultural premises, and by Groenen (*e.g.* 1990), who chides Leroi-Gourhan for inconsistency and incompleteness, yet our present perspective is greatly reinforced by what Bouissac (2006) summarises as

'Leroi-Gourhan's theory (1967) according to which Pyrenean hand configurations [hand contours stencilled on the rock face – WvB] would encode *the four basic animal symbols (bison, horse, ibex and deer)* and recreate, in a sort of hand language, the distinctive collocations of these zoomorphs in other caves in the same broad cultural area.' [italics added – WvB]

In other words, already nearly half a century ago a leading prehistorian recognised the bison as one of a foursome with widespread symbolic significance – which implies an element cosmology although the other members of the foursome were defined differently from what we seem to find at Lascaux.

Let us now try and use the same state-of-the-art, long-range, comparative linguistics which led us to identify the reclining human as Earth, in order to determine which of the pair bison / woolly rhinoceros might be Water and which Fire, and add further credibility to our identification of the bird on a stick as Air. Given the fact that no direct speech material has been transmitted to us from the Upper Palaeolithic, our tentative answer to this

virtually unanswerable¹⁶⁹ question will have to be in stages.

- In the first stage, and merely for the sake of the argument and in our groping for a method, we will act on the basis of the simplifying, not to say erroneous, assumption that the language of the Lascaux Upper Palaeolithic environment was identical with *Borean, reconstructed for Central Asia perhaps 8 ka earlier in the Upper Palaeolithic, around 25 ka BP. This heuristic point of departure will prove fruitful in that it brings out a number of unexpected linguistic aspects of the Lascaux scene which can hardly be attributed to chance¹⁷⁰ – suggesting, on the contrary, that it is certainly a felicitous guess to approach the Lascaux scene with the idea of an element cosmology, and attributing to it a linguistic environment akin to that reconstructed for *Borean. These linguistic results, however preliminary and based on somewhat anachronistic assumptions, will be listed and analysed in Table 6.3.
- In the second stage we will correct the reductive artificiality of the first step with the more realistic assumption that, c. 17 ka BP, we find ourselves in a linguistic environment characterised by the early disintegration of *Borean, which, in Western Eurasia at the

¹⁶⁹ Provided we do not lose sight of the great uncertainty implied in the word ‘conjecture’, we will let ourselves be led by Thomas Browne’s (1658) adage which also inspired Graves (1988 / 1948) in his visionary though un-methodological and controversial reconstruction of several millennia of poetic myth:

‘what song the Sirens sang, or what name Achilles assumed when he hid himself among women, though puzzling questions are not beyond all conjecture’.

¹⁷⁰ Not to chance, yet perhaps there is an inherent circularity built into my method here: hoping to find a familiar four-element system, that is what I set out to find, and what, predictably given my experience in the handling of the *Borean vocabulary, I do find... A similar circularity might be said to underlie Table 6.1. This does not greatly alarm me, since methodological problems of this nature are the rule rather than the exception in the humanities and social sciences – to which also the study of pre- and protohistorical thought systems belongs. In learning a foreign life world, one initially blunders into a fragmentary and partial understanding of one small symbolic complex, then erroneously one generalises its putative meaning for much larger complexes and for the life world as a whole, and then in a painful process of trial and error in constant feed-back from the raw data at hand (which is why nothing can beat participatory fieldwork as a heuristic strategy, despite all its limitations: then the host population constantly offers feedback that cannot be ignored, often in the form of ridicule and rejection), through constant re-triangulation, one gets nearer to a proper understanding and to the proper scope of that understanding.

time, is likely to have led to the dominance of *proto-Sino-Caucasian as one of the proposed offshoots of *Borean.¹⁷¹ The Sino-Caucasian linguistic macrophylum today has its region of concentration in East Asia (the Sino-Tibetan phylum), but besides has been proposed to include North Caucasian (in the Caucasus region of Western Central Eurasia), Yenisseian (Northern Eurasia), and the small surviving language isolates of Basque (Franco-Cantabrian region) and Burushaski (Pakistan) – whereas the Na-Denē languages of North America (Tlingit, Athabascan-Eyak, the latter including Southern Athabascan languages such as Navaho and Apache) are generally considered to be close to Sino-Caucasian. It is the Sino-Caucasian macrophylum, particularly, that has been proposed for the artists of the Franco-Cantabrian archaeological complex of the painted caves (*cf.* Bertranpetit & Cavalli-Sforza 1991; Cavalli-Sforza *et al.* 1994). Our above application of the *Borean linguistic reconstruction implied a distortion of c. 8 ka off in time and thousands of kilometres too far to the West, in space. Meanwhile, however, the erroneous *Borean possible identifications of the names of the proposed four elements at the Lascaux scene, hint at more plausible, but related, names from *proto-Sino-Caucasian.

- After these steps, which will occupy the rest of this Chapter, we can conclude that there is considerable and converging evidence to suggest that, indeed, a four-element cosmology existed in the Upper Palaeolithic Western Eurasian and can be seen to be depicted at Lascaux.

6.2.2. Analytical step 1. Assuming, for heuristic purposes only, that the Lascaux scene belonged to a *Borean-speaking environment

As a first step, let us peruse the reconstructed vocabulary of *Borean

¹⁷¹ *Cf.* McCall & Fleming 1999; Starostin 1989. In van Binsbergen & Woudhuizen 2011: 77 *f.* a statistical analysis is presented (based on van Binsbergen, in press (b) and reproduced here as Fig. 8.2) that suggests this disintegration to begin by 25 ka BP, first leading to a split between a Central group with Eurasiatic / Nostratic, Afro-Asiatic and Sino-Caucasian, and a Peripheral group consisting of African languages except Afro-Asiatic, Amerind (probably without the Na-Denē cluster), and Austric.

(Starostin & Starostin 1998-2008), and list all reconstructed *Borean terms that could be applied to any of the four proposed elements, Earth / Air / Water / Fire. What determines the eligibility of any of the 1153 reconstructed *Borean lexical items for such application? In principle, we are looking for the intersection between two sets of *Borean lexical items:

1. those that on purely semantic grounds could correspond to Earth / Air / Water / Fire;
2. those that would apply semantically to the four depicted items human / bison / bird / woolly rhinoceros.

Let us realise, once more, that the link between any of the four items in (1) and any of the four items in (2) is by and large arbitrary and not intrinsic. Durkheim's (1912) famous thesis of the arbitrary nature of (religious and cosmological) symbols should guide us here, even though Peter Worsley (1967) has already reminded us, above – rightly, but not devastatingly – that the abstract, Kantian / Cartesian rationalism that underlies Durkheim's and Lévi-Strauss' approach does not quite take into account the economic and nutritional value of the totemic animals for the Australian Aboriginals whose ethnography inspired these two French authors. We are dealing here with 'primitive' (in the sense of 'early') forms of 'classification' (*cf.* Durkheim & Mauss 1901), where items in the natural, especially animal, world are pressed into symbolic service not for any intrinsic features which these items may have, *but for their ability to guide our thought*, and ultimately – once human thought has already reached the level of systematic, consistent binary opposition, beyond 'range semantics' and recursion (van Binsbergen & Woudhuizen 2011: 147 *f.*; and below, pp. 204 *f.*) – to serve as pegs on which to hang the binary oppositions that together constitute a cosmology. Just like in our analysis of Nkoya clan nomenclature in Chapter 2, we ought to heed Lévi-Strauss's (1962a, 1962b) famous words, reiterating Durkheim's view on the arbitrary, superimposed nature of symbols: *animals are used as symbols not because they are good to eat, but because they are 'good to think'.*

The juxtaposition of human and animal, in the Lascaux scene, can be said to revolve in the first place on the binary opposition of spatial freedom / spatial boundedness: birds can move in three dimensions and be free from

the earth, and thus move in the Air – humans can move in only two dimensions, remaining (at least by Palaeolithic technological conditions prevailing until Early Modern times brought the Montgolfier air balloon) tied to the Earth.

The juxtaposition between bison and woolly rhinoceros is less directly apparent to our Modern thought, preconditioned as the latter is by the scientific classifications of universalist-orientated, global biological science. Both species can be said to be ‘horned’ – the bison head having two horns perpendicularly straddling the length axis of its body, the woolly rhinoceros having likewise two horns but situated along the length axis, and closer to the mouth. By Modern scientific classification, both bison and woolly rhinoceros are ungulates, but the bison’s slender legs and feet, and its general bovine appearance, convey its ungulate / hoofed nature much more clearly than the woolly rhinoceros does. Why bison and woolly rhinoceros should be symbolically associated with Water and Fire is not immediately clear from their natural features, feeding habits and habitat – both are herbivores at home in the relatively dry savannah, and while both are huge, formidable and intimidating by human standards hence qualify as evocations of Fire, neither lives in or near the Water. Perhaps their elemental association depends on an aetiological myth to which we have no longer access, or which if surviving among mythical materials recorded and published in historical times would be very hard to recognise as stemming from Upper Palaeolithic element mythology.

Another possibility, which we can to some extent explore with the reconstructed prehistoric lexical material at our disposal, lies in the apparent polysemy of *Borean lexical items. While comparative historical linguistics now claims to be able to reconstruct the consonant structure of words, resulting in the extensive reconstructed *Borean vocabulary as revolving on two or sometimes three consonants (C_1, C_2, C_3), it is still impossible to reconstruct the vowel structure. Since many combinations of vowels (V_1, V_2, \dots, V_n) can fill the same skeletal consonant structure $C_1[V]C_2[V]$, *Borean words that look unitary on paper, e.g. *T[V]K[V], in fact imply a whole series of what we could call ‘consonantal homonyms’: *T[V₁]K[V₁], *T[V₁]K[V₂], *T[V₁]K[V₃], *T[V₁]K[V₄], *T[V₂]K[V₁], *T[V₂]K[V₂], etc. – in short: *T[V_{1...n}]K[V_{1...n}], each with its specific vowel structure and semantics (here

T and K are actual, specific consonants, and V is an unspecified vowel). If the structural opposition between bison and woolly rhinoceros remains minor and if we lack any aetiological myth to elucidate that opposition, we might still act on the assumption that bison and woolly rhinoceros have been selected as animal symbols not in their own right but because of *punning*, *i.e.* because some ‘consonantal homonyms’ of the *Borean words directly applicable to bison and woolly rhinoceros, in fact have a specific association with either Fire or Water. In the light of the comparative evidence of how early cosmologies are composed and work, this is a weak but acceptable assumption, and, with all the unmistakable uncertainties attached, it will yet prove very productive.

It is simple to scan the list of *Borean lexical reconstructions for Earth-related lexical items. We should cast our net fairly widely, so as to include in our analysis items in which the ‘earth’ semantics is merely implied, *e.g.* *HVMGV, ‘dust, earth’ and *PVNV, ‘clay, mud’.

For Air the situation already becomes more complicated. In the reconstructed vocabulary of *Borean, only one lexical item has been identified that could be equated with Air: *HVKMV, ‘Sky, cloud’. This should not greatly surprise us: the high tide of *Borean can be argued to coincide with the period of the earliest emergence of shamanism and of naked-eye astronomy – Heaven was still in the process of being ‘discovered’ (Mulisch 1992), *invented*, and therefore the dominant cosmogony, as far as we can make out through the mists of time, was still that of the Separation of Land and Water, and not yet that of the Separation of Heaven and Earth. Of course this is ultimately a reason to leave Step 1 behind and proceed to Step 2 which is *c.* 8 ka more recent. However, as long as we pretend to dwell at Step 1, we will have to make shift with other lexical items whose semantics comes close enough to ‘Air’. This is in the first place *NVPV, ‘smoke / cloud’. Further the *Borean terms for ‘bird’ (/ ‘fly’) or for specific birds.¹⁷² From the bird vocabulary it is only a small

¹⁷² Few *Borean bird names can be identified by family or even species: only crane, goose, duck, and gallinaceous birds (such as partridge, quail, and hen, which are heavy-bodied, feed on the ground, and scarcely given to flying). Here it is remarkable that goose and duck, especially if white-feathered, appear in the Bronze Age as symbols of a postulated mythical female creator for which I have proposed the generic term ‘Mother of the Waters’ and which probably goes as far back as the Upper

step to ‘feather’, which also in other context (e.g. Ancient Egypt:  Šw / Shu) represented Air. And finally we could look at a cluster of words with the semantics ‘to blow, winnow’ and ‘to stand, rise up’.

The reconstructed *Borean vocabulary does not contain specific lexical items for ‘bison’ and ‘woolly rhinoceros’. Again we have to approximate the possible *Borean term by taking semantically akin words such as ‘bovine’, ‘hoof’, ‘ungulate’ – the first two of which at least distinguish the bison from the woolly rhinoceros. At Lascaux the bison’s horns are emphatically depicted, aiming at the reclining man, but – unless the Upper Palaeolithic perception of the rhinoceros is completely different from our Modern one – ‘horn’ or ‘horned’ is also a concept applicable to the rhinoceros, *i.e.* ‘the animal that carries a horn on its nose’. Here the *Borean lexicon hints, through a series of ‘consonantal homonyms’, at an association of the bison with Water, and – in the same indirect and conjectural way – of the woolly rhinoceros with Fire. For, of the *Borean terms applicable to the bison in terms of above discussion, as many as three combine a bison-semantic aspect (‘hoof, ungulate’) with a liquid semantic aspect (‘liquid, wet’): *CVTV, *LVVV, *MVRV. Only two potentially bison-applicable terms also contain a Fire aspect among their consonantal homonyms (*HVRV, with ‘light, burn’; *PVRV, with ‘burn’), whereas the semantics of some of the ‘consonantal homonyms’ of *TVKV, potentially apply to bison / Water, but also to Fire, Earth and Air. In regard to the woolly rhinoceros the same situation obtains: the semantics of the potentially applicable *Borean terms turn to a combination of rhinoceros features (horn) with ‘burn’, with some but little overlap with the bison / Water semantics. While realising that applying *Borean to Lascaux is an anachronism, we end up with a cosmology in which the four items of our Lascaux scene can be fairly unequivocally be interpreted as follows:

(continued p. 197)

Palaeolithic; whereas the gallinaceous birds have all the characteristics to qualify as symbols of the Land or Earth (van Binsbergen & Woudhuizen 2011: 354*f.*), where I propose that a major Upper Palaeolithic cosmogonic myth started out with a virgin Mother of the Waters who gave birth to her only son, the Land, and then was impregnated by the latter so as to produce all other aspects of reality. The *Borean bird vocabulary, selectively specifying only a few birds that are relevant in terms of this cosmogonic myth, suggests that that myth was already building up in *Borean times.

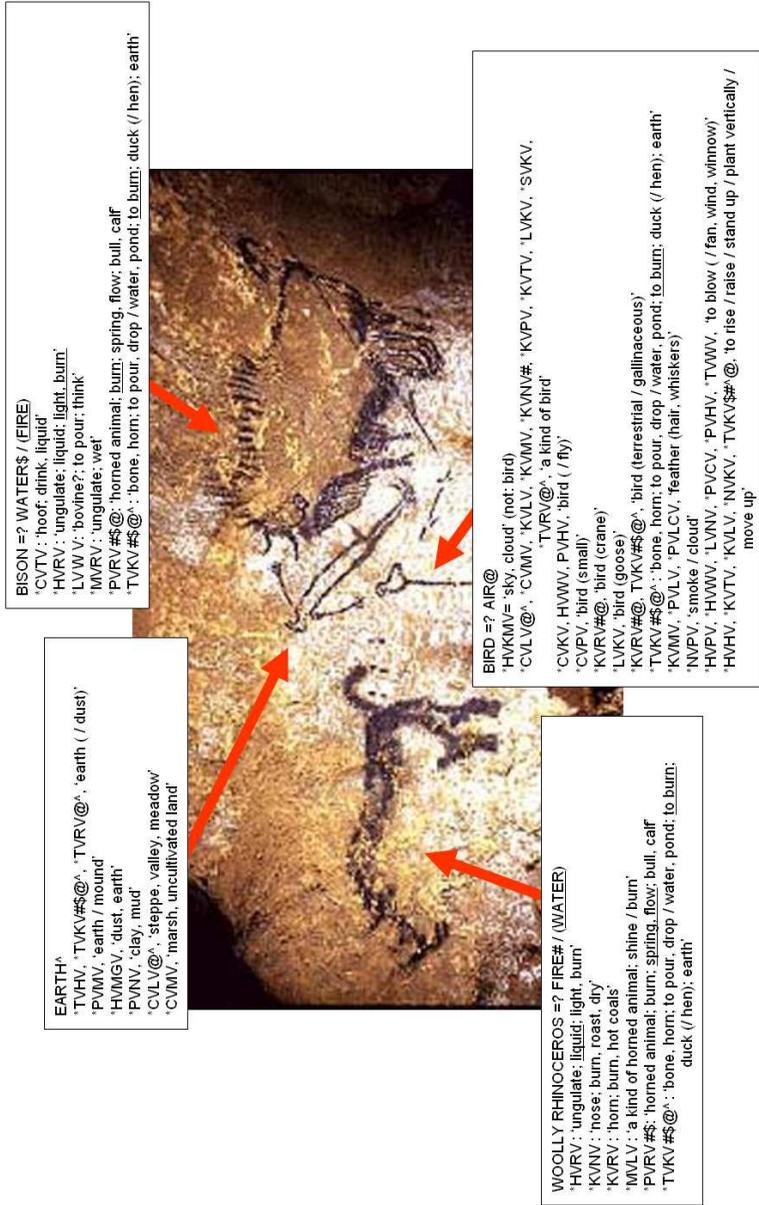


Fig. 6.2. Analytical Step 1: *Borean applied to Lascaux.

- Earth: human
- Air: bird
- Fire: woolly rhinoceros,
- Water: bison.

These provisional, admittedly somewhat anachronistic identifications are displayed in Fig. 6.2.

6.2.3. Analytical step 2. Situating the Lascaux scene in a proto-Sino-Caucasian environment

If we now correct the anachronism and dislocation on which Step 1 was predicated, and return to the Franco-Cantabrian region c. 17 ka BP, we may use the provisional results of Step 1 and transfer them to the proto-Sino-Caucasian environment that supposedly existed at that place and time. We do this by ascertaining whether the *Borean etymons identified (with enormous uncertainty, I cannot repeat it too often) in Step 1, have any detectable reflexes in proto-Sino-Caucasian. If they do not, we are up a dead alley, and should retrace our steps. If they do, and if the attending semantics are still compatible with a four-element cosmology, that would be encouraging, although nothing more than that. The results of Step 2 are listed in Table 6.3. They may be summarised as follows:

- in a proto-Sino-Caucasian reflex environment, *TVRV loses its bird / Air nature and in Step 2 could only apply to Earth;
- in a proto-Sino-Caucasian reflex environment, *CVLV may retain its combined Earth / Air connotations, as in Step 1;
- in a proto-Sino-Caucasian reflex environment, *KVRV loses its Fire nature, as well as that of a gallinaceous bird (with implied Earth connotations), but its general bird / Air connotations may be retained in Step 2;
- in a proto-Sino-Caucasian reflex environment, *HVRV loses its ‘ungulate’ nature (presumably associated with Water), yet retains its ‘liquid’ / Water nature as well as its ‘light, burn’ / Fire nature – the polysemic ambiguity of Step 1 is retained;
- in a proto-Sino-Caucasian reflex environment, *PVRV may retain its ‘horned animal’, ‘calf, bull’ and ‘spring, flow’ / Water nature, but loses its ‘burn’ / Fire nature – *in other words, the association with Water / bison as found in Step 1 is confirmed for Step 2.*

- in a proto-Sino-Caucasian reflex environment, *TVKV loses the connotation ‘bone, horn’, but it retains all other connotations which makes it potentially an overarching name for all four elements Earth / Air / Water / Fire.

<p>1. Borean *TVRV as etymon of a proposed Sino-Caucasian name for proto-elements EARTH or AIR</p>	<p>No reflexes in Sino-Caucasian; only in Proto-Eurasianic : *KVwrV</p>
<p>1.1. ‘earth, dust, powder’ Proto-Sino-Caucasian: *tVrV, ‘dust, dirt, powder’ Comments and references : (...) different in Starostin 1991: 30, Starostin n.d.: 19. 1.2. ‘a kind of bird’ No reflexes in Sino-Caucasian. Only in: Proto-Eurasianic : *tVrV / *tVrVrV Proto-Afroasiatic : *tʰayr-</p>	<p>Proto-Afroasiatic : *kwVr- ‘partridge, hen’ (Sem[itic], Chad[ic]) Proto-African (misc.) : Cf. Bantu *-kódj ‘kind of hawk’, *-küädí ‘kind of partridge’. San. karure ‘duck’. Reference : Dolgopolski n.d.: 933, 1201.</p>
<p>2. Borean *CVLV as etymon of a proposed Sino-Caucasian name for proto-elements EARTH or AIR</p>	<p>4. Borean *HVRV as etymon of a proposed Sino-Caucasian name for proto-elements FIRE or WATER</p>
<p>2.1. ‘a kind of bird’ Proto-Sino-Caucasian : E[ast]C[aucasian] *ʔVms_wəlʔə (~ -tʰ-) (cf. also *čHwīV) Reference : Dolgopolski n.d.: 2199. Also reflexes in: Proto-Eurasianic : *SVlWV Proto-Afroasiatic : *šVlVw ‘quail, fowl’ (Sem[itic], Chad[ic]) [+ Sem[itic] *šVlšVl-] 2.2. ‘steppe, valley, meadow’ [≈ earth] Proto-Sino-Caucasian : *sdə[ʃ]V Also in: Proto-Eurasianic : *ColV</p>	<p>4.1. ‘ungulate’ No reflexes in Proto-Sino-Caucasian; only in Proto-Eurasianic : *ʔirV Proto-Afroasiatic : *ʔay/wr- (also Sem[itic] *yVr- ‘kid, calf, goat’, see Dolgopolski n.d.: 2646) Reference : Dolgopolski n.d.: 143, 2646. 4.2. ‘liquid’ Proto-Sino-Caucasian : *hwīr Also reflexes in: Proto-Eurasianic : *GurV Proto-Afroasiatic : *rūw- (see Dolgopolski n.d.: 2002 *rVw/y-), *wVr- (Dolgopolski n.d.: 2509) Proto-Austrianic : *hVʔr Proto-Amerind (misc.) : *re ‘water’ (Ruhlen n.d.: 824) (...) Reference : Illich-Svitych 1967: 341; Dolgopolski n.d.: 2509; Peiros 1989: 127. 4.3. ‘light, burn’ Proto-Sino-Caucasian : *=VhwV, *HvrV, *hwēri (perhaps two roots) Also reflexes in: Proto-Eurasianic : *Howri Proto-Afroasiatic : *ʔur- (also *ʔur- ‘burn, be hot’); Sem[itic] *hVwr- ‘bright, white’; S[outh]Sem[itic] *ʔary- ‘moon’ (also S[tandard]H[ausa] *hīr- ‘star’, Berb[er] *jur- ‘moon’), Sem[itic] *warx- / *yaryx- ‘moon’, Eg[yp]tian i[ʃ]id[em]</p>
<p>3. Borean *KVRV as etymon of a proposed Sino-Caucasian name for proto-elements AIR or FIRE</p>	<p>Proto-Austrianic : P[roto]A[ustro]N[esian] *waRi ‘day, sun, dry in the sun’; P[roto]Austro]A[siatic] *hiej ‘moon’ Notes : Cf. [*Borean *]HVRV ‘early, morning’.</p>
<p>3.1. ‘horn’ Proto-Sino-Caucasian : *χqwrhV Also reflexes in: Proto-Eurasianic : *kirV Proto-Afroasiatic : *kar- Reference : Dolgopolski n.d.: 1130. 3.2. ‘burn, hot coals’ No reflexes in Sino-Caucasian; only in: Proto-Eurasianic : *gUrV Proto-Afroasiatic : *gur- (also *gir- 1287, 2055) Proto-African (misc.) : Bantu *-kādā ‘embers, charcoal’. Reference : Illich-Svitych 1976: 1, 239, Dolgopolski n.d.: 686. 3.3. ‘a kind of gallinaceous bird’</p>	<p>Proto-Austrianic : P[roto]A[ustro]N[esian] *waRi ‘day, sun, dry in the sun’; P[roto]Austro]A[siatic] *hiej ‘moon’ Notes : Cf. [*Borean *]HVRV ‘early, morning’.</p>

<p>Reference : Dolgopolski n.d.: 74, 2603. A lot of confusion that has to be sorted out (in Austric cf. also *ʔrVw dry, P[roto]Austro]A[siatic] *ʔur ‘warm’).</p> <p>5. Borean *PVRV as etymon of a proposed Sino-Caucasian name for proto-elements FIRE or WATER</p> <p>5.1. ‘horned animal’</p> <p>Proto-Sino-Caucasian : S[ino-]T[ibetan] *bhVr (?) ‘goat, sheep’, N[orth]C[aucasian] *bħəŋ_ wV (~-ʃ-) ‘cattle’?</p> <p>Also reflexes in:</p> <p>Proto-Eurasiatic : *bVrV</p> <p>Proto-Afroasiatic : *(ʔa-)bVr(Vy/w)- (cf. also *birk-)</p> <p>Reference : Dolgopolski n.d.: 225a.</p> <p>5.2. ‘burn’</p> <p>No reflexes in Proto-Sino-Caucasian, only in:</p> <p>Proto-Eurasiatic : *pVrV</p> <p>Proto-Afroasiatic : *biʔar- ?</p> <p>Notes : ? Same root as *PVRV ‘shine, bright’.</p> <p>5.3. ‘calf, bull’</p> <p>Proto-Sino-Caucasian : ? S[ino]T[ibetan] *bħrōŋ ‘cattle’</p> <p>also reflexes in:</p> <p>Proto-Eurasiatic : *pVrV (~ p-)</p> <p>Proto-Afroasiatic : *ʔa-pVr-</p> <p>Reference : Dolgopolski n.d.: 1783.</p> <p>5.4. ‘spring, flow’</p> <p>Proto-Sino-Caucasian : ? P[roto]S[ino]T[ibetan] *P[ü]r ‘gush forth, jet’</p> <p>Also reflexes in:</p> <p>Proto-Eurasiatic : *bira (*bujra)</p> <p>Proto-Afroasiatic : *bVʔr- (but also *bVħr-?)</p> <p>Reference : Illich-Svitych 1967: 369, Dolgopolski n.d.: 225, 253.</p> <p>6. Borean *PVRV as etymon of proposed Sino-Caucasian names for proto-elements FIRE, WATER, EARTH, AIR</p> <p>6.1. ‘earth’</p> <p>Proto-Sino-Caucasian : *[t]VQV</p> <p>also reflexes in:</p> <p>Proto-Eurasiatic : *DVG-</p> <p>Proto-Afroasiatic : daʔ*-</p>	<p>Proto-Austric : P[roto]A[ustro]N[esian] *bitak, *-tak, *litek ‘mud; earth, ground’, ?P[roto]A[ustro]A[siatic] *tVk ‘sticky’</p> <p>Proto-Amerind (misc.) : *tVk- ‘dirt’ (Bengtson & Ruhlen 1994: 42)</p> <p>Proto-African (misc.) : Bantu *-tākà ‘soil’.</p> <p>Reference : Illich-Svitych 1967: 342; Bengtson & Ruhlen, 1994: 42 *tika (+ ?N[orth]C[aucasian], ?N[ilo]S[aharan]).</p> <p>6.2. ‘bone, horn’</p> <p>No reflexes in Proto-Sino-Caucasian, only in:</p> <p>Proto-Austric : *dUk</p> <p>6.3. ‘to pour, drop’</p> <p>Proto-Sino-Caucasian : *[t]Hänkō</p> <p>also reflexes in:</p> <p>Proto-Eurasiatic : *tUKV</p> <p>Proto-Austric : P[roto]A[ustro]N[esian] *itik, P[roto]A[ustro]A[siatic] *tVk ‘drop’</p> <p>Proto-Amerind (misc.) : *tokʷ ‘saliva; spit’ (Ruhlen n.d.: 590) (...)</p> <p>Reference : Peiros 1989: 128.</p> <p>6.4. ‘water, pond’</p> <p>Proto-Sino-Caucasian : *dVgV</p> <p>also reflexes in:</p> <p>Proto-Austric : P[roto]A[ustro]A[siatic] *dʔiak ‘water’, Tai ʔdik ‘swim’</p> <p>6.5. ‘to burn’</p> <p>Proto-Sino-Caucasian : *dVkʷV</p> <p>also reflexes in:</p> <p>Proto-Eurasiatic : *dekO</p> <p>Proto-Afroasiatic : *tukaʔ- ??</p> <p>Proto-Amerind (misc.) : *tuk ‘burn’ (Ruhlen n.d.: 99) (...); *toki ‘day, sun’ (Ruhlen n.d.: 706)</p> <p>Reference : Illich-Svitych 1967: 337; Bengtson & Ruhlen, 1994: 114 *toka.</p> <p>6.6. ‘a k[ind] of duck or hen’</p> <p>Proto-Sino-Caucasian : *dVg(w)V</p> <p>also reflexes in:</p> <p>Proto-Eurasiatic : *tVkv</p> <p>Proto-Austric : *tVk</p> <p>Proto-Amerind (misc.) : ?? *tuku ‘owl’ (Ruhlen n.d.: 536); rather *takaka ‘quail’ (Ruhlen n.d.: 563)</p>
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Table 6.3. Searching for Sino-Caucasian reflexes of the *Borean roots indicated in Fig. 6.2.



Source: Lucas 2006

Fig. 6.3. Lascaux 'unicorn'.

It is my contention that by these two steps, however stumbling, the presence of a four-element cosmology at Lascaux is rendered highly plausible.¹⁷³

6.3. Element systems in the African Palaeolithic?

Although it is a legitimate and obvious question, in the context of the present book, to ask if there is any prehistoric iconographic evidence from sub-Saharan Africa that could be convincingly interpreted in terms of an element cosmology, I am not ready at this time to try and provide an answer. Some of the iconographic material may be at hand. What we would be looking for is

¹⁷³ Another image from Lascaux possibly relevant from a point of view of element cosmology and transformation cycle, is displayed in Fig. 6.3. The prominent French prehistorian Rigaud (1988) described it in the following terms:

‘creature of imagination has the hind end of a bison, the belly of a pregnant mare, the front paws of a feline, a “mottled” [speckled!] hide, and two straight horns...the profile of a bearded man’

- a fairly compact arrangement involving a *series*, *i.e.* a limited number of systematically different items (or clusters of identical items) shown in some kind of order or interaction
- against the background of an reasonably well document iconographic, linguistic, mythical and archaeological material that would make the interpretation in terms of an element system more than simple wishful thinking.

A number of candidates come to mind for further exploration (but that will have to be outside the present book), four of which I present in Fig. 6.4:

1. The incised Blombos Cave red ochre block, South Africa, Middle Palaeolithic (c. 70 ka BP),¹⁷⁴ which although not quite meeting the above minimum specifications still offers about the oldest attestation world-wide of a systematically varying repetitive geometrical arrangement; elsewhere (van Binsbergen 2011f) I have interpreted, with reference to extensive circumstantial evidence, the pattern as an evocation of the rainbow or rainbow snake, which in itself is a natural phenomenon meeting our above requirements (seven distinct colours constituting a series), while colour symbolism of the elements is widespread in historical periods. (In this connection it is worth remarking that in a cave at Tsodilo Hills, North-western Botswana, a giant three-dimensional, pocked snake representation was found from the same period; Coulson *et al.* 2011).
2. A richly worked Middle Palaeolithic engraved stone plaque from the Kalinien (*cf.* Chavaillon 1997) archaeological complex, Angola. Janmart (1946) describes this small plaque and its signs in the following terms:

‘...La pierre perforée. La perforation a été faite avant la gravure, comme le prouvent certains traits du dessin qui y pénètrent. L’orifice a été fait par piquetage. Seule la partie la plus étroite a été égalisée en y faisant tourner un morceau de bois ou une pierre allongée.

La fig. (...) montre la nature des dessins, qui semblent avoir été exécutés au moyen d’un éclat tranchant de roche dure. J’y distingue: une figure humaine à couvre-chef empenné (1) une vulve (2), une figure

¹⁷⁴ *Cf.* Henshilwood *et al.* 2001, 2002; Watts 2009. Image:
<http://cogweb.ucla.edu/ep/Art/BlombosOchre.jpg>, with thanks .

oblongue à allure géométrique (3), un phallus (4) en partie creusé dans la plaque, un schéma d'homme assis (5) à côté d'une personne de sexe non indiqué (le graveur s'est amusé à creuser la partie du zig-zag qui touche à l'orifice), un zig-zag multiple (6), dont les éléments ne sont pas très rectilignes, figure que l'on interprète habituellement comme un groupe de femmes assises, un petit ovale auquel sont accolées des lignes droites (7), figure que j'interprète comme un homme debout, un poing sur la hanche et, enfin, diverges lignes droites et courbes s'intersectant pour créer des dessins divers.'

One must suppress, at this stage, the temptation to try and assign element connotations to these seven items and to critique Janmart's interpretation; without elaborately constructed context that would be futile.

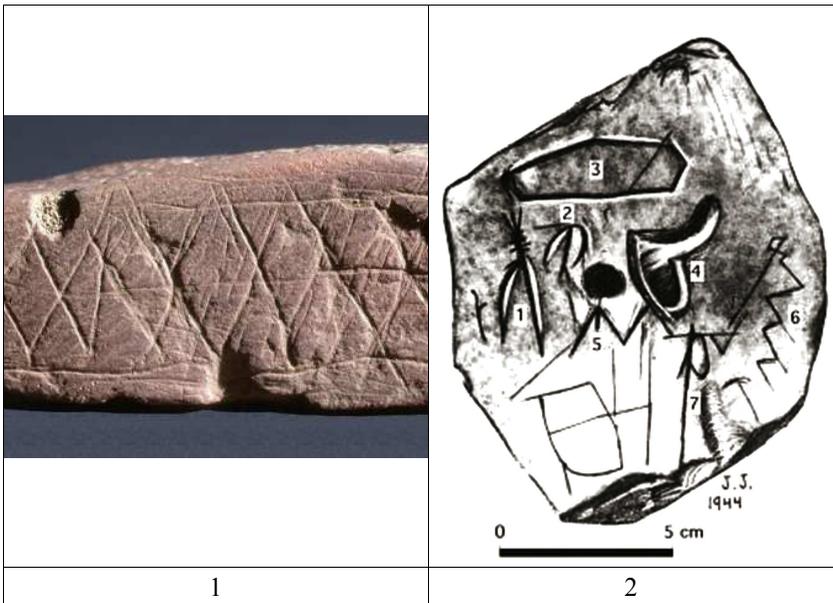
3. A rock painting near Harare, Zimbabwe, which meets our above requirements but is much younger than the other two examples, – probably only a few ka BP (Frobenius 1931: Fig. 31, p. 315). Against an impressive review of Bantu-speaking astronomical myths, von Sicard (1968) interprets this image in terms of a Bantu-speakers' astronomical myth: the hero (marked by crescents in his hair) and two companions cross Ntande's bridge [equated with the celestial axis]; the eared elongated creature in the upper right-hand quadrant is interpreted as the Milky Way, *gwara raKuruvi*, 'the Path of Luwe' – Luwe is a name for the widespread unilateral mythical character we have encountered *passim* in the present book (von Sicard 1968; van Binsbergen 2010a). Such a reading assumes that realistic (river crossing) and symbolic elements (Milky Way as snake) mix freely in this kind of representation. It also assumes that, across more than 1000 km the Luba (Congo) spider-like mythical character Ntande, with his legendary bridge, may be invoked to explain a rock painting in Zimbabwe. Considering the emphasis, in recent decades, on the trance interpretation of Southern African and Franco-Cantabrian rock art,¹⁷⁵ we might drop the idea of a river crossing and interpret the figures' progress, on all fours, along 'Ntande's bridge' as standard shamanic progress along the celestial axis. But even so, the arrangement of seven or eight (2ⁿ) anthropomorphic figures bottom left, a snakelike image top right, specifically hatched fields reminiscent of a bee swarm,

¹⁷⁵ Cf. Lewis-Williams & Dowson 1988, 1989; Clottes & Lewis-Williams 1996.

water etc., and the vague parallels with more recent iconography which we have considered in the course of our argument, makes further exploration of this image promising.

4. One of the most elaborate and best preserved painted panels of San rock art in Zimbabwe is to be found at Makoni, and has probably a similar age as (3). Garlake, the specialist on Zimbabwe rock art, to whom we owe this figure, interprets (1995) the large reclining figure as an archetypal trancer, his body full of white dots marking potency. His face has the markings of a sable antelope (elsewhere in Garlake's work this suggests a divine, rather than human nature). The vertical emphasis in the image has shamanic overtones, as is the case in (3). But whatever the merits of these interpretations, the complexity of the scene and the clusters of various types of characters make it a candidate for a future analysis of African prehistoric element systems.

Further than this we cannot go at present as far as the African prehistoric indications of element systems are concerned.



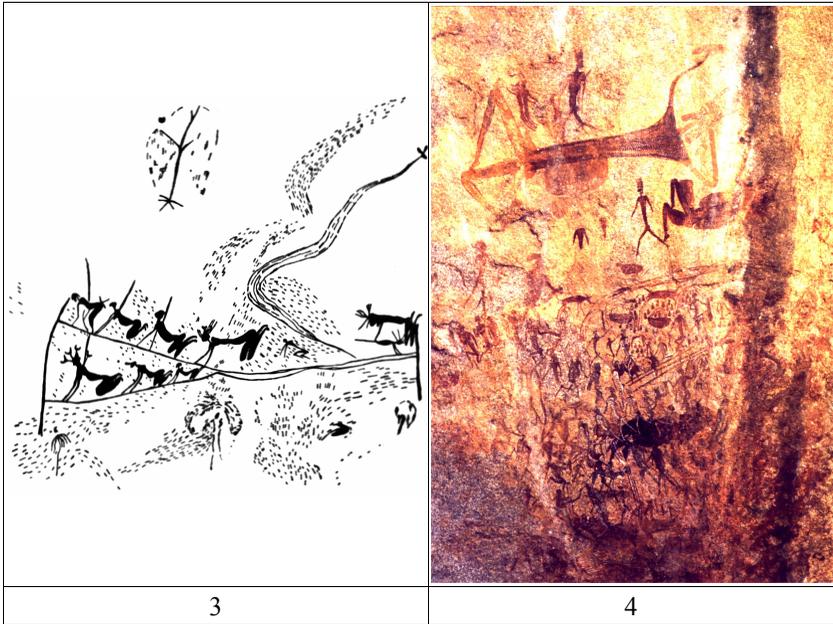


Fig. 6.4. Possible candidates from African prehistory for an iconographic analysis in terms of element cosmology.

After this exploration in the Upper Palaeolithic, let us return to Bronze Age Eurasia, and see if we can cast more light upon the history of correlative systems in that period.

6.4. Between the *Borean-speaking Upper-Palaeolithic and the Late Bronze Age: The transformation cycle of elements as a mode of thought

Although we have no direct documentary evidence on prehistoric modes of thought, comparative linguistics, archaeology, comparative mythology and comparative ethnography offer us increasingly perceptive methods to retrieve ancient thought from pre-literate contexts. In a recent attempt to reconstruct, in space, time and modes of thought, the (probably remotely prehistoric) contexts (probably going back to remote prehistory) to which the mythology of the Flood hero Noah and his sons belongs (*Genesis* 5 to 11), I have extensively used such methods, and forged some new ones

(van Binsbergen & Woudhuizen 2011: 142-153). I cannot reiterate here the data and analysis for limitations of space, but let me summarise the main results.

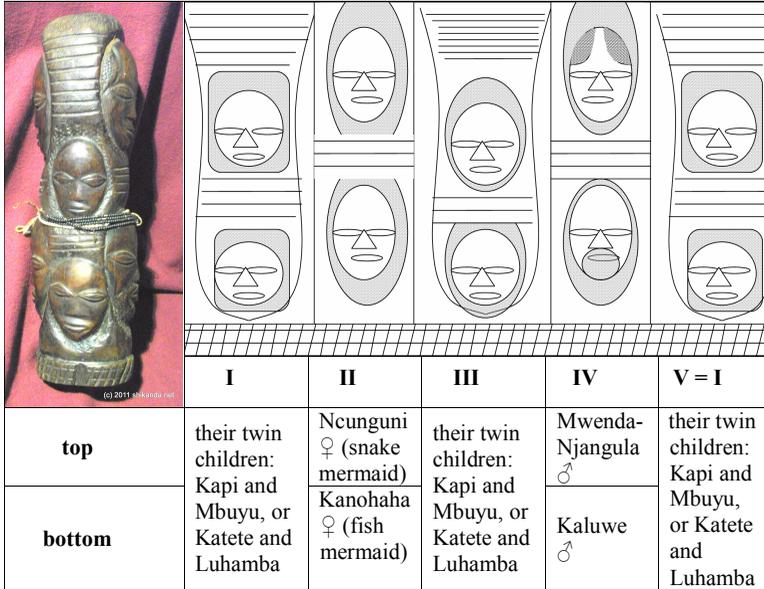
In the first place, close scrutiny of the more than thousand reconstructed lexical roots for *Borean enabled me to identify, for Eurasia in the Upper Palaeolithic, a peculiar mode of thought which I have termed ‘range semantics’:

*Borean reconstructed roots are mainly of the form *CVCV, where C is a specifically reconstructed consonant, V an unspecifiable 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 words (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. Such ‘range semantics’, as a general characteristic of *Borean, reveals a mode of thought that is very different from the triadic mode often found in the literate Eurasian civilisations from the Bronze Age on, and even (because of the fluid range semantics which implies an absence of firm juxtaposition) from the dyadic, binary oppositions which Lévi-Strauss (1962a, 1962b, 1969-78) thought [apparently erroneously] to be a human universal and even the very basis of human culture.’ (van Binsbergen & Woudhuizen 2011: 142).

Thus in *Borean, a particular lexical root may indicate not so much either ‘wet’ or ‘dry’, ‘penis’ or ‘vulva’, ‘dark’ or ‘light’, but *any* specific variable value in the ranges ‘degree of wetness / dryness’, ‘genital of either genders’, ‘degree of lightness / darkness’. *Firm, sustained, consistent, absolute* logical distinctions would thus appear to be post-*Borean. Their emergence and installation, ultimately to become standard, should in the first place be regarded as a result of intensified use of articulate language¹⁷⁶ (and of the socio-organisational, productive and ritual practices facilitated by, and engendering, articulate language) since the Upper Palaeolithic. It might then be correct to say that the subsequent, increas-

¹⁷⁶ Articulate language can be claimed to have been humans’ principal context, and tool, for learning to generate and to handle immensely subtle and complex distinctions – by the phonological principle of *distinctive features* (Jakobson *et al.* 1952), the distinction and use of phonemes and other language elements entirely depends on the dextrous management of binary oppositions.

ing dominance of such binary distinctions in human culture was largely brought about by the pivotal role of increasingly precise and technical language in the context of the *post-Neolithic package of writing, the state, the money economy, proto-science, and organised religion.*

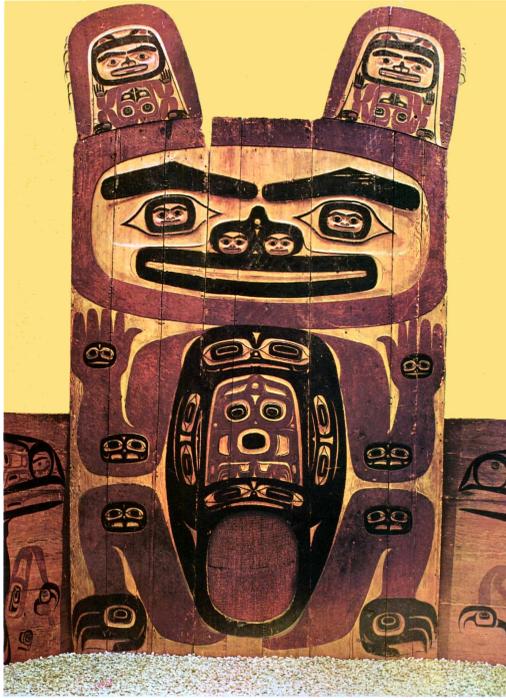


Cf. van Binsbergen 2011e

Fig. 6.5. Recursion in a Nkoya statuette used in a cult of affliction.

Clearly, it was difficult for Upper Palaeolithic thinkers speaking *Borean to make the kind of clear-cut binary oppositions out of which, under the Aristotelian logic of the excluded middle (Aristotle, *Metaphysics*, 4.4), our formal, and especially our scientific, discourse consists in modern times. Even so, the *Borean-speaker's approach to reality was a strongly dyadic one: the only *Borean numerals convincingly reconstructed were 2, 4 and 8 – for it were the names of these numbers only that left traces in the (likewise reconstructed) proto-vocabularies of historic language families. Handicapped in her or his binary thinking, the *Borean speaker's approach to the world's complexity appears to have been in terms of *recursion*, in other words:

'...the situation in which a class of objects or methods [is] defined by a simple basic case and where specific rules derive from, and reduce to, this basic case all other cases. In iconography, repetitive patterns of ornamentation (...) [notably accumulations or concatenations of two twosomes] constitute examples of recursion. In social organisation, segmentation, the segmentary lineage, and the genealogy represented as a dendrogram also amount to recursion.' (van Binsbergen & Woudhuizen 2011: 147n).¹⁷⁷



This large room-dividing screen from the Tlingit of Alaska offers, in its repetition and nesting of the 'eye' motif, excellent examples of recursion (Haberland 1965: Fig. 14)

Fig. 6.6. Large room-dividing screen from the Tlingit of Alaska.

¹⁷⁷ Thus the complementary opposition model applied above in Section 3.2 in order to tackle Nkoya clan nomenclature, is a recursive model; little wonder that it does not satisfy, for the transformative element cycle that I show to be the key of the Nkoya clan system in Section 2.3 operates at a far more advanced and recent level of triadic logic – which, towards the end of this book, will be a reason to consider this triadic model among the Nkoya a recent transcontinental intrusion.

It is the ethnomathematician Ron Eglash (1997, 1998, 2005; *cf.* Fitting 1981) who in his studies of African formal systems of divination and ornamentation, following common mathematical usage, has discussed, under this heading of *recursion*, the endless repetition, through bifurcation of the same phenomenon at successive levels, like a binary dendrogram unfolding infinitely – fractalwise. Here the *apparent* (and structuralists following Lévi-Strauss should heed this point) binary opposition is not a genuine one, because it is neither conclusive nor stable in itself but – as if for fear of the absolute difference implied in the real binary opposition – it keeps endlessly repeating itself, it is merely an invitation to further and further bifurcation.

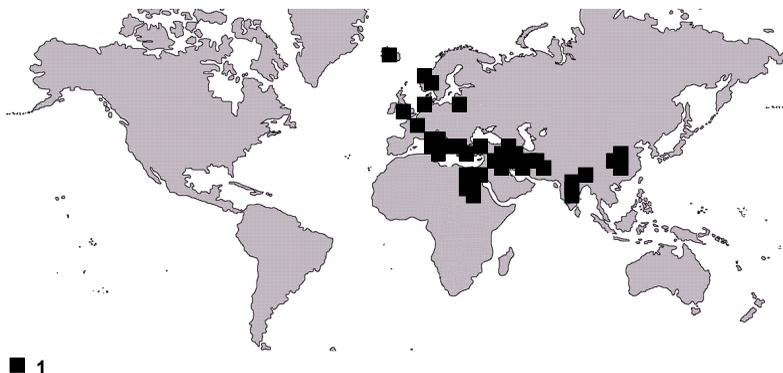
However, out of modes of thought like ‘range semantics’ and recursion, more complex and precise modes must have evolved, for towards the end of the Bronze Age we find, in a narrow belt stretching from Iceland to South Asia and China (our Fig. 6.7), cosmologies, pantheons, socio-political arrangements (Dumézil 1958, 1969) and other formal systems organised in terms, not of more or less thwarted binary opposition, but of *triads*.

‘The triadic format therefore stands out as a regional Neolithic or Bronze Age innovation, underneath of which apparently much older twosomes and four-somes persist. 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 relationships over and over again at an ever increasing or decreasing scale, triads introduce the Heraclitean / 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, and (proto-)science. The ‘Triadic Revolution’ consists in the acknowledgement of a third element in addition to the two that had hitherto constituted the two poles between which the worldview was organised. Typically, therefore, that third element takes the form of a mediator or connection between Heaven and Earth, such as the aether, air, a demiurge, a Child from Heaven descending on Earth (*e.g.* in the form of food crops: Osiris, Dionysus, Jesus), the celestial pole, lightning, rain, etc. One might also look for intermediate forms between Land and Water (the mythically charged ‘Flood land’ Boeotia seems to be a case in point.), but the worldview informed by the cosmogony of their separation was in fact already obsolete when, during the Bronze Age and mainly in its literate polities, the ‘Triadic Revolution’ established itself as standard. Whereas the binary opposition is static in that it, in endless recursion, can only copy its underlying juxtaposition, the triad is immensely dynamic in that, perhaps for the first time in

global cultural history, it offers the mode of thought capable of handling movement, escape from the original juxtaposition, and transformation into something totally new and unexpected – the dynamics of dialectics, such as fathomed, in the history of Western philosophy, first by Heraclitus (Diels [1960 /] 1934-1937), formalised more than two millennia later by the end of the 18th century CE for the first time (Kant), subsequently given a central position in Hegel's ternary logic, and popularised in Chalybaeus' well-known three-stage operation Thesis – Antithesis – Synthesis (Chalybaeus 1860; Hegel 1807 / 1977, 1822-31 / 1992; Kant 1781 / [1983 /] 1964).’ (van Binsbergen & Woudhuizen 2011: 149 *f.*)

The emphasis on twosomes and foursomes, in *Borean, as well as in North American and sub-Saharan African formal systems (including divination, mythology, and social organisation) in historical times, contrasts strikingly with the very conspicuous, ‘Dumezilian’ 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 stands out as a regional Neolithic innovation* (also *cf.* Kaul 2005), underneath of which apparently much older dyadic formats persist, for instance such as inform the Ancient Egyptian Hermopolitan cosmology, the Empedoclean (I submit: Pelasgian) element system of Greek Antiquity, etc. From this point of view, then, the four-element system of Empedocles, based on 2ⁿ recursion and without the triadic element which the catalyst provides in the Taoist transformation cycle of elements (Figs. 3 and 4), is markedly more archaic and less advanced than the Taoist one, and than triadic systems in general.

In their present form, African 2ⁿ-based divination systems (*Hakata, Ifa, Sikidy*; *cf.* Chapter 2) unmistakably have *one major, recent* background in the South West Asian divination system ^c*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 element foursomes (!) play a considerable role (Bouché-Leclercq 1879, 1899; Tester 1987; Pingree 1978; Gadd 1966), each again with three specific planets as astrological ‘rulers’. More important however seems to be that, in a longer time perspective, ^c*ilm al-raml* in turn was informed by, or has a common origin with, the East Asian correlative system of *Yi Jīng*, and that both, along with the African 2ⁿ-based systems, appear to continue an Upper Palaeolithic Old World standard pattern.



Triads seem to be restricted to literate Eurasian mythologies; from: van Binsbergen & Woudhuizen 2011: Fig. 6.5, with referenced data points, p. 152; 1 = triad attested

Fig. 6.7. Global distribution of triads in mythology.

Thus, although first attested in Egyptian and Mesopotamian documents from the Early Bronze Age, the non-cyclic, non-transformational element systems described in the preceding sections follow an archaic pattern reminiscent of modes of thought reconstructed for the Upper Palaeolithic. This raises the question as to how the transition was made from the range-like logic implied in *Borean reconstructions, to the firm, absolute binary oppositions that today, world-wide, govern our lives, technologies, and specialist, academic 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 becoming the absolute norm for human communication (which – Ferdinand de Saussure was right (de Saussure 1968 / 1916) – 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, money, organised religion and proto-science, that has raised domesticated, binary thought to the norm and has banished undomes-

ticated thought¹⁷⁸ 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 semantics’, no firm binary opposition and no genuine transcendence can be thought. It is my contention (van Binsbergen 2012a) that not transcendentalism, but immanentalism 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 immanentalism give way to transcendentalism.* The typical implication of immanentalism 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 *Ewige Wiederkehr des Gleichen* (Nietzsche 1973a, 1973b; Eliade 1954 / 1971). As one essential further step, 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 discussed in Chapter 4, tend to combine recursion in the form of reliance on 2ⁿ, with a cyclic structure of elements. In a transformation 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. being Earth,



Fig. 6.7a. A typical triad: Osiris, Isis and Horus depicted in gold (Osorkon II, first

¹⁷⁸ Lévi-Strauss’ *pensée sauvage / savage mind*, which is the common, everyday, non-specialist form of thinking, and not specifically the thinking of ‘savages’ – the latter being an impossibly obsolete term anyway.

*half 9th c. BCE, now at the Louvre, Paris, France); source:
<http://www.puc-rio.br/louvre/images/iependen.jpg>, with thanks*

just as it may have resulted from an earlier state *e.g.* being 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 firm, genuine binary opposition. Meanwhile, the hints at triads contained in the Taoist and Nkoya versions of the transformative element cycle reveal the relatively recent nature of these systems: they date from the very last few millennia, when the triad as civilisational norm had already established itself.

We may now pinpoint what the ‘peripheral miscomprehension’ of the Presocratics 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.

Let us consider once more my Cosmogonic Hypothesis claiming, for the Upper Palaeolithic during the period of the disintegration of *Borean, a succession of two rival cosmogonies: that of the Separation of Land and Water, supplanted, within a few millennia, by that of the Separation of Heaven and Earth. The scanty, and scattered, empirical evidence for this hypothesis cannot be presented in the present scope. Suffice it here to note that these cosmogonies may well be considered true revolutions of human thought, in the sense that they are

- on the one hand, far more effective exercises in thinking binary oppositions than had been possible under ‘range semantics’, and on the other hand, in that
- they are indications that in learning to effectively think binary oppositions, cosmological thinking in terms of the succession of one element by another proved to be of considerable importance: the cosmogony of the Separation of Land and Water (even if cast in the likely narrative shape – surviving well into literate Ancient times – of the Mother of the Primal Waters parthenogenetically producing her only Son, Land, who subsequently became her lover) is a meditation on the interaction between Earth and Water *as proto-elements*, while (to the extent to which the Sky is to be

equated with Air and / or Fire – a confusion which can still be noted at the level of the Presocratics) the cosmogony of the Separation of Heaven and Earth is a meditation on the interaction between Earth and Air, or Earth and Fire.

Having thus explored (mainly typologically, but also empirically by taking recourse to comparative mythology, comparative religion and comparative ethnography) crucial steps in the pre- and protohistoric unfolding of human thought faculties, we are in a much better position to take a closer look at West Asia in the Bronze Age. Let us now try and assess whether the striking, though partial, parallels between the Presocratics and East Asian correlative systems may have derived from mere independent parallel development, or instead are to be attributed to tangible and demonstrable historic connections between these two ends of the huge Asian continent; and, if in fact cultural borrowing took place resulting in these attested thought systems, whether such borrowing was from East to West Asia, or the other way around. It was the French-British Sinologist A.E.J.-B. Terrien de Lacouperie (c. 1845-1894) who by the end of the 19th century made the case for actual historic indebtedness of China to Ancient Mesopotamia, in a way now almost completely discarded by recent scholarship – often for the Politically-Correct reason that Terrien's claim today appears not so much counter-intuitive, but potentially hegemonic and (to the extent to which Greek and Modern North Atlantic civilisations ultimately may be seen as continuous, in considerable part, with Ancient Mesopotamia) Eurocentric. The present book's argument so far would seem to favour such Political Correctness, but as an essentially ideological position we should not take it at face value. Let us therefore carefully re-assess the case of Terrien de Lacouperie, in the next Chapter.

Chapter 7. Yi Jīng and West Asia: A partial vindication of Terrien de Lacouperie

7.1 Introduction

Throughout our argument so far we have come back to *Yi Jīng*, a classic Chinese wisdom text, the focus of a correlative system that contains a comprehensive cosmology addressing all aspects of human society and the universe, and that is expressed,

- in the first place in eight trigrams (‘figures consisting of three superimposed lines’, each line broken or unbroken), each with their own multidimensional meanings,
- and in the second place 64 combinations of two trigrams superimposed one upon the other – the hexagrams (‘figures consisting of six superimposed lines’), with complex and dynamically shifting (‘changing’) correlative meanings.

When a random generator (a material apparatus producing highly specific and discrete chance outcomes, *e.g.* coins that are thrown, or numbered yarrow stalks that are cast) is coupled to a particular algorithm to translate the chance outcome into specifically one of the 64 combinations, and is interpreted by reference to a catalogue of divinatory meanings, *Yi Jīng* may be used as a powerful oracle, which during most of China’s recorded history has compelled immense respect. *Yi Jīng* became known to Europe (*cf.* Smith 2012) as a result of the communications of Jesuit Christian missionaries working in China from the late 16th century onwards. The famous German mathematician and philosopher G.W. Leibniz (1646-1716 CE; Leibniz 1984), on the basis of Jesuits’ reports from China, was the first to recognise the system’s binary numerical implications.

The idea of an Ancient Mesopotamian origin of the Chinese people¹⁷⁹ and

¹⁷⁹ According to Terrien this postulated people linking Ancient Mesopotamia to China, was named 百姓 ‘Bak Sing’ – the attested (Cantonese) Chinese expression

of *Yi Jīng* was launched, both in well-received lectures before the Royal Asiatic Society, London, and in numerous publications,¹⁸⁰ by the distinguished French-British Sinologist A.E.J.-B. Terrien de Lacouperie, who at the time of his untimely death from typhoid fever was professor of Indo-Chinese linguistics at University College London, one of the principal institutions of higher learning in the United Kingdom. In the present Chapter, after vindicating the stature of Terrien's scholarship and situating it in its own time and age, I will summarise his theory as to the Western origin of the Chinese people and of the *Yi Jīng* in Ancient Mesopotamia, consider its weaknesses, and dismiss his reductionist view

which until then was interpreted as meaning 'the [foundational] Hundred Families' of Ancient China' (cf. de Harlez 1895, where *po-hsing*). Terrien's proposal has been greatly ridiculed, yet its underlying principle is sound, and has a considerable comparative and theoretical foundation (van Binsbergen & Woudhuizen 2011: Ch. 2): when ethnonyms and toponyms travel, they are likely to be altered in accordance with the local phonology of the destination where they end up, and to be reinterpreted by popular etymology there (so one of the great challenges of ethnic history is to decipher the resulting puzzles). A strong indication that this is what happened lies in the fact that in the Bronze Age, the lexical equivalent of 百姓 would have been pronounced differently from Bak Sing (rather as *pāk seŋs*, Preclassic Old Chinese, cf. Starostin & Starostin, 1998-2008, 'Chinese characters' and 'Sino-Tibetan etymology'). The Armenologist Karst (1931a: 287) proposed to identify Terrien's (otherwise unattested) 'Bak (Sing)' with the attested Central Asian names 'Ketsi', 'Ketsü', 'Kotchi', 'Kütsché'. In passing, note the assonance with the personal name / ethnonym / place name Kush (according to *Genesis 10* a 'son' / division of ʕam, and – although ʕam in that connection is mainly associated with the African continent – significantly associated with Mesopotamia as the 'father / overarching unit' of Nimrod – the hunter, first king and (through his tower) challenger of Heaven. (Incidentally, Nimrod is the Mesopotamian counterpart of the Nkoya legendary king Kapesih whom we shall meet below, but the Nkoya name seems unrelated to the Central Asian cluster of names.) In such languages as 'Schrift-Oiratisch' of Western China, in Tuvan, and in Kalmuk, *ketsü* occurs with the meaning of 'hard, bold' (Poppe 1964: 204; Bayarma Khabtagaeva 2009: 43), from proto-Altaiic **k'et'ó*, with the same meaning, and with reflexes in Turkic, Mongolian, Tungus-Manchu, Korean and Japanese (Starostin & Starostin 1998-2008, s.v. 'Altaiic etymology'). In Japanese, moreover, *ketsü*, means 'blood' and also stands for a particular form of identity rhetoric. These semantics may produce plausible ethnonyms. Below we will find indications that the Terrien's postulated ethnonym may have belonged to a proto-Bantuoid-speaking cluster of West Asian Blacks, and if this makes sense, the *original name may be analysed as [*ba-]-*Ksing, with *ba- as plural personal prefix (as in Common Bantu), and *Ksing close enough to 'Ketsi', 'Ketsü', 'Kotchi', 'Kütsché'. Werner (1984 / 1922: 13), while rejecting the identification of 百姓 with any similarly-sounding West or Central Asian ethnonym, accepts the possibility of an Akkadian or Khotan origin of Chinese civilisation.

¹⁸⁰ Terrien de Lacouperie 1880, 1882, 1887a, 1887b, 1888a, 1888b, 1890, 1892a, 1892b, 1894, 1897. For provisional bibliographies, cf. Anonymous 2012.

of the wholesale origin of the Chinese. However, I will also maintain that his point concerning the Western origin of *Yi Jing grosso modo* still stands, adducing new material to that effect.

7.2. The stature of Terrien de Lacouperie's scholarship

Apparently unfamiliar with the meaning of 'University College' in the London / United Kingdom context, the Japanese scholar Yoshihiro (2003) makes of Terrien an obscure scholar 'in the fringes of academic life' ['a mere college'...? – WvB], allegedly 'only publishing in his own journal', i.e. *Babylonian & Oriental Record*.¹⁸¹ Concerning Terrien's theory of decisive Mesopotamian influence on the rise of Chinese civilisation, and specifically of *Yi Jing*, Yoshihiro gives the impression that it has long been refuted. Characterisations such as 'fancyfull' [*sic*], 'fantasist', 'obscure', 'infamous', 'a failure', 'invented the Bak Sing tribes', 'speculative extremes', 'too sanguine speculation', 'ingenious but indigent [= 'poor']', etc. are also found in other, cursory reviews of Terrien as author of an external theory of the rise of Chinese civilisation.¹⁸² More to the point and less anachronistic is the assessment by Blagden (1913), of Terrien as 'highly imaginative and brilliant, but not always reliable'.

Such unusually passionate qualifications do not sound as if their object is getting a fair deal – rather, as if the speakers have, in terms of ideology and self-interest, a chip on their shoulder. The truth is that Terrien, considering the relatively short span of his academic life, had an amazing output, and both phenomenal and surprisingly lasting success. Among his achievements we may count pioneering work in general linguistics, Chinese historical syntax, the identification of pre-Chinese languages of East

¹⁸¹ I am touchy on this point because similar accusations could be, and have been, levelled at myself. Of course, publishing in scholarly journals that one does not directly or (via old-boy ties) indirectly control, allows one's work to be objectively and critically assessed in the light of current standards of scholarship. For interdisciplinary and pioneering work this is not always an adequate solution. Moreover, we must avoid anachronisms on this point: the peer-reviewed scientific journal, instead of the book, only emerged as a dominant, even compelling, standard of scholarly quality in the second half of the 20th century, way after Terrien's time. What is more, publishing in one's own journal is sometimes a means to contribute to that journal's quality and continuity. Finally, looking at Terrien's enormous productivity I suspect, on the basis of personal parallels, that he chose the quickest publication venue with the least hurdles, simply to get things over and done with, and to have his hands free for the next challenge and the next text.

¹⁸² Cordier 1895; Andrews 1925; Yetts 1925; Girardot 2005; Kroeber 1940; Armstrong 1945; Levenson & Schurmann 1969: 9; Rutt 2002 / 1996: 72; Leibold 2011.

Asia, decisive systematic work on East Asian numismatics, important contributions to the history of Buddhism and of South Asian, Central Asian and East Asian writing systems and scriptures, the ethnography and linguistic description of Formosa, the archaeology of Korea, explorations in Assyriology, and the first recognition of the striking similarities between the Indus valley and Easter Island (pseudo-)scripts. Famous and soon, posthumously, notorious¹⁸³ for his theory of the Ancient Mesopotamian indebtedness of Chinese civilisation, this was by no means his principal contribution to scholarship. No informed scholar would expect the fruits of Sinology and Assyriology from the 1880s to survive the confrontation with present-day knowledge, methods, and resources. However, quite unusual for linguists that have been dead for nearly 120 years, Terrien's pioneering work in the linguistic classification of the Sinosphere, and other scholarly achievements, continue to reverberate in authoritative specialist works of a later date, up to the present.¹⁸⁴

Beyond the sphere of Western scholarship, and rather uniquely, and deservedly in recognition of Terrien's non-hegemonic worldview, his West Asian theory of Chinese origins (in other words, his theory of common origins shared by the Chinese and European civilisations) was eagerly received by influential Chinese scholars writing around 1900, and as a result the debate on, and with, Terrien de Lacouperie is still continuing in China, Japan, and Thailand to this very day,¹⁸⁵ while in the West his name has long been reduced, undeservedly, to mainly that of a bogeyman of pan-Babylonism *avant la lettre*.

With its predilection (very conspicuous in Martin Bernal, who prides himself in this trait) for now obscure authors once championing causes

¹⁸³ For dismissive references to Terrien, cf. Brinton 1895; Cordier 1920: 21 f.; Bushell 1905 merely maintains that Terrien's theory 'has not been proven' – which strictly speaking may be said about *all* theories circulating in any of the humanities and social sciences.

¹⁸⁴ Approving citations of Terrien have appeared with the following authors: Pinches 1912; Hopkins 1916; Corney 1917; Charpentier 1919; Hopkins 1922; Maspero 1926; Ayrton & Silcock 1929 / 2003: 3 ('one authority (...) now somewhat discredited'); Yetts 1931, although Yetts's 1925 assessment of both Terrien and Ball was dismissive; de Hevesy 1938; Wiens 1949: 14; Hamilton 1954; Bartel 1958; and especially note the following *recent* positive citations: Jettmar 1983; West 1988; Egerod 1991; DeLancey 2010, 2012; Blench 2010.

¹⁸⁵ Cf. Nakamura 1947; Dikötter 1990; Dufourmont 2006; Li Fan 2005, 2008; Hon 2007, 2010; Kyong-McClain 2010; Lin 1999; Feng 2005; Fong 2009.

that have meanwhile become counter-paradigmatic and potentially anti-hegemonic (e.g. Leo Frobenius), Afrocentrism has also identified Terrien de Lacouperie as a partisan (Rashidi 1988), transforming the latter's thesis in the following terms:

'One of the oldest oracles of antiquity, the *I-Ching* was constructed by the Black Akkado-Sumerians of Elam-Babylonia and is dated circa 2800 BCE'.

Brinton (1895) claimed that de Harlez, 'in Schlegel's [journal] *Archives d' Orient*' (more likely *T'oung Pao* is meant, cf. de Harlez 1896), had totally demolished Terrien's theory by exposing a faulty etymology and by adducing the alleged fact that

'presence of the true Mongolian race in the Euphrates valley in protohistory is fantasy'.¹⁸⁶

This false claim of utter rejection has ever since been adopted by an increasing number of scholars, leading to the unverified, unreferenced truism it has become today. However, while rejecting Terrien's reductionist view of the wholesale Western origin of the Chinese people, we shall see that Terrien still has a point as far as *Yi Jing* is concerned. Moreover Rashidi – like so often in the case of Afrocentrism – has more of a point than one would be inclined to give him credit for, even though his expression 'the Black Akkado-Sumerians of Elam-Babylonia' does unmistakable violence to Terrien's original, and probably also to ethnic and somatic realities in West Asia in the Early Bronze Age – and yet deserves to be taken seriously.

¹⁸⁶ Brinton's triumphalist claim is ironic for a number of reasons. Shamanism, most probably transmitted on the wings of Uralic, Altaic and Indo-European speakers' horse-riding and chariot technology hailing from West to Central Asia, did penetrate Mesopotamia in the second millennium BCE, and below (footnote 252) we shall indicate some of its apparent traces. A claim of West Asian influence, even provenance, for 'the Chinese people' (or rather: *for a minute population fragment contributing to the massive and heterogeneous Chinese people*) does not mean presence of any 'true Mongolian race' (an obsolete misconception anyway by today's genetics standards, which reject the concept of race wholesale; Brace *et al.* 1993; Montagu 1974) in Mesopotamia, but merely the transfer of cultural traits from West to East – for which, again, the Steppe has been providing excellent opportunities for millennia (Witzel 2009) – as well as for the counter-movement East-West (cf. Needham with Ling 1961, vol. I). As we have seen above, Sino-Caucasian may be considered a macrophylum massively spoken in West Asia and the Mediterranean (including the Franco-Cantabrian region) into the Bronze Age. And so strikingly 'Mongoloid' were some of these West Asian presences that early scholarly studies of the Hittites attributed a Turanic / Mongoloid nature to them on the basis of their iconographic self-depictions in stone (Conder 1898, 1909, 1915). Turan is a name for Central Asia.

7.3. Terrien de Lacouperie on a wholesale West Asian origin of the Chinese people

Terrien wrote in the shaky formative decades of Assyriology, and a quarter of a century before the establishment of pan-Babylonism, *i.e.* the short-lived scholarly theory (no doubt in part inspired by Terrien) according to which *all* civilisation world-wide originated in Ancient Mesopotamia (*cf.* Winckler 1903, 1907). Terrien's main arguments were:

- more or less superficial correspondences (also *cf.* Ball 1913) between formal characteristics of isolated script signs in China and Mesopotamia
but meanwhile both Assyriology and Sinology have progressed tremendously, and the oracular bones and other archaeological sources have yielded much older forms, apparently of local origin, of Chinese script than available to Terrien and Ball;
- onomastic parallels
which are notoriously multi-interpretable;
- mythological parallels *e.g.* concerning the Flood
but Flood myths are globally so widespread¹⁸⁷ that they do not prove much of a specific Mesopotamian-Chinese connection;
- his personal reconstruction of (what appeared) a trans-Asiatic migration from West to East Asia by an unattested 'Bak Sing' ethnic group, linking up with the tradition of China's 百姓 'Hundred Families'
largely vindicated in note 179, above;
- and also what should still count as impressive in the eyes of Modern scholarship: correspondences between Ancient Mesopotamian and Ancient Chinese king lists.¹⁸⁸

As far as specifically *Yi Jing* is concerned, Terrien rejected the dominant tradition (in the Western scholarship of his time represented by James Legge) that considered the *Yi Jing* and its extensive commentaries to

¹⁸⁷ *E.g.* Dundes 1988; Witzel 2010; van Binsbergen with Isaak 2008.

¹⁸⁸ Modern scholarship still greatly relies on the matching on king lists, *e.g.* this is a major argument for Dierk Lange (2009, 2012) when claiming major and direct Assyrian influence upon West Africa, c. 600 BCE.

constitute one unified corpus. Thirty years later the prominent Sinologist H.A. Giles (1915: 5 *f.*) summarised Terrien's argument in the following terms:

'The foreign student is disappointed when he comes to a study of the *Canon of Changes* [= a literal rendering of the title *Yi Jīng*]; partly because of the exaggerated value set upon its contents by native scholars of all ages, and partly from an inability to penetrate its labyrinthine mysteries and seize the hidden spirit of the book. It has been alleged by Chinese enthusiasts that, if you have only the wit to seek, you will find in the *Canon of Changes* the germs of all the great scientific discoveries; on the other hand, it was reserved for two foreign students (Sir R. Douglas [*cf.* Douglas 1893 – WvB] and Terrien de Lacouperie) to put their heads together and publicly announce that this work, regarded in China as based on a divine revelation, is *nothing more than a vocabulary of an obscure Central Asian tribe* [*sc.* the Bak Sing – WvB] — *so obscure indeed that to this day it remains unlocated and unknown*. A translation of the *Canon of Changes* was made by Dr Legge,¹⁸⁹ the greatest Chinese scholar of modern times at the day of his death. Dr Legge thought that he had "found the key", but it is doubtful if anyone else has ever shared with him that opinion.' (my italics – WvB)

The most nuanced present-day negative assessment of Terrien's wholesale thesis is perhaps that of oracle-bone specialist D.N. Keightley (Keightley & Barnard 1983: x *f.*; *cf.* Keightley 1978), who rather than denouncing Terrien's impressive scholarship, advances a number of reasons why the latter's theory should be rejected:

- a) lack of archaeological support;
- b) excessive trust in late Chinese texts ;
- c) reliance on the argument *post hoc ergo propter hoc* ('B followed A in time therefore A is the cause of B');
- d) inability to distinguish between proper genetic connection and coincidence, and
- e) an exogenous, external, instead of endogenous and spontaneous, conception of cultural innovation.

Still, even though negative, this is very far from conclusive. While con-

¹⁸⁹ Legge 1882, where the signs of his controversy with Terrien de Lacouperie are to be found at p. 18 *f.* The latter had declared that Legge's was 'not a translation but a mere paraphrase'. Legge in his turn retorted that Terrien showed no understanding whatsoever of the meaning of *Yi Jīng*, implying that an attempt like Terrien's, to re-contextualise that sacred Chinese text in West Asia *i.e.* outside the habitual realm of the Sinosphere, can only amount to a destruction of its original, inherent meaning.

ceding (b) (the short oracle-bone texts on which Keightley's own research focused were at least one millennium older than anything available to Terrien), we note



Source: Seligmann n.d.: Fig. 11, p. 32; Kircher 1652-1655

Fig. 7.1. An Early Modern representation of Dagon / Oannes, loosely based on Ancient Graeco-Roman and Biblical sources (the Mesopotamian sources had not yet been explored at the time)

- that it is a gross distortion of facts to deny (Keightley's point (a)) all archaeological support for Terrien's thesis. In this connection we may point to such standard textbook examples as: the Neolithic and Bronze Age continuity, across the Eurasian Steppe, of pottery, agricultural implements (Leser 1928), animal style art (Rostovzев 1929), spoked chariot,¹⁹⁰ the Altaic linguistic phylum covering the entire Eurasian Steppe region from Anatolia to Korea and Japan, the comparative study of divination,¹⁹¹ and mythological concepts (e.g. snake-footed divine figures such as Fu Xi, Nü Wa, Ancient

¹⁹⁰ van Binsbergen & Woudhuizen 2011: 382 and *passim*, with references.

¹⁹¹ Cf. Oppenheim 1966: 37, to whom we shall return below.

Greek Cecrops and Erichthonius,¹⁹² and apparently cognate fish-tailed figures such as Oannes – with cognates Basque Basojaun, Italic Janus, Indian Ganesh – mentioned by the Hellenistic writer Berossus.¹⁹³ There is, in other words, the evidence in favour of continuity not only from archaeology but also from fields not mentioned by Keightley: linguistics, comparative historical ethnography and iconography, and comparative mythology),¹⁹⁴ also see the next sections of the present Chapter.¹⁹⁵

¹⁹² The controversial Assyriologist Temple (1976) seeks the missing link, in space and time, between Erichthonius and Fu Xi in the Sumerian mythical figure Oannes, likewise alleged to combine an aquatic nature with the status of culture hero. Temple invokes the intervention of an extraterrestrial civilisation to account for the (late!) myth of Oannes as bringer of the Sumerian civilisation (attested only in Hellenistic times), and for the alleged superior knowledge of the Dogon people of Mali concerning the composite nature of the star Sirius (*α Canis Major* A, B) – the Dogon's alleged knowledge is probably a total artefact, based on Griaule & Dieterlen's (1965) mishandling of Dogon ethnography and mythology, and its subsequent New Age misappropriation. Knowledge of the composite nature of Sirius goes back to Wilhelm Bessel and his contemporaries towards the middle of the 19th century, and among the Dogon could easily be attributed to terrestrial European civilisation, given the existence, between 1850 and 1930, of astronomical expeditions into West Africa, and the general circulation of astronomical knowledge among educated Europeans visiting that part of the world. A further argument for my dismissive claim is the number of satellites that, in the same kind of argument, is spuriously attributed to the prodigious astronomical knowledge of West Africans: nearly a dozen, which does not reflect the actual number (of several dozens) now upheld by state-of-the-art astronomy, but merely reflects the consensus among North Atlantic professional astronomers around 1900. Cf. Thomas *et al.* 1983; Soderblom & Johnson 1982; Hamilton 1995-2011. Also cf. 18th-century authors struggling with the identification of only a handful of Saturnine satellites: Pound 1753; Herschel 1790. I am indebted to a conversation with V.Y. Mudimbe, Leiden, 3rd January 2005, for challenging me to develop this point.

¹⁹³ Schnabel 1923; Jacoby 1923-1927: Fragment 680; Cory 1828; Burstein 1978; Verbrugge & Wickersham 1996.

¹⁹⁴ Also in comparative mythology the Mesopotamian / Chinese link has been backed up: Mori Masako 1995, 2009, cf. p. 243, below; moreover, I found that West Eurasian leopard-skin themes around the Greek god Dionysus have parallels in Ancient Chinese army ranks and the royal chariot (I am indebted to Dr Haifang Lui, 西亚非洲研究所 Institute of West Asian and African Studies, Chinese Academy of Social Sciences IWAAS, Beijing, for retrieving this information for me from Chinese historical sources).

¹⁹⁵ An additional line of argument could be the following. There is a marked dualism underlying Yi Jing, both in its mathematical structure (like in the case of other geomancies, the number of its basic configurations is 2ⁿ) and in the implied reliance on the 陰陽 *Yin / Yang* distinction. Schmidt (1933) proposed to interpret this as an echo

- that (c), the argument *post hoc ergo propter hoc*, although admittedly risky and patently insufficient to build a fully-fledged theory upon, is an obvious and ubiquitous *first* step in the formulation of historical *hypotheses* – although, admittedly, never the final step in their substantiation;
- while (d) (the distinction between proper genetic connection and coincidence) and (e) (the distinction between exogenous, external, instead of endogenous and spontaneous, conception of cultural innovation) inevitably spring, not directly from the quality of the available evidence nor from the quality of a specific theory at hand, but depend on something far more optional and transient, notably: the wider, overarching paradigmatic framework in the light of which a particular theory is being judged – these two points of criticism, therefore, are matters of scholarly appreciation and opinion, and therefore cannot be counted as *errors* but must simply be considered points of scholarly disagreement.

In other words, although there is an unmistakably quixotic element involved in my present attempt to defend Terrien de Lacouperie as the respectable scholar he was, and to take up the case of his external theory once more, we need to treat with the greatest reservation the present-day contention that his theory of a West Asian origin of the Chinese system has been conclusively refuted. The problem with claims of trans-continental continuities is that they tend to be taken too literally and too

of Persian dualism, anciently in the form of the opposition between Ahura Mazda and Ahriman, and in Late Antiquity most conspicuous in the teachings of the Irani-Syriac prophet Mani (Flügel 1862; Ort 1967; Reeves 1992; Runciman 1969; Scheftelowitz 1922; Widengren 1961, 1965). Various authors (Widengren 1949; Lieu 1994) have stressed Mani's continuity, not only with Ancient Iran but also with Ancient Mesopotamia. Interestingly, Clermont-Ganneau (1900) cites a 9th-c-CE Syriac work claiming Pythagoras and Empedocles as Mani's predecessors. The battle between light and darkness plays an important role in shamanism (as for instance expressed in shamanic clothing; Willis 1994: 108), and particularly in Iranian religion, Judaism around the beginning of the Common Era (where the struggle between 'the Children of Light' and 'the Children of Darkness' is a major theme), an early Manichaeism (Woschütz *et al.* 1989; Stuip & Vellekoop 1989), from where it exerted a considerable influence on Islam and medieval Christianity. This reminds us that, as we have seen above, in the oldest forms of *Yi Jīng* notational system, black / filled and white / open circles took the place later taken by broken and unbroken lines – in implied reference to the well-known symbolism of *Yin / Yang*: .

comprehensively, in a 'winner takes all' way: as if the mere claim

- A has had *some specific* influence upon B,

were identical to the claim that

- B has been *totally determined* by A and by A alone.¹⁹⁶

One thing that comes through in our most recent endeavours to map and interpret transcontinental continuities of a different kind, notably those between Asia and sub-Saharan Africa,¹⁹⁷ is that they may be considered part of a *multi-centred* and *multidirectional* prehistoric and protohistoric system of exchanges (*cf.* Fig. 2.17, above), in which an emerging global maritime network played an increasing role. In other words, transcontinental continuities influences may be complex, may come from different directions, and may operate in more than one direction. One-factor totalising theories of transcontinental continuities (including Terrien's) therefore may never be adequate. But that does not mean that at the level, not of wholesale pronouncement about a total people and its culture, but at the level of the analysis of specific individual traits, all thoughts of transcontinental continuities (*e.g.* Terrien's intuition of letting *Yi Jing* come from West Asia) have to be banned as automatically, inherently, spurious.

7.4. Recent support for the view of a West Asian origin of *Yi Jing*

I was still largely unaware of the work of Terrien de Lacouperie except for his 1882 Letter to the Editor, and apparently an echo of his work in

¹⁹⁶ The Biblical Exodus story is a case in point: unmistakably there has been such massive Ancient Egyptian cultural and religious influence upon Ancient Israel (Görg 1997 and his entire, multi-volume series *Fontes atque pontes: Reihe Ägypten und Altes Testament*, Wiesbaden: Harrassowitz) that the idea of *some* (probably very limited) population migration from Egypt north to Palestine, possibly led by an Egyptian prince / magical specialist by the purely Egyptian name of *Mosis*, is quite plausible; but that is a very different proposition from the naïve Jewish and Christian perception of the Early Iron Age population of Palestine, and of the edifice of Israelite religion in that period, *as largely or even totally deriving from such a migration*.

¹⁹⁷ *Cf.* the International Conference 'Rethinking African's transcontinental continuities in pre- and protohistory', Leiden, African Studies Centre 2012, and my various texts presented in that connection.

my personal communications with the Sinologist Martin Bernal (1996) concerning the possible Indo-European etymology of the fundamental eight trigram names in *Yi Jīng*,¹⁹⁸ when I, too, ended up with Giles' puzzle: *if there was to be claimed continuity between West Asia and China, then who specifically has been involved, which West Asian ethnic group? situated where? speaking which language?* With the aid of long-range historical linguistics, I will be able (in the manner set out in detail in Section 7.6, below) to suggest an answer for at least one of the trigram names: *kun* 坤, 'earth' (belonging to the trigram ☷), without obvious Sino-Tibetan etymology, is likely to derive from some Indo-European source – which I have meanwhile identified as proto-Hittite or proto-Greek spoken in the Aegean-Anatolian region in the Early to Middle Bronze Age: not exactly Ancient Mesopotamia but still West Asia and a region that has been recognised to have been influenced, in many ways (religion, mythology, science, technology), by Ancient Mesopotamia and by West Asia in general.

As already indicated in footnote 186, above, the apparent truism that no Mongolians ever lived in West Asia must not be taken at face value, either. Initial appearances, although ultimately mistaken, already suggested otherwise: Prior to Hrozný's decipherment (1917) of the Hittite script and language as Indo-European,¹⁹⁹ on the basis of their self-images

¹⁹⁸ In my first extensive treatments of the transcontinental connections of geomancies and *mankala* board games (van Binsbergen 1995a, 1997b), written when I was still barely aware of such long-range approaches in linguistics, genetics, archaeology, mythology and ethnography as were then already gaining momentum in the international literature but for which nothing in my formal training at the University of Amsterdam had prepared me, let alone the attending methodologies, I was impressed by Martin Bernal's remark, in his original capacity of Sinologist (personal communication, 1996), to the effect that 坤 *kūn* (cf. Table 7.1, below), the eighth trigram ☷ in *Yi Jīng*, commonly interpreted as 'the receptive field, the earth', had no Sino-Tibetan etymology and had been equated, 'by one [unspecified] author now obsolete', with Ancient Greek *χθών* *hthōn*, likewise meaning 'Earth', thus conveying the suggestion of a non-Chinese, possibly Indo-European origin of the *Yi Jīng* system – as would be compatible with the discovery, a century ago, of Tocharian A and B as far eastern extensions of the Indo-European language family. As we shall see in the course of this Chapter, Bernal's observation was probably an unreferenced reflection of Terrien de Lacouperie's work; more important, Terrien's idea as mediated by Bernal was able to stand the test of state-of-the-art long-range comparative linguistics.

¹⁹⁹ Which, of course, says little about the Hittites' somatic and genetic makeup. Cf. the fact that, as a result of Tsarist Russian expansion in the 18th-19th c. CE, many

in iconography the Hittites tended to be identified as Chinese or Turanic, especially in the context of Bible studies.²⁰⁰ The Armenologist Karst (1931a) believed to perceive such extensive influence of Chinese on West Asia and the Eastern Mediterranean that he proposed a Chinese etymology for the place name and ethnonym *Ethiopia(n)* – very common in the Mediterranean Bronze Age....²⁰¹ This is all totally obsolete scholarship now. However, we are on more secure ground when in a recent synthesis prominent linguists claimed extensive Sino-Caucasian (conceivably including Sino-Tibetan < Chinese) presence for the Northern shore of the Mediterranean up to the Late Bronze Age (McCall & Fleming 1999).

Of course, archaeological and epigraphical work of the last hundred years has led to the recognition of the non-mythical nature of the earliest Chinese dynasties, which therefore have become roughly contemporary to the early dynasties of Ancient Mesopotamia and Egypt. Like present-day scholars in India and Japan, and Africa, and in emulation, *mutatis mutandis*, of an inveterate, Eurocentric European tradition, modern Chinese scholars now prefer a predominantly endogenous model for the origin of their national and regional civilisation; they are no longer flattered – like leading Chinese intellectuals were a hundred years ago – to be granted, in Ancient Mesopotamia, a common cultural prehistory with the West – a thought whose obvious anti-hegemonic implications their present-day Chinese counterparts seem to overlook,²⁰² or which they are tempted to

Asians of widely different somatic and genetic makeup now speak the Indo-European language of Russian as their mother tongue; and a similar argument can be made for South Americans speaking Spanish, or sub-Saharan Africans speaking English, French or Afrikaans – all of them Indo-European languages.

²⁰⁰ Bible scholars took an interest because, in the sacred texts of Judaism and Christianity, repeated reference is made to ‘Hittites’, which name therefore was adopted for the people and polity associated with the name Ḫatti and the location of Boğazköy, Anatolia. *Genesis* 10, moreover, contains several mentions of the enigmatic *Sinim*, which some scholars have identified as Sinoid in the present-day sense, cf. van Binsbergen & Woudhuizen 2011: Ch. 11, *passim*, see that book’s Index of Proper Names.

²⁰¹ Albeit, regrettably, on the basis of *modern* Chinese forms 海汀 *hai tīng* ‘sea island’, and not the proper archaic ones *smā? thēŋ* (Preclassic Old Chinese; Starostin & Starostin 1998-2008, ‘Chinese characters’); thus, Karst’s suggestion as to the Chinese etymology of *Ethiop-* clearly turns out to be spurious.

²⁰² What could be more anti-Eurocentric than the admission that the Western colonial-

replace by their own implicitly hegemonic regional chauvinism of today, and of all times.

Anyway, regardless of these considerations of hegemony in the politics of the production of history, in a scenario that makes Chinese origins contemporary to those of Ancient Mesopotamia and Egypt (and that, moreover, recognises the Bronze Age's state of proto-globalisation hence massive multidirectional and multicentred transregional contacts), there is, admittedly, no longer room for Terrien de Lacouperie's thesis that Chinese civilisation derived lock, stock and barrel from Ancient Mesopotamia as we have come to know it since the mid-19th c. CE.

But, again, that does not rule out the likelihood of more limited transmissions of knowledge in the course of the Bronze Age, when horse and chariot technology, and nautical technology, presented the material conditions for extensive transcontinental exchanges – and when the results of such exchanges are emphatically clear from the correspondences between formal cultural systems in these various regions. On the basis of the extensive empirical material and analysis presented in Section 7.6 below, there is certainly *some* truth in Terrien's point stands that *Yi Jīng*, and its constituent symbolism of eight named trigrams (八卦 *pa gua*), may have been among such eastbound transfers from West Asia.

7.5. Rashidi's Afrocentrist perspective concerning the origin of *Yi Jīng*

This brings us to Rashidi's Afrocentrist point. It should be enough to offer a controversial partial vindication of Terrien de Lacouperie's controversial theory concerning the West Asian origin of *Yi Jīng*, and I should be content to leave the matters at this. However, and once again, the perception of transcontinental continuities depends not so much on proper data, but on an overarching paradigm admitting or denying the possibility of such transcontinental continuities. Scholarly paradigms reflect power relations between regions, classes, ethnic groups, within the World System. Shifts in such paradigms often reflect shifts in these

ists and imperialists share crucial cultural origins with the Asian populations that were the object of the former's expansionism, – and that those origins were not even located in Europe but in Asia? Here a reading of the Sinologist's Bernal's *Black Athena* (1987) would still be illuminating.

power relations. Since the 1990s I have repeatedly championed the cause of Afrocentricity. This was not (*pace* Amselle 2001) in order to curry favour with my African friends and colleagues (although it did in fact endear me with them). Nor was it an attempt at Political Correctness, verbally compensating Africans as recognised and self-acclaimed victims of recent global history, by offering them the mere illusion of a glorious past. My defence of Afrocentricity also had to do with my awareness that once peripheral, subjugated or excluded groups – with whom I, admittedly, do identify, by birth, choice, and adoption – *may* have preserved, in their own specific worldviews, knowledge of historical facts and relationships which otherwise have been expelled from collective consciousness by the hegemonic paradigms of dominant groups in the World System. Until yesterday these were the dominant, White, educated inhabitants of the North Atlantic region; and today and tomorrow these may well be Chinese, Indian, and Brazilian elites. Therefore, in the final stages of my twenty-years research project to bring to light the submerged history of geomantic divination, in Africa, East Asia (where it manifests itself as *Yi Jing*), and globally, I think I should take the risk of alienating my readers still further, and take the following step.

I suggested that Afrocentricity may contain and reveal dissimulated facts surreptitiously preserved in particularist group memory, while otherwise eclipsed from global memory under the influence of dominant, elite-associated paradigms. One such ‘fact’ appears to be the existence, in the Neolithic and Bronze Age, of a highly pigmented ethnic cluster in West Asia, displaying many cultural traits (including proto-geomancy, early metallurgy, a fire cult, solar cult, and a rudimentary element cosmology, etc.) and some genetic traits, which I have provisionally designated as ‘Pelagian’,²⁰³ and apparently surfacing to historical attestation or attribution in widely distant contexts, including:

- the Caucasus (Herodotus, *Historiae*, IV.140; Armayor 1978, 1980; Jairazbhoy 1985),
- Ancient Mesopotamia (Nimrod as displaced son (situated not in North East Africa but in Mesopotamia) of Kush son of ʕam; *Gene-*

²⁰³ For a list of these traits and a provisional overview of their distribution, see van Binsbergen & Woudhuizen 2011: 374 *f.*

sis 10;²⁰⁴

- South Asia (Dravidian speakers – usually considered, like Sinhalese, to have a West Asian origin – and further perhaps Vedda, Semang, possibly also continuous with population elements in New Guinea and Australia some of which are traced to South Asia);
- isolated parts of the Mediterranean (Homer’s Sintiēs, *Iliad* I, 594, XVIII, 394; *Odyssey* VIII, 294 – their close association with the Fire and metallurgical god Hephaestus (whose name probably²⁰⁵ derives from *proto-Berber **hifau*, ‘fire’) suggest them to be early iron workers, reminiscent of their latter-day namesakes the Sinti (and Roma) known also by the outsider-imposed name of Gypsies; here particularly attention is called to another outlying cluster, like Kush, associated, in *Genesis* 10, with Ḥam: Ludim (‘Lydians / Carians / Lycians’), as ‘descendants’ of the Mizraim (‘Egyptians’),²⁰⁶ – as descendants of Ḥam, for it is from a volcanic spot in Lycia that the cult of Hephaestus is claimed to originate;²⁰⁷ perhaps also Ligurians and Elymians; Sergi 1901), possibly also the Maghreb, and the Mesolithic Eastern Iberian peninsula (rock paintings of honey collecting, and microliths, suggesting Khoisanoid presence; cf. Bandi & Maringer 1952);
- Ancient Ireland (‘Black Irish’, Fomorians);
- blacksmiths throughout the western Old World, as outsiders associated not only with magical power and fire but also with high levels of skin pigmentation, in other words blackness.
- probably South Central Africa where they are associated with the Bantu sub-phylum of the Niger-Congo phylum, traces of which have been detected in the West Asian specifically Palestinian Bronze Age (van Binsbergen & Woudhuizen 2011: 81 f.);
- as well as South West Asia and isolated pockets in East Africa (Khoisan speakers, Hadza, Sandawe), where populations are found

²⁰⁴ Van Binsbergen & Woudhuizen 2011: Ch. 6 analyses *Genesis* 10 from an ethnic studies perspective; Karst (1931a) shows a Cushitic substrate in European toponyms.

²⁰⁵ Cf. van Binsbergen, in preparation (b); *contra* Blažek 2010.

²⁰⁶ The Egyptian link with South West Anatolia was not only acknowledged in *Genesis* 10, but also played an important role during the Sea Peoples episode of the Egyptian New Kingdom, when grain transports from Egypt were to quench a famine on the other side of the Mediterranean, in defiance of Hittite control of Anatolia. Cf. Barnett 1953, 1987.

²⁰⁷ Maximus Tyrius 1804: II, 194, *Dissertatio* 38.

that are only moderately pigmented and whose admittedly great genetic distance from other present-day populations (Patterson 2010) does not preclude Cavalli-Sforza's point (based however on classic genetic markers and not on state-of-the-art molecular biology) that part of their ancestors still lived in West Asia 10 ka BP (Cavalli-Sforza *et al.* 1994; *pace* Vigilant *et al.* 1989, 1991). The West Asian Pre-Pottery Neolithic constitutes a part of the world and a period where, I submit, archaeological signs of their presence can be picked up (van Binsbergen & Woudhuizen 2011: 85 *f.*) in the form of a prehistoric depiction of elongated *labia minora*,²⁰⁸ perhaps ostrich shell beads,²⁰⁹ round-plan dwellings soon to be replaced (Hawkes *c.s.* 1977: 59), in the archaeological record, by square-plan ones.

Both the Sumerian (Kramer 1959: 72 and *passim*) and the Chinese self-identification (黎民 *li min*) was in the puzzling terms of 'the black-headed people' – another indication of the plausibility of an attenuated version of Terrien's claim, to the effect of *some* Chinese-Mesopotamian continuity but moreover with the added value of drawing our attention to unexpected Chinese / Mesopotamian / 'Black' / 'African' connections. Despite Rashidi's failure to substantiate his claim by proper scholarship (as is so often the case with Afrocentrists), his suggestion to situate the origin of the *Yi Jing* system in this largely forgotten or dissimulated

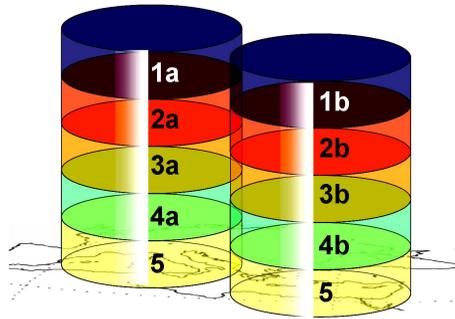
²⁰⁸ Depicted at the site of Göbekli Tepe, Pre-Pottery Neolithic B, Anatolia (8800-8000 BCE), Landesmuseum 2007; *cf.* discussion in van Binsbergen & Woudhuizen 2011: 84 *f.* Whether natural or as a result of deliberate and prolonged stretching as a cultural practice (specialists are not yet in agreement on this point; *cf.* Montagu 2010), the 'Khoisan apron' of elongated *labia minora* has been associated with Khoisan-speaking populations of Southern Africa ever since these attracted the Western scientific gaze. As a result of this cultural practice and not of genetic disposition, the adult female genitals of many Bantu-speaking groups in Southern and South Central Africa have taken the same shape. Outside Africa, the practice is rarely recorded. Yet the idea of a prehistoric West to Central Asian origin is suggested – given the reconstructed dispersal pattern of human populations out of Africa since the Middle Palaeolithic – by the fact that the 'winged' or 'butterfly' vulva is a recognised, sporadic trait in China and Japan, while the concept is even attested (as a verbal insult) among Native Americans; *cf.* van Binsbergen & Woudhuizen 2011: 85 *f.* and references there.

²⁰⁹ However, these artefacts have such a long history since the Middle Palaeolithic that contrary to common belief they are not enough to archaeologically identify Khoisan speakers by; *cf.* Bednarik 1993.

cluster of West Asian ‘Blacks’ reminds us of the fact that simple proto-geomancies are found throughout the Pelasgian realm, in whose westerly extension (towards the Mediterranean) a significant role appears to be played by highly pigmented West Asians, associated with at least some of the constituents elements towards the Bantu linguistic sub-phylum – including the oldest attestation of *proto-Bantu (van Binsbergen & Woudhuizen 2011: 83 *f.*).

This may sound promising, but an important objection would of course be that, if at least part of the trigram names in *Yi Jing* are considered to be reflexes from some Indo-European, notably proto-Hittite or proto-Greek Anatolian root, it is not clear how a widely dispersed, highly-pigmented population originating from West Asia and *associated with *proto-Bantu and perhaps other African linguistic macrophyla such as Khoisan*, could be held responsible for transmitting such lexical elements to East Asia. Here a closer look at the layered ethnico-linguistic situation in the Mediterranean / West Asia in the Bronze Age (Fig. 7.2)²¹⁰ may provide the answer. Contrary to common belief the ethnic and linguistic situation in that part of the world during the Bronze Age was – according to Karst’s 1931a somewhat dated reconstruction, which I have tried to update and develop – not characterised by clearly demarcated, ethnically and linguistically homogeneous population groups. It already displayed traits of proto-globalisation in that, both in the eastern and in the western parts of the Mediterranean, populations were ethnically and linguistically heterogeneous, in a layered way that reflected the local (pre-) history of the succession of ethnico-linguistic specificities – the older layers, also somatically more highly pigmented, being relegated to the lowest social status, the most recent layers, composed of Indo-European and Afroasiatic speakers, constituting an aristocratic exploitative class. Our postulated cluster of West Asian Blacks appears to have been associated not only with one or more of the earliest trigram names (of Indo-European provenance but circulating throughout the heterogeneous local population cluster) but also with metallurgy, and conceivably the trigram names were part of a correlative cosmology that enshrined the secrets of early blacksmiths where they spread their craft throughout the Old World.

²¹⁰ From van Binsbergen & Woudhuizen 2011: Fig. 4.8, p. 96.



	linguistic (macro-) phylum	Constituent ethno-linguistic groups		remarks
		Western Mediterranean	Eastern Mediterranean	
Secondary Pelasgians are typically found in this row	1. Indo-European (a) satem group; (b) kentum group	1a. Secondary Ibero-Ligurians, Caphthor / Caslukhim (with an Indo-European speaking ruling class) in Spain, Sicanians, Tyrreno-Tuscans, proto-Illyrians	1b. Secondary (Illyro-) Pelasgians (including pre-Israelite Pherisites, Secondary Philistines, Numidian Persae) Secondary Leleges, Caphthor / Caslukhim (with a partly Indo-Aryan ruling class) ≈ Carians, Alarodians (= Caucasian speakers)	aristocratic top layer this layer manifests itself particularly as that of a semi-Indo-European language form associated with a local dominant class
	Primary Pelasgians are typically found in these rows	2. Afroasiatic ('Hamito-Semitic' / 'Hamitic')	2a. Jaccetani, Rhaetians, Rasenna, Rutenu <i>i.e.</i> Afroasiaticised Sicanians	2b. Secondary Leleges. NB. In so far as Cushitic, this Afroasiatic element is often 3rd millennium <i>i.e.</i> older than '3. (proto-) Basquoid'
3. (proto-) Basquoid		3a Western Mediterranean: Basquoids, Ibero-Sicanians	3b. Eastern Mediterranean: Liguroid or Eastern Basquoid Leleges	
4. Caucasian		4a. In the Western Mediterranean this layer is inconspicuous, its place seems to remain largely occupied by '5. Complex substrate of Ligurian': Liguroid pre-Euscarian groups: Opici, Opsci, Sicani, Ausci, proto-Basques	4b (Eastern Mediterranean). Abkhazoids (pre-Leleges, Teleges, Telchines, Tubal peoples)	
5. Complex substrate of Ligurian		if interpreted in the light of the state-of-the-art *Borean Hypothesis (which was not yet available to Karst), this layer comprises fragmented presences of Sino-Caucasian, and of branches of Eurasiatic / Nostratic notably Uralic, Altaic and Dravidian; and also of Khoisan, Nilo-Saharan and Niger-Congo / Bantu		archaic popular bottom layer / substrate

From: van Binsbergen & Woudhuizen 2011: Fig. 4.8, p. 96; source for tabulation and diagram: Karst 1931a

Fig. 7.2. Layered ethno-linguistic complexity of the Bronze Age Mediterranean.

The idea of a submerged, collectively denied substratum of excluded, discarded Black people (ultimately expelled to the fringes of the Old World: sub-Saharan Africa, Southernmost South Asia, and Australia / New Guinea?) may also come some way towards explaining why an inveterate, old and widespread racialism appears to be a major factor in the obliteration of transcontinental continuities, not only between Africa and Asia but also (like in the present case of *Yi Jing*) across Eurasia: such continuities imply association with, even cultural indebtedness to, Blacks with whom the (lowly pigmented, increasingly Indo-European-speaking) groups dominant in Eurasia during the last few millennia did not and do not wish to be identified. The idea, admittedly, smacks enough of Political Correctness to arouse suspicion. Yet it has enough empirical plausibility not to be smothered in prejudice.

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

7.6.1. Comparative historical linguistics of the eight-trigrams nomenclature

A substantial scholarly literature has built up which throws light on the many parallels between the Presocratic four-element system from Ionia / *Graecia Magna* (Southern Italy), and the cosmologies of other Eurasian regions. Several authors have stressed the continuities with West Asia, foremost Kingsley (1995a, 1995b). Already Przyłuski (1938) has brought out the parallels between Empedocles and what he claims to be the Zoroastrian pattern. Kaliff (2007) has opened an Indo-European perspective connecting the Ancient Scandinavian cosmological and ritual system (hinging on ‘Fire, Water, Heaven and Earth’) with the entire Indo-European world, including the Presocratics but also West and South Asia. Still from an Indo-European-Studies point of view, Franklin (2002) has stressed the continuity between Empedocles’ and Indo-Iranian cosmology – in both the concept of harmony is crucial (*cf.* Lambropoulou 1998). A similar Iranian influence was detected by Burkert (1963) in Anaximander. By the same token, Empedocles receives considerable attention in McEvelley’s (2002: 67 *f.*, 106 *f.*, 304 *f.*) comparative studies of Greek and Indian philosophy. In the light of such recent sympathy for a long-range approach to Empedocles’ four-element doctrine, the dismissive attitude of early-20th century editor of Empedocles’ *Fragments*, W.E. Leonard:

'In Chinese philosophy the elements are supposed to conquer one another according to a definite law. We are told that wood conquers earth, earth conquers water, water conquers fire, fire conquers metal, and metal conquers wood.²¹¹ But there is nothing in E[mpedocles]'s thought that seems to correspond.' (Leonard 1908: 72)

now seems to have little meaning beyond being characteristic of classics scholars' time-honoured reluctance to admit to any foreign influence upon their cherished domain – an attitude that largely triggered the *Black Athena* debate.

It is in East Asia that the most conspicuous and elaborate forms of the transformative element cycle have been attested, but that does not necessarily mean that element systems *originated* there. Going back to at least the first millennium BCE, and surfacing in various parts of the Old World and of the New World, element systems could have originated anywhere.

KING WǎN'S TRIGRAMS.

1	2	3	4	5	6	7	8
lǐ	sun	kǎn	kǎn	khân	k'kien	tui	khwân
Second daughter.	Oldest daughter.	Oldest son.	Youngest son.	Second son.	Father.	Youngest daughter.	Mother.
S.	S.E.	E.	N.E.	N.	N.W.	W.	S.W.

Note that my long-range linguistic analysis here is based on a particular, widely accepted but not unanimous reading of the *Yi Jing*. Legge (1882) offers the trigrams according to King Wǎn, where Earth appears as *khwân*, with might have led to a rather different etymological analysis.

Table 7.1. King Wǎn's trigrams.

I will now present a linguistic attempt to identify the Taoist system's origin more closely, starting with *Yi Jing*, and tracing the etymological antecedents of the names of its trigrams to their language's and language phyla's *proto-forms (*i.e.* proposed earliest *forms, systematically reconstructed by reference to accepted sound laws and explicit correspondence tables), if possible all the way back to *Borean. The data are presented in Table 7.2:

²¹¹ Original reference to Carus 1898 / 1902: 47.

	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 Abyssmal, Gorge	Keeping Still, Bound	the Receptive, Field
Image in Nature	heaven, aether (天)	swamp, marsh (澤)	fire (火)	thunder (雷)	wind (風), wood (木)	water (水)	mountain (山)	earth (地)
Name	qián	qián	lí	zhèn	xùn	kān	gèn	kūn
Karlgren code	0140 c	0324 a-c	0023 f	0455 s	0433 a	0624 d	0416 a	
Preclassic Old Chinese	ghar kār	ʔ(h)ǝis;	rǎj	tars		khēm?		
Chinese meaning	be creative	to open a passage through, clear	be separated	to shake	to concede; compliant, soft, modest	pit; bury in a pit; be sounding kan-kan	refractory, obstinate, resist	
comments on Chinese	(a)	(b)	(c)	(d)		(e)		
proto-Sino-Tibetan:	*kār, 'dry' (f)		*rǎl, divide, be separated (g)	*fǝj (~ d-), 'shake, shiver' (h)		*krēmH		
Borean	KVRV, 'dry'			TVRV, 'to shake'				
Eurasianic	*kVjwV(rV), notably: Altaic: *kǝbarV (~ ǝu-); Uralic: *kujwa Khanty (Ostyak): kǝjem-			*dVrV, 'to tremble', notably Indo-European: *dhreugh- (...) Altaic: *dǝru (~ -f-) Uralic: *tarV-, *tarkV				

7.6.2. Notes to Table 7.2.²¹²

a) Starostin & Starostin (1998-2008) remark on this point: ‘perhaps: be [*sic*] associated with the forces of Heaven’. Old Chinese *ghar is also used as the name for the 1st hexagram in Yijing [*sic*] (‘Heaven’). Middle Chinese gen is not quite regular in this series (one would rather expect Middle Chinese gən). For *gh- cf. Xiamen khian², Chaozhou khien², Fuzhou khien². Another frequent (and archaic) reading of the character is Old Chinese *kār, Middle Chinese kaⁿ Fan Qie 古寒), Mandarin gān ‘to be dry’ – whence, possibly, Vietnamese cān ‘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-Vietnamese for Middle Chinese kân is cān.’ Here and below I have expanded the original’s acronyms: OC becoming Old Chinese, etc.

b) Also read *λ(h)ōts (Middle Chinese thwa^ʎ, Peking tui) id.; *L(h)ōts ‘glad’ (Later Zhou).

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, 羅 – which, however, has also a metaphoric meaning ‘trouble, anxiety, sorrow’ < ‘drag into, involve’); *raj ‘be hanging down’; in the *die-sheng* 流離 *ru-raj ‘horned owl’. For Old Chinese *r cf. Min forms: Xiamen, Chaozhou li², Fuzhou lie². There also exists a *qu-sheng* reading *raj-s, Middle Chinese lè (Fan Qie 力智) ‘to separate’. Regular Sino-Vietnamese is ly. Vietnamese also has rò’i ‘be separated, separate’ - probably a more archaic loan from the same source.

d) Sagart 1999: 51 (Chin.-AN).

e) Chinese: 坎 *khēm?, 垠 *khēm? ‘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.²¹³

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

Burmese: kanh’ to dry up’, khañh ‘to be dried up, exhausted as liquid’.

Kachin: ka² ‘be dried up’ (?).

Comments: Matissoff 2003: 180; Luce 1981: 52. Loss of final consonant in Jinpho is not clear (Matissoff cites the form as kan², which is probably Jinpho kan² coagulated, see *kān). Cf. also Gurung *khar, Kaiké 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 seclu-

²¹² Sources for both Table 7.2 and Section 7.6.2’s ‘Notes to that Table’: Starostin & Starostin 1998-2008, ‘Long-range etymologies’, ‘Sino-Tibetan etymologies’, and ‘Chinese characters’. These Notes render Starostin & Starostin’s © text *verbatim*, with thanks.

²¹³ Could the enigmatic ‘pit’ semantics of one of the Nkoya clan names, be connected with this?

sion 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, tjar to move, to shake, to curl, as in contempt; to shake, as earth, house.

i) North Caucasian: *gfwāndV (~ -ē-, -i-). Sino-Tibetan: *kh*əmH. Yenisseeian: *kəʔd- (g-, -ž-, -z-). Comments and references: Cf. *gwVŋtV. For Sino-Tibetan cf. rather Burushaski qam / qom 'hole, cave, grave'.

j) proto-Austriac: *tVr 'shake'; proto-Austroasiatic: *tVr 'tremble'; proto-Austronesian: *eter, *terter 'shake, vibrate, tremble'. References: Peiros 1989.

7.6.3. Discussion

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,²¹⁴ 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, 'the receptive, field') even seem to lack a proto-Sino-Tibetan etymology. On the other hand, Greek ἧθῶν is generally accepted to derive (cf. Pokorny 1959-1969: I, 662 f.; Buck 1949: 16) from proto-Indo-European: *dg'hem-, 'earth'. Of the many reflexes of this etymon in Indo-European languages only Hittite: tekan, taknas 'earth', dagan, tagan- 'down, on the ground' (Friedrich 1932: 204, 220), and Greek ἧθῶν-come anywhere near Chinese kūn, whereas the geographically best qualified languages, Tocharian A and B, remain at a greater distance with A tkam and B kem (Adams 1999: 192; note the n / m problem).

7.7. Transcontinental relationships and periodisation: China and West Asia

The outcome of our etymological detective work lends credibility to Bernal's suggestion and hence to Terrien's thesis, but also creates further puzzles.

If kūn, and perhaps some of the other trigram names, constitute Anatolian

²¹⁴ With Sino-Tibetan etymology, and treatment of Chinese characters, compiled by the late lamented Sergei Starostin; cf. Starostin & Starostin 1998-2008.

words, was it because the trigrams originated in West Asia and from there diffused to East Asia; or was proto-Hittite's original home much more to the East? I have drawn attention to the fact that, before Hrozný's decipherment of Hittite established the Indo-European nature²¹⁵ of that language, its speakers were commonly regarded as 'Turanic', and even as downright Chinese. 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 horse-riding and the chariot. Both the Tocharian language and the recently found Tarim mummies (Mallory & Mair 2000) suggest that exchanges (both linguistic, and cultural) between Indo-European and Sino-Tibetan may have taken place far East on the Steppe (*cf.* Tsung-tung Chang 1988). On the other hand, the linguist Karst (1931a) suggested – albeit, as we have seen, on the erroneous 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 recent, more systematic explorations into the continuities between Basque, Caucasian languages, Sino-Tibetan, and Na-Denē by such long-range linguists as Starostin, Fleming, Bengtson, etc. As a result, present-day scholarship no longer limits the Bronze-Age western extension of the Sino-Caucasian macrophylum to the Caucasus area (although as a part of West Asia this would already suit our argument), but would also include the Northwestern Iberian peninsula, part of the Northern shore of the Mediterranean, possibly also Sardinia.²¹⁶ In addition to exchanges in a

²¹⁵ The affinity and interpenetration of the Sino-Tibetan and the Indo-European language phyla has constituted a persistent theme in scholarship. The immense Steppe environment in combination with horse-riding and chariot technology and the migratory patterns of extensive animal husbandry created favourable conditions for language contact. The above exercise concerning the probable origin of the Chinese word *kün* has several more authoritative counterparts, *e.g.* Pulleyblank 1966; Ulving 1968-1969; Tsung-tung Chang, 1988; Blažek 2010a. In addition to horizontal borrowing, there is a strong argument for a genetic relationship. Under Fleming's and Starostin's *Borean Hypothesis, the macrophyla to which the Sino-Tibetan and Indo-European phyla respectively belong, Sino-Caucasian and Eurasiatic, are both branches of the *Borean trunk, and as I will indicate below (Fig. 8.2) there are strong statistical indications that their separation only took place in the Uppermost Palaeolithic (van Binsbergen, in press (b); van Binsbergen & Woudhuizen 2011: 77 *f.*) so that even when allowing for phonological and semantic drift we would still expect a fair degree of lexical overlap – as in fact has been found.

²¹⁶ McCall & Fleming 1999; van Binsbergen & Woudhuizen 2011: *passim*, see that book's Index of Proper Names.

contact area where the two language 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 with Ling's path-breaking study (1961 / 1954) gives a long list of East-West technological and intellectual exchanges. In the preceding decades there was a tendency²¹⁷ 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. Let us review this case briefly.

Already the 17th-century scholar Athanasius Kircher, enlightened by the flow towards Europe of valid Sinological knowledge from Jesuit missionaries, but despite all his efforts unable yet to read Ancient Egyptian texts, claimed that the Chinese civilisation was largely dependent on Egypt. Under the then prevailing Jesuit Figurism, his older contemporary Bouvet equated the Chinese mythical emperor and culture hero Fu Xi with such heroes of the Western (including Islamic) esoteric tradition as Hermes Trismegistus, Zoroaster, Enoch and Noah (Walker 1972; Leibniz 1994: 98). The idea however was more than just a vindication of Christianity in disguise, for a long-range look at some of these culture heroes reveals that they have much in common (*e.g.* as White Gods of creation or Second Creation) and are likely to have an antiquity that goes back to the proto-Neolithic if not further back.²¹⁸ Terrien de Lacouperie's (1882, 1892a, 1892b) claim, now partly vindicated in this Chapter, of a Mesopotamian origin for *Yi Jing* was contested by Legge 1891 / 1988: xix; but Warrington Eastlake (1880) made a similar claim. We have already seen how Carus claimed a close parallel between between the '*Urim and Thummim*' oracle of Ancient Israel, and '*Lo Pan*' (*luó pán*) divination of Ancient China. Many scholars around 1900 entertained similar ideas,²¹⁹

²¹⁷ Partly based on now obsolete paradigms (including pan-Babylonism), but partly also inspired by a long-range awareness which (initially based on Western Assyriological and Sinological knowledge that was far below today's standards) was to become increasingly counter-paradigmatic in the course of the 20th century CE.

²¹⁸ van Binsbergen & Woudhuizen 2011: Ch. 5, especially pp. 136 *f.*

²¹⁹ Kugler 1900: 79f; Bezold 1919 (surprisingly sophisticated and apparently little dated); Ungnad 1932-; Carus (1911; 1902, 1907; also *cf.* Ball 1891, for which see Anonymous 1909). Not every scholar joined this choir, *e.g.* Eberhard (1949) rejected (probably unjustifiably so) Dubs' (1946) theory of Zoroastrian influence on Taoism –

and extended them to the Mesopotamian (Sumerian, Akkadian) forms of divination that make up a considerable part of the Assyriological corpus and that had been closely studied by 1900. Much later the same opinion was, more systematically, expressed by the great Assyriologist Oppenheim 1966: 37):

‘Divination is applied in Mesopotamia on two distinct levels – the popular or folklore level and that of elaborate scholarly amplification and specialization. *Both constitute a trans-Asiatic culture trait.* Evidence for this is available from the Mesopotamian region across Asia to China, with Japan in the East and Etruria in the West as outposts. In Egypt, divination remains conspicuously absent up to the last dynasties, when a good deal of “Asianization” took place. There is a wide range in the media and the techniques of divination, conditioned by time and region. These variations only underline the deep-seated and lasting need for this type of communion with the supernatural, whatever specific methods of observation and interpretation are applied. (...) Wherever in Asia either the observations or the predictions related to divination have been preserved in writing, or where – this optimum happened only in Mesopotamia – both aspects of this science are available to us, we are given the opportunity to look deep into such a civilization. From the oracle bones of Anyang in northern China and the earliest liver models found in Mari to the elaborate horoscope of yesterday’s India, we have an overwhelming abundance of information well able to take us on a grand tour through space and time, exploring much of the intellectual history of Asia. Like currents which move across the entire immense continent, central Asiatic divination practices reach the Euphrates (extispicy) and become there the object of scholarly endeavors from the early second millennium B.C. onward, and Mesopotamian astrology and other divination methods penetrate eastward through India, Tibet, and into China during the first half of the first millennium A.D. To trace these lines of contact will be the task of several generations of scholars from many disciplines.’ (Oppenheim 1966: 37; italics added)

A study in its own right could be written on the correspondences, and perhaps historical continuities, between Sumerian *me* 𒀭, Greek *logos* λόγος, and Chinese 道 *Tao* – to say nothing of Ancient Egyptian *ma-at* 𓄎 – all of which convey the sense of cosmic, societal and personal order.

We have already seen, in passing, how in addition to astrology and other divinatory ancient sciences, also mythological iconography could have played a role in bringing out East-West continuities across Eurasia. Now, primal gods and culture heroes with snake-like legs are to be found in the West, in Ancient Greece as, presumably, a Pelasgian heritage (once more,

also cf. Schmidt 1933 and my above cursory notes on Manichaeism (p. 224n).

Cecrops and Erichthonius, associated with pre-Hellenic Athens), and in China as Fu Xi and Nü Wa; and how Temple (1976) sees the connection between these extremes, in space and time, in the Sumerian mythical figure Oannes, likewise alleged to combine an aquatic nature with the status of culture hero. Also the Ancient Mesopotamian water god Ea / Enki has the same serpentine features.

The debate on Chinese-West Asian continuities has been waged since the times of G. Schlegel (second half 19th c. CE), and has acquired Afrocentrist overtones in recent decades with the work of Clyde Winters, to whom we already referred in an earlier Chapter.²²⁰ 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. Scholars who took Terrien de Lacouperie's theory seriously, tended to interpret the expression 百姓 'Bak Sing' / 'Hundred Families' as referring to immigrants into Chinese lands specifically from Central Asia (Sogdiana, Bactria etc.), where Hellenistic and Mesopotamian influence was considerable. In recent work reflecting today's scholarly standards, these viewpoints have largely been discarded, yet similar ideas have replaced them and for very good reasons, e.g. in Witzel 2009 (where, with a focus on Japan, he lists the many trans-Steppe Eurasian mythological continuities); and in Mori Masako (1995, 2009), where the specific claim is made that the mythical archer 后羿 Hou Yi – one of the most popular figures of Chinese mythology – goes back to a Mesopotamian prototype and is cognate to Graeco-Roman Heracles / Hercules.

The uncontested expression 'black(-headed) people' reminds us of the fact that a postulated prehistoric Black presence in Eurasia constitutes a cherished Afrocentrist theme (Van Sertima 1985, which collection contains one of Martin Bernal's first statements on his *Black Athena* thesis): from the extreme West of Eurasia (the so-called Black Irish of popular ethnic classification, and of myth) to South Asia (the highly pigmented Dallit, once designated 'Untouchables', who have been claimed to be continuous with the population of sub-Saharan Africa; Winters (1988)

²²⁰ Cf. Winters 1980a, 1980b, 1981, 1983a, 1983b, 1985, 1988a, 1988b.

also throws in the Tamil ethnico-linguistic cluster); to even East Asia, where Winters (1983, and many recent discussions on the Internet) claims that the 夏朝 Xia and 商朝 Shang dynasties were founded by Black Africans. In my own research of transcontinental connections I have repeatedly stumbled upon ‘uninvited guests’, *i.e.* linguistic and cultural varieties that appeared to be ‘out of place’ from the perspective of prevailing theoretical and geopolitical paradigms. Thus I found indications of a *proto-Bantu-speaking presence in the Bronze Age Eastern Mediterranean, as one of the linguistico-ethnic components of what stood out as the Pelasgian complex. This, in combination with

- archaeological and ethnographic evidence of now mainly African traits in West Asia (elongated labia, round house plan, spiked wheel trap, mankala games, the belief in a unilateral mythical being, etc.) and of
- my claim of a substantial *Borean and temperate-zone background for the Niger-Congo phylum of which Bantu is a major branch²²¹
- and indications²²² of an early association between Bantu-speakers and metallurgy (even though these cannot be claimed to have been the very earliest metalworkers; Alpern 2005)

brought me to propose (with now discarded predecessors such as Trombetti) a rather different early history of the Bantu sub-phylum: from West, South, South East or East Asia, into Africa, where despite specialists’ claims of an origin c. 8 ka BP near Lake Chad, true Bantu expansion is only considered to date from the second half of the 1st mill. BCE – as can be very well accommodated within my proposal. These counter-paradigmatic linguistic and cultural considerations are well compatible with the Afrocentrist idea of a highly pigmented population segment preceding the spread of lowly pigmented populations in Eurasia.

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, which then (between Indo-European < Eurasian / Nostratic, and Sino-Tibetan < Sino-Caucasian), could only be situated at

²²¹ van Binsbergen 2011d, and in press (b).

²²² van Binsbergen in press (b).

the *Borean level. This however turns out not to be the case: there is undoubtedly a genetic relationship, but it cannot have produced kŭn in the Sino-Tibetan context, since in the latter macrophylum, the *Borean root in question, *TVKV (*cf.* Table 6.2) did not produce the reflex kŭn but instead *proto-Sino-Caucasian *dVKwV.²²³

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: *taɣŋə- (-ŋɣ-) ? 'black' (*cf.* Illich-Svitych 1965 / 1967: 342, 1971-1981: I, 220; Dolgopolsky n.d.: 551, 2331, 2347). Ultimately, Eurasiatic *DVG- may be claimed to derive from *Borean (approx.): *TVKV,²²⁴ '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: *dhǵk, 'clay, mire' (with Chinese: 埴 *dhǵk, *thǵks, 'clay, clayey' – *not even remotely reminiscent of* 坤 kŭn, proto-Tibetan: ādag, 'clay; cleaving, adhering', proto-Lushai: diak, 'mud, mire'), proto-Yeniseian: *tǵq-, proto-Burushaski: *toq; *Austric*: 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 / 1967: 342; Bengtson & Ruhlen 1994: 42).

It would constitute a future project in comparative historical linguistics in its own right to ascertain whether the remaining three apparently exotic trigram names, dui, xùn, and gèn, could likewise be argued to have an Anatolian / Greek background. Meanwhile, we may now safely assume that at least one of the eight trigram names, kŭn, has an Anatolian / Greek language origin, which also allows us to date that name to 2nd-3rd mil-

²²³ Starostin & Starostin 1998-2008: 'Long-range etymologies'.

²²⁴ *Cf.* Table 6.2, above, which largely deals with the reflexes of *Borean *TVHV, with similar semantics.

lennium BCE. Remarkably, the traditional Chinese account of the origin of the trigrams has been that the legendary ruler / culture hero Fu Xi, mythically dated to the early 3rd millennium BCE, first perceived the eight trigrams on the back of a mythical animal (dragon-horse²²⁵ or turtle) emerging from the River Luò 洛河, with which also the invention of the 洛書 *luò shū* magic square is connected. Conventionally depicted (e.g. by the Song-dynasty painter 馬麟 Ma Lin; early 13th c. CE) 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,²²⁶ classical Greece,²²⁷ and,

²²⁵ Another well-known Chinese myth (from the 書經 *Shūjīng Classic of History*) also shows evidence of a transformation cycle of elements: 鯀 Kun / Gun, in the shape of a white horse tries to control the Primal Waters, but he is killed by the Fire-god; in Kun / Gun grows his son 大禹 [Da] Yu, a dragon who does succeed in taming the waters – with the help of Nü Wa, who only appears in the literature fairly late (350 BCE). So we have the rather familiar schema:

X [White Horse] seeks to control Water
 Fire kills X
 X produces Y [Earth ?]
 Y control Water, with Nü Wa (Air?) as catalyst.

As a Flood heroine (which, of course, means that Nü Wa cannot be Water since she is threatened by Water), Nü Wa is particularly associated with Air – it is she (also under the name of Nü *Kwa*) who mends the holes in the Sky and thus stops the Flood (Werner 1984 / 1922: 225; Vitaliano 1973: 163). Incidentally, note the parallels with the West Eurasian ‘birth of Athena’ mytheme as discussed around Fig. 5.1. In the footsteps of Karst 1931a, I have proposed (van Binsbergen & Woudhuizen 2011: 105n; van Binsbergen 2011a: 334 *f.*) a Central to West Asian origin for Athena, as well as for Poseidon / Fu Xi with whom she seems to form a post-Flood sibling / twin pair (proposing a *Borean etymology for the latter name that suggests both its extreme antiquity, and its original semantics in terms of ‘womb, female genital’ – a transformation of the Mother of the Waters). In corroboration, Athena is considered (Suidas) inventor of the chariot, which we know was invented in Kazakhstan, 2000 BCE. Her birth at Laco Tritonis in Ancient Libya, often identified with the salt lake Šoṭṭ al-Jerid (South Tunisia), would then be a common toponymical East-West displacement, supported (van Binsbergen & Woudhuizen 2011: Chapter 2) by the wide East and West distribution of the name Libya in the Ancient world. Similarly, the transformation cycle of elements is implied in the common stories of the Chinese god of Fire locked up in a cage but upon his release causing a Flood – as brought out in a Yao / North Vietnamese Flood myth (Dang Nghiem Van 1993: 326 *f.*; Isaak 2006).

²²⁶ Cf. the famous site of Çatal Hüyük; Mellaart 1967; Kammerzell 1994.

²²⁷ Besides the heroes Jason, Menelaus and Diomedes, the god Dionysus was especially connected with the leopard skin; Dionysus was mythically associated with long-

probably 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 to which we take recourse here, 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), at the same time skirting the Sino-Caucasian and the Afroasiatic distribution areas, and recognised as a major region for the innovation and subsequent diffusion of mythical materials *e.g.* Flood myths.²²⁸

We have now 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 *protoform of the transformative element cycle*. The latter subsequently found its way to China to produce the Taoist element cycle and *Yi Jing*; much later it came to Mesopotamia in °Abbāṣīd times (late 1st mill. CE) and (most probably under further Chinese feedback) became °*ilm al-raml*. It also came to North Africa and sub-Saharan Africa: certainly after 1,000 CE as a form of diffusion of the then recently formulated °*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, al-Zanāfī's Berber name just might suggest that he formalised a system already in use in the Saharan environment where it is still widely attested.²²⁹ Feuchtwang (1974) is one of the few authors to present, be-

range eastward expansion, and his manifold leopard connotations seem to reappear in the military ranks and the adornment of the Chinese Emperor's chariot.

²²⁸ Aksu *et al.* 2002; Haarmann 2005.

²²⁹ However, like several other North African groups the Zanāta 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 אבן עזרא (1092/3–1167 CE) – his geomancy was found at the famous Cairo *geniza*). When the Geniza specialist Saul Shaked (*cf.* Shaked 1964; Schaefer & Shaked 1994) read Ibn Ezra's geomancy with me at the Netherlands Institute for Advanced Study, Wassenaar, the Netherlands, 1994-1995, it turned out to be an unmistakable emulation of Arabic prototypes (*cf.* Fahd 1966; Skinner 1980; Jaulin 1966).

yond a mere philological argument, a cultural-anthropological analysis of Chinese geomantic divination, and to explore its similarities and differences vis-à-vis the African forms; he acknowledges Hébert's (1961) comparative analysis of African geomancies (for which already Steinschneider (1877) demonstrated the background in Arabian *'ilm al-raml*), but rejects (probably rightly) Hébert's reference to Greek philosophy as a possible substrate underlying the African forms, and stresses the differences between African and Chinese geomancies:

'Missing altogether from African geomancy, however, is the elaboration of time cycles and the whole dynamic flux [apparently is meant: the transformational and cyclical aspect – WvB] and change so essential to Chinese geomancy and horoscopy' (Feuchtwang 1974: 231).

Nonetheless, Feuchtwang admits (*cf.* Oppenheim 1966: 37) the continuity between Chinese and Etruscan augury – echoing the view that sees Ancient Chinese and Imperial Romans (whose elite women wore Chinese silk) as each other's mirror image. But when we realise that the Pelasgian socio-political system of confederations consisting of twelve named groups has a Eurasian distribution from Tyrrhenia / Etruria / Tuscany, Ancient Greece, Syro-Palestine and North Africa, possibly also Niger-Congo speaking Africa, and all the way to China,²³⁰ we are tempted (and Feuchtwang admits as much, 1974: 224 *f.*) to view also the transformation cycle of elements as *Pelasgian*, to attribute a Bronze Age West Asian origin to it, and to regard the formal similarities as indications of underlying genuine cultural continuities.

In the field of global cultural history, recent decades²³¹ have made us strongly aware of the potentially Eurocentric and hegemonic implications of hypotheses claiming a European / West Asian origin for such major cultural achievements as *e.g.* Neolithic food production (now modified by the claims of African and Chinese contributions to the Neolithic revolution). Having participated in this debate, I am rather loath to conclude, for the Chinese versions of the transformative element system, a West Asian, Indo-European-speaking, origin. Yet there is so much converging corroborative evidence from adjacent knowledge fields such as astrology and

²³⁰ von Vacano 1955: 46; van Binsbergen & Woudhuizen 2011: 392, 112n, and references there.

²³¹ Bernal 1987-2006; Needham with Ling, 1956, 1961, vols I and II; Diop 1991.

the zodiac that such an apparently Eurocentric conclusion yet appears inevitable. Already a century ago, the great specialist on the history of astronomy and astrology Boll (1912) gave many reasons why the Chinese twelve-animal zodiac (found all over Central and Eastern Asia from Turkestan to Japan) must be considered to have an origin in Hellenist Egypt – incidentally, an intellectual milieu where, by Hellenistic times, Empedocles' four-element system had undoubtedly been accepted as central cosmology. Necessary transformations of details occurred in the process sketched by Boll: the Egyptian 'ibis' became the Chinese 'fowl', the 'crocodile' became the 'dragon'. Also the prominent Sinologist Chavannes (e.g. 1906) claimed that the twelve-animal-zodiac (applicable to periods of 12 years, days, and hours) travelled from West Asia to China via Turkestan, with the Greek-Hellenist kingdom of Bactria as the obvious bridge. A similar continuity was claimed by Leopold de Saussure (1923).²³² Elliot Smith (1919: 49), once the epitome of British diffusionism and knighted for his great achievements in (brain) anatomy, but (somewhat like myself) little more than an amateur in global cultural history (*cf.* Davies n.d. / 1976), makes the claim in his characteristic sweeping manner:

'In my last Rylands Lecture I referred to the probability that the essential elements of Chinese civilization were derived from the West. I had hoped that, before the present statement went to the printer, I would have found time to set forth in detail the evidence in substantiation of the reality of that diffusion of culture. Briefly the chain of proof is composed of the following links : (a) the intimate cultural contact between Egypt, Southern Arabia, Sumer, and Elam from a period at least as early as the First Egyptian Dynasty; (b) the diffusion of Sumerian and Elamite culture in very early times at least as far north as Russian Turkestan and as far east as Baluchistan; (c) at some later period the quest of gold, copper, turquoise, and jade led the Babylonians (and their neighbours) as far north as the Altai and as far east as Khotan and the Tarim Valley, where their pathways were blazed with the distinctive methods of cultivation and irrigation; (d) at some subsequent period there was an easterly diffusion of culture from Turkestan into the Shensi Province of China proper; and (e) at least as early as the seventh century B.C. there was also a spread of Western culture to China by sea.'

According to Giles (1898: 811) the theory of the interaction of the five

²³² Such spread need not have depended on state agencies; itinerant diviners and magicians may have been in part responsible for it (Needham with Ling 1961; Burkert 1983).

elements is attributed to 王伋 Wang Chi, who lived during the Sung dynasty (960-1279 CE). This is about one and a half millennium after Empedocles, and might conceivably, though indirectly, have been influenced by the latter. However, another author on the Five Elements mentioned by Giles (1898: 773) was 騶衍 Tsou Yen, of the 4th c. BCE – one century after Empedocles (c. 490-430 BCE), so possibly still independent from the latter.

Let us grant that important ingredients towards *Yi Jing* probably came from West Asia / Northeast Africa. But could we take one further step and postulate that these ingredients travelled East *after* the Presocratics had given them a decisive shape – not of a transformative cycle of element, but of four parallel, immutable ontological element states? We have here in essence the same postulated West-East transmission that is at the heart of Terrien de Lacouperie's hypothesis concerning the West Asian origin of *Yi Jing*. Could we postulate that the East Asian correlative systems have been derived, after all, from the Presocratics, via the intermediary of Hellenism specifically Hellenist Egypt?

Certainly not. In the first place, the central features of the East Asian correlative systems are cyclicity and transformation, and these are far from central among the Presocratics. It is not credible that cyclical transformation which was already a declining feature when attested in Presocratic thought, but attested for instance in Ancient Egypt, was picked up *under Presocratic influence*, and thus brought to fruition in East Asia. In the second place, our linguistic detective work suggests that the East Asian correlative systems did owe a considerable debt to West Asia, but their nomenclature betrays a proto-Hittite lexical form that must be at least a thousand years older than the Presocratics, who preceded Hellenism by several centuries again. On the basis of the flimsy evidence available, the best fitting model would be one according to which the transformation cycle of elements was invented in West Asia in the 2nd millennium BCE, was from there transmitted to East Asia, but also lingered on locally (for instance in the Indo-Iranian fire cult, whose oldest attestations go back to the same period; or in the Lycian cult of the Fire-and-metallurgy god Hephaestus), and in good time inspired the Ionian philosophers and their followers in Graecia Magna, in the middle of the

first millennium CE – but only to lead them to formulate an element system that considerably played down the cyclic and transformational format then already around for a thousand years or longer; in fact, played down so effectively that it was soon lost in the European reception of the Presocratics in Late Antiquity and after.

One of my methodological principles has been that, if long-range transcontinental connections are to be taken seriously, this implies that conditions at one end of a chain of transcontinental connections may also apply at the other end, even if this means at thousands of kilometres and thousands of years distance. In the Skagit Native American's version of a North American element system, knowledge of the system was stressed to be *secret*. This suggests that the element system is originally esoteric, secret knowledge, to be transmitted in initiation cults such as bestow on new, young members of society the local worldview and mythology, or such as are likely to have attended the early millennia of metallurgy (Eliade 1962; McNaughton 1988). The well-known imperviousness of such cults to change may be one argument for our two Working Hypotheses – the great antiquity and transcontinental spread of these systems. The secrecy element may also go some way to explain the enigma surrounding the transformation cycle of elements in the Empedoclean context: detectable in Empedocles, more or less implicitly affirmed by such great authorities as Aristotle and Plato, yet entirely ignored by their successors in the history of Western science and cosmology.

In fact, Empedocles and the other Presocratics searching for one or more *materiae primae* do certainly present something of an enigma: considered as a group it is clear that they could work on the basis of knowledge of a four-element cycle of transformations from which each took his pick until Empedocles enlisted all four elements; the additional evidence such as the Homeric struggle of Achilles (Earth) and Hephaestus (Fire) against Scamander (Water) already alluded to above, and the very frequent mythological evocations of transformations or metamorphoses (again, Ovid's delightful *Metamorphoses* is entirely devoted to them) reveals that such knowledge probably had been available in the Greek world since at least the early Iron Age. Here and in many other oral and epic expressions of the transformation cycle of elements world-wide (*cf.* the North American

Flood stories we considered above) the typical formal relationships defined within the transformational system (notably: to kill or destroy vs. to produce, give birth to, and the attenuated forms of hindrance vs. assistance) dictate the interactions between hero protagonists and explain the futility of victory and the relative nature of defeat (van Binsbergen 2010e). This is a solid foundation to build upon, for a Presocratic philosopher. And yet the dynamism of the transformative element cycle, although clearly stated, was scarcely elaborated by Empedocles, and despite Plato's and Aristotle's affirmative commentaries scarcely played a role in the Empedoclean reception in later centuries.

Meanwhile the above transcontinental analysis leaves us somewhat uneasy. Scholars like Boll and Chavannes wrote at the high-tide of European colonialism, when it was common even for scholars to underestimate the cultural initiative and achievements of peoples outside the North Atlantic European tradition. While admitting some West-East flow, half a century later Needham with Ling (1961) present a long list of more than 70 items (including the four cardinal ones: paper, printing, the compass, and gunpowder) where the flow of cultural indebtedness was unmistakably East-West. The Hellenistic time perspective evoked by Boll and Chavannes is suspiciously shallow, when we realise that ever since the invention of horse-riding and chariot technology, in Central Asia 3,000-2000 BCE, many centuries before Hellenism, the Eurasian Steppe has been an open corridor through which all sorts of cultural achievements have constantly travelled in both easterly and westerly directions.

But do we need transcontinental transmission at all to explain the vicissitudes of element systems in Eurasia? Certain prominent scholars today claim that we can do without. Based on the inspiration from neurobiology, a new, typically Post-Modern light is thrown upon these transcontinental connections by the work of Steve Farmer *et al.* (2000), in their contribution to a collection of papers (Fiskejo 2000) on correlative cosmologies with special emphasis on East Asia. For these authors, the many formal correspondences between the correlative cosmologies we have considered in Table 4.1, are not in the least indicative of actual historic borrowing. Instead, they argue that within every literate religious tradition, specialists are constantly at work to reconcile, through ever more convoluted compromises, the contradictions that arise when their own tradition encounters, or is influenced by, an adjacent tradition with, origi-

nally, a totally different formal structure and contents. These (largely hypothetical) procedures of textual reconciliation are claimed to produce converging forms of layered complexity, which might even be predicted with a purely formal algorithm – so even if the initial input of original, local systems was absolutely unrelated and disparate, the end result, after many centuries, will show very marked similarities regardless of any real exchanges of content. This view would render the hypothesis of a common origin in some proto-historical or prehistoric substrate, *superfluous* under Occam's Razor. In an illuminating critical discussion of an earlier version of the present argument, Steve Farmer added to this point of layered text traditions the related point that the claim of any cyclical transformation cosmology spanning more than a few millennia is unrealistic, and advocated a much shallower time scale. While the eminent Asianist specialists co-signing Farmer's 2000 argument are sufficient warranty to take it seriously, it is my view that these postulated mechanisms of convergence explain only a relatively small part of the similarities and convergencies we see in the written evidence, whilst due weight must be given to the pre- and protohistorical, long-range continuities. *On the basis of the comparative data presented in this book, I can see Farmer's point as far as the Upper Palaeolithic is concerned (the Working Hypothesis with which we started out in Chapter 0), but I beg to differ in relation to the Bronze Age (our Alternative Working Hypothesis).*

Whence the unique position accorded in this book to West Asia? At the crossroads of the Old World, in the centre of the Sahara-to-China Extended Fertile Crescent (the Neolithic's cradle), with high genetic and linguistic diversity, surplus production and population increase must have created favourable conditions both for technological (metallurgy, chariot), cultural (transformation, triads, Separation of Heaven and Earth), and political innovation (state formation), and for the demic-diffusion export of the latter's results, – which, under the newly arisen forms of socio-political inequality, may often have taken the form of expulsion, to the East, West and South, of somatic and linguistic outsiders, e.g. highly pigmented locals speaking not proto-Eurasiatic or proto-Afroasiatic but Khoisanoid and Bantoid languages) by regionally dominant groups.

We now have enough data and analyses in hand to try and assess our two Working Hypotheses.

Chapter 8. Further discussion of trans-continental relationships with a view of assessing our overall Working Hypothesis

8.1. Vindicating our two Working Hypotheses

We have formulated, as our initial Working Hypothesis for the present argument, that the Presocratics may have adopted, transformed and adulterated the worldview of a transformation cycle of elements that, by their time, had already been widely available for millennia, since the Upper Palaeolithic. Now that our argument draws to a close, it is time to return to this Working Hypothesis and ascertain whether we can uphold it, or must reject it, in the light of the extensive empirical data and theoretical arguments presented so far. Once we have assessed our Working Hypothesis, we shall also be in a position to explain the presence of the traces of a transformation cycle of elements among the Nkoya of South Central Africa. Meanwhile we should heed our Alternative Working Hypothesis, which still appeals to a transformation cycle of elements as background for the Presocratics, but situates it not in the Upper Palaeolithic but in the Bronze Age.

Our linguistic discussion of West Asian, 2nd mill. BCE antecedents of at least part of the nomenclature of the East Asian transformation cycle of elements demonstrates that *we can consider our Alternative Working Hypothesis to be substantiated*: the transformation cycle of elements was available in West Asia in the 2nd mill. BCE, and the Presocratics adopted it in a highly attenuated form, so that its features of cyclicity and transformation remained largely implied and ultimately came to be rejected in the Western intellectual tradition – even though the major founding icons of that tradition, Plato and Aristotle, indicated that they were still aware of these transformative and cyclical features.

If we can uphold our Alternative Working Hypothesis for the West Asian Bronze Age, can we perhaps project it much further back into the past, and claim it as part of the Upper Palaeolithic near-global communalities that we also find as a result of the disintegration of *Borean? Can we thus confirm our initial Working Hypothesis?

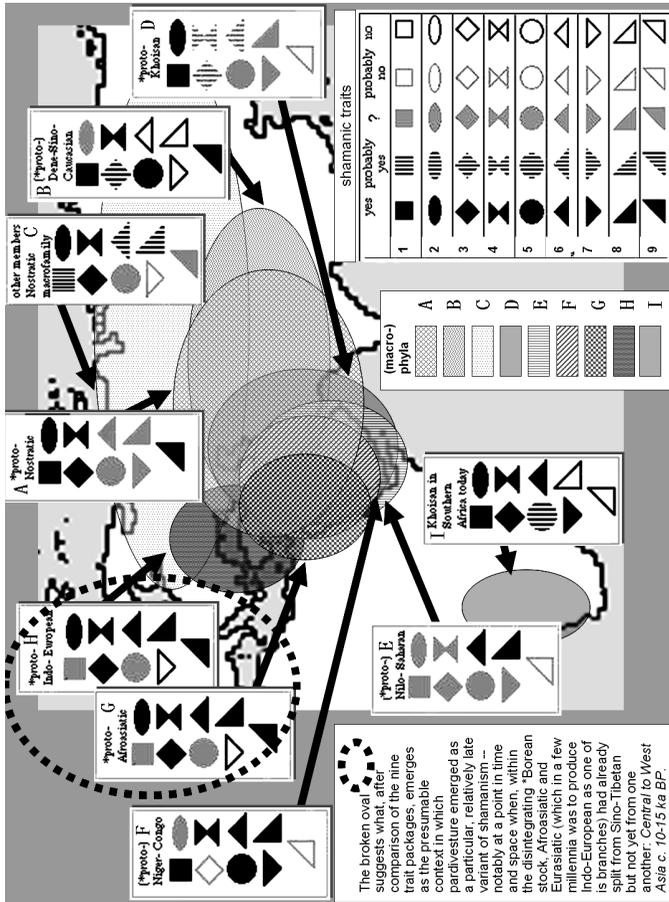
8.2. Could the transformation cycle of elements be shamanic in origin and thus date back to the Upper Palaeolithic?

Perhaps the very notion of a transformation cycle of elements is shamanic in origin, and, like shamanism as an institution, could be argued to go back to the Upper Palaeolithic of West to Central Asia (c. 20-15 ka BP). This implies two questions:

1. what was the origin of shamanism in space and time? and
2. can element thinking, cyclicity and transformation be argued to be inherent aspects of shamanism?

The first question can be answered provisionally, although it would be the work of a lifetime to substantiate the answer satisfactorily. It is a widely-held view that shamanism already existed in Upper Palaeolithic Eurasia (*e.g.* Clottes & Lewis-Williams 1996; Layton 2001). Likewise, in the course of my world-wide comparative research into leopard-skin symbolism (often associated with shamanism), I developed (van Binsbergen 2004 / 2013) a typological argument suggesting that (the leopard-skin associated form of) shamanism emerged in West to Central Asia 10-20 ka BP (Fig. 8.1).²³³ There are other indications that shamanism dates from the disintegration of *Borean: the basic shamanic movement up and down the celestial axis presupposes the development of naked-eye astronomy, yet against a profusion of terms to denote 'Earth' and 'Water' (*e.g.* van

²³³ Unfortunately, my analysis at the time did not yet extend to include the macrophyla of Nilo-Saharan, Austric and Amerind, and was still based on the idea (Bomhard 1984; Bomhard & Kerns 1994), rejected by the Moscow school of long-range linguistics (*e.g.* Starostin & Starostin 1998-2008), that Afroasiatic rather than constituting a macrophylum in its own right should be subsumed under Nostratic / Eurasiatic. Also, an extensive argument is required in order to justify how in this Figure specific (macro-)phyla are suggested to originate in specific parts of the Old World. In the final, published version (2013) these questions will be addressed.



symbols indicating aspects of shamanism:

1. speckled nomenclature for leopard
2. speckled nomenclature for other species
3. ecstatic cult
4. therianthropy (humans posing as animals) attested
5. leopard therianthropy
6. leopard-skin symbolism attested
7. Exalted Insider
8. Sacred Outsider
9. Mother goddess

letters indicating linguistic macrophyta:

- A. proto-Nostratic / Eurasianic
- B. proto-[Dene]-Sino-Caucasian
- C. other members of the Nostratic / Eurasianic macrophyta except Indo-European
- D. proto-Khoisan
- E. proto-Nilo-Saharan
- F. proto-Niger-Congo
- G. proto-Afroasiatic
- H. proto-Indo-European
- I. Khoisan in Southern Africa today

Source: van Binsbergen 2004 / 2013

Fig. 8.1. Linguistic and comparative-ethnographic reconstruction of the emergence of the ritual use of leopard skins (pardivesture) as an aspect of shamanism.

Clearly, the shields setting out the combination of traits per (macro-)phylum are

hovering above the geographical plane (which is a map of the Old World), this also applies to the reconstructed Indo-European / Afroasiatic proposed origin of *pardives-
ture*, which would be not in Western Europe but in West Asia. The broken oval suggests what, after comparison of the nine trait packages, emerges as the presumable context in which *pardivesture* emerged as a particular, relatively late variant of shamanism – notably at a point in time and space when, within the disintegrating *Borean stock, Afroasiatic and Eurasiatic (which in a few millennia was to produce Indo-European as one of its branches) had already split from Sino-Tibetan but not yet from one another: Central to West Asia 10-15 ka BP.

Binsbergen & Woudhuizen 2011: 142f, 406 *f.*), reconstructed *Borean has, as we have seen, just one term for ‘Sky’ – so it appears as if Heaven as a transcendent concept had scarcely been invented by *Borean times, nor could it have, in the light of my discussion, above, of modes of thought, transcendence and absolute distinctions (Section 6.3).

That we are dealing here with a very ancient and essentially unitary package of ideas is also suggested by the fact that an obvious cognate of the common Bantu term for healing, *nganga*, was also claimed by Dolgopolsky (1998) for Eurasiatic / Nostratic (one of the linguistic macrophyla into which *Borean was supposed to disintegrate), with the widespread magical and healing semantic notion of ‘tying’. We are reminded once more that Niger-Congo was counted as part of what they called ‘Super-Nostratic’ by Kaiser & Sheveroshkin 1988.

It is the second question that gives us real problems. *Can element thinking, cyclicity and transformation be argued to be inherent aspects of shamanism?* If the answer is affirmative, this would mean that the cyclicity and transformation are the default values of element thinking, and that where these features are absent, we have an adulterated, eroded, typologically late form. Typologically, such features can hardly be upheld as central to shamanism – although, admittedly, much depends on the definition of that protean institution that is so widespread in space and time. Central to shamanism appears to be the emerging notion of *transcendence*:²³⁴ in a ritual setting a specialist, on behalf of his or her client or more typically of the community at large, leaves the here and now in

²³⁴ For my extensive recent argument on this topic, cf. van Binsbergen 2012a.

order to sally forth to an ordinarily inaccessible realm of existence (Heaven, or the Underworld; perhaps the fringes of the life world in a more horizontal worldview but the vertical image of the world is typical of shamanism which is therefore associated with the Upper Palaeolithic emergence of naked-eye astronomy) where otherwise unattainable benefits (information, medicine) may be obtained, and he or she returns with these benefits to let them have a positive impact on everyday life. A rudimentary ‘cyclicity’ is implied in leaving and returning, but the ‘element’ and ‘transformation’ features do not seem to be implied. A further step in our argument against a transformative element cycle in the Upper Palaeolithic would be our above analysis of prehistoric modes of thought from (a) *Borean ‘range semantics’, via (b) element thinking, to (c) triadic dialectics – with the transformation cycle of elements considered to be a form of (c). In this scheme, the transformation cycle of elements is clearly the more advanced typological format of modes of thought, which can hardly be claimed to have the near-universality of Upper Palaeolithic traits (e.g. *Borean), but must remain restricted to the much more confined space of Bronze Age civilisations – according to a distribution that may well match that we mapped in Fig. 6.7 for triads as a related mode of thought.

Therefore, we have to reject our initial Working Hypothesis. The transformation cycle of elements *cannot be projected further back than the Bronze Age, and cannot safely be postulated to have informed modes of thought in the Upper Palaeolithic*. As a result we retain and affirm our Alternative Working Hypothesis. Therefore, whenever the transformation cycle of elements surfaces in sub-Saharan Africa (the Nkoya case) and in North America (e.g. the Skagit case), we cannot invoke some Upper Palaeolithic / *Borean substratum to explain the attestation, but must resign ourselves to either of the following two explanations:

1. the attestation can be explained as an effect of Pelasgian transmission from the Late Bronze Age onward
2. the attestation is the result of an even more recent (1st-2nd mill. CE) intrusion coming directly from East Asia, where the transformative element cycle has been at home in historical times.

For North America, where many culturo-linguistic intrusions from Eura-

sia and from historical times have been attested (Jett 2002), these are readily acceptable explanations. For the Nkoya however, such explanations can only be accepted with reluctance, as we shall see in the following Section 8.3.

8.3. Are the Nkoya-East Asian parallels to be explained by (a) Upper-Palaeolithic Back-to-Africa migration (b) Pelasgian transmission in the Bronze Age (c) East Asian intrusion into Africa during historical times?

The elaborate Nkoya clan system turns out to reveal a six-element cycle with catalytic element, and with unsystematic adaptations towards the institution of kingship. The comparative evidence from Eurasia, coupled with the recent genetic discovery of the ‘Back-to-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. There are close parallels to the Nkoya system in the Taoist transformation cycle, including the ‘insulting’ / joking element between the elements. Now to understand these transcontinental similarities, in principle three different models could be invoked:

- (a) Upper-Palaeolithic Back-to-Africa migration
- (b) Pelasgian transmission in the Bronze Age
- (c) East Asian intrusion into Africa in historical times.

Let us consider them on by one.

8.3.1. Upper-Palaeolithic Back-to-Africa migration

In the Upper Palaeolithic period before the trans-Bering migration and the Back-to-Africa migration, (the South-eastern part of) Central Asia still harboured cultural traits that were to end up in North America and sub-Saharan Africa respectively. The evidence of such a transcontinental common heritage is rapidly expanding, and so far includes:

- Girl’s puberty rites especially among the NaDenē speaking peoples (whose languages have recently been clustered into one linguistic phylum, Sino-Caucasian, along with Sino-Tibetan, Caucasian lan-

guages and Basque!), which are very similar to those of Niger-Congo speaking (including Bantu-speaking) Africans.²³⁵

- Gaming and divinatory tokens, which both in South Central Africa and throughout North America come in foursomes and are often indistinguishable between both regions, while also at least one connecting attestation from Upper Palaeolithic Eurasia is available (*cf.* Fig. 8.6, below).
- Other 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 research in progress on Flood myths world-wide.²³⁶
- The truly massive linguistic evidence subsumed under the heading of the *Borean Hypothesis (Starostin & Starostin 1998-2008) suggests genetic links between most languages now spoken, including the African macrophyla Khoisan, Nilo-Saharan and Niger-Congo (> Bantu > Nkoya), Eurasiatic (> Indo-European etc.), Sino-Caucasian (with Na-Denē as its North American affiliate), Austric, and Afroasiatic. Multivariate analysis²³⁷ suggests that *Borean first

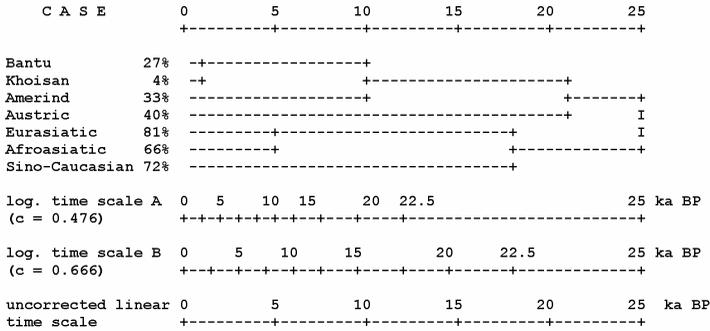
²³⁵ *Cf.* Sapir 1913; Driver *et al.* 1950; Tika Yupanqui 1999. From among many other traits I mention: the pubescent girl is usually initiated alone; by a non-kin adult woman who becomes her intimate fictive kin; in a community rite that lasts through the night and ends with the girl's solo dancing performance in the morning; when she is surrounded and encouraged by her close kin; in a dancing costume whose adornments imitate the rustling sound of rain. Despite the Upper Palaeolithic frame of reference implied in the long-range comparison of Amerind (or Na-Denē) speakers and Niger-Congo speakers, one is tempted to anachronistically interpret the rite, both in the Old World and in the New World, as a rudimentary evocation of element transformation: under the light of sunrise (Fire), the uninitiated girl with rain symbolism (Water) is transmuted into another element, perhaps Air (her elevated status as adult woman) or Earth (prospective mother).

²³⁶ Van Binsbergen with Isaak 2008; van Binsbergen 2010a and in preparation (c).

²³⁷ Van Binsbergen, in press (b). The logarithmic scale was experimentally determined so as to fit an estimated age for *Borean of 25 ka (proposed date of the split separating the African-Amerind-Austric macrophyla from the Eurasiatic-Afroasiatic-Sino-Caucasian macrophyla), and, as a benchmark, the dissociation between Afroasiatic

disintegrated into:

- a ‘peripheral’ branch comprising Austric, Niger-Congo and Amerind, and
- a ‘central’ branch comprising Eurasiatic, Afroasiatic, and Sino-Caucasian.



Source: van Binsbergen 2011d: 315 *f.*, with extensive discussion and references; also van Binsbergen & Woudhuizen 2011: 77 *f.*; van Binsbergen, in press (b).

Fig. 8.2. Dendrogram setting out the relative positions of the *Borean-associated linguistic macro-phyla in relation to Bantu and Khoisan

and Eurasiatic at 12.5 ka BP (under the Natufian hypothesis – *cf.* Militarev 1996, 2002; Militarev & Shnirelman; Turner 2008; and references cited there) according to which Afroasiatic emerged in Syro-Palestine in the context of the Mesolithic Natufian culture, *c.* 14.5 – 11.5 ka BP; and moreover assuming that the middle of the Natufian period marks the dissociation of Eurasiatic and Afroasiatic). The relative length *k* of each scale unit of 2.5 ka is given by:

$$k = 1 / (a+b*r \log(c*q+d)) = 1 / 10 \log(0.476*q),$$

where *q* is the inversed rank of that scale unit, counting from the origin. Other choices for the parameters (the constants: *c*, here 0.476; *a* and *d*, here 0; *b*, here 1; and *r*, here 10) would produce a similar logarithmic scale but with lesser or greater acceleration of rate of change towards more recent millennia. The present parameter choice (scale A) gives a greatly accelerated rate of change from the Mesolithic onward. Stipulating a very high rate of acceleration for the most recent millennia, scale A situates the node splitting Austric from the African / Amerind macrophyla at *c.* 24 ka BP; the node splitting the Eurasiatic / Afroasiatic from the Sino-Caucasian macrophyla at *c.* 23 ka BP; and the node splitting African macrophyla from Amerind at *c.* 20 ka BP. These are excessively high dates, which can be brought down by assuming the split between Eurasiatic and Afroasiatic to have occurred several ka later, and adjusting the parameters accordingly – as in scale B, with which I am more comfortable (*c* = 0.666).

Presumably, the ‘peripheral branch’ disintegrated c. 20 ka BP in Central Asia, from there feeding the linguistic makeup of both North America and sub-Saharan Africa.²³⁸ However, if on this linguistic basis we expect the present-day Mongolians to retain remnants of some postulated Upper Palaeolithic element system, we end up with a disappointment. The Mongolian system (Mostaert 1969) 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 we have seen, as standard from the Middle Bronze Age on.



Source: http://www.klausdierks.com/images/Namibia_Damara_Brandberg_Hungorob_4.JPG with thanks.

Fig. 8.3. A cult place for Heitsi Eibib in Namibia.

Probably a red herring is the name ‘Wounded Knee’ – a historically

²³⁸ Starostin & Starostin 1998-2008 for *Borean, Amerind and Khoisan, with selected Niger-Congo; more specifically, for Niger-Congo > Bantu within the *Borean context, van Binsbergen, 2010a, 2011d, and in press (b), van Binsbergen & Woudhuizen 2011. Also see Fig. 8.2.

charged toponym in South Dakota, USA, North America (scene of a major USA massacre of Native Americans, 1890), but in Southern Africa *Wounded Knee* is the name of the principal Culture Hero (*Heitsi-Eibib*) of the Khoisan speaking peoples, whose possible Asian ancestry we touched on above. Amazing continuities, meanwhile, link Heitsi Eibib to the rest of the Old World and especially to Western Eurasia. His main cultic manifestation is the herm or stone pile – such as found throughout Eurasia from Atlantic European and North African megalithic arrangements to the *betyls* of the Levant and the stone piles of Mongolia and Tibet. Designated by a West Semitic word subsequently adopted into West European intellectual discourse, the *betyl* / *baitylia* ('house of a god') is a class of West Asian and Mediterranean shrines whose main or only feature is a rock. They have been described by various scholars, both for the Ancient Mediterranean²³⁹ and much further afield.²⁴⁰ Ducie (1888) describes three so-called *mare* [*i.e.* female horse] *stones*, megaliths, one of which is adorned with human teeth; a megalithic shrine likewise called 'mare stone' (*hasharet al-fras*) was identified by me, among many others featuring as minor Islamic shrines, in the highlands of North-western Tunisia (van Binsbergen 1971, 1985a, 1985b). The link with psephomancy (divination by means of pebbles) and geomancy is, among other indications, brought out by the fact that many divine and heroic shrines in the Ancient Graeco-Roman world operated cleromantic oracles (*cf.* Farnell 1895-1909, 1921; Graves 1964; Bouché-Leclercq 1879); and also by the ancient report according to which Eurytus, a pupil of Philolaus, used pebbles so as to form geometric figures representing animate beings (Delatte 1936: 582 n. 2). One suspects a further link with the 'pierres gravées' of the Azilien (Latest Upper Palaeolithic) (Breuil 1955). In Africa, stones are particularly conspicuous in the context of rain-making (*e.g.* Simonse 1992). In Southern Africa prehistoric bored stones abound and have been repeatedly treated in the scholarly literature (van Riet Lowe 1941; Goodwin 1947-1952); they are probably just weights to enhance the striking power of early agricultural implements. In South Asia, elongated stones are abundantly associated with the *lingam*, Shiva's procreative instru-

²³⁹ Schmidt 1893; du Mesnil du Buisson 1966; Rose 1935; Fauth 1979b; Suhr 1967; Marwitz 1979.

²⁴⁰ The Sahara, North Africa, Tibet and Central Asia; *cf.* Lhote 1955; Cadenat 1955 – mention of a betyl in the shale of a human head; David-Neel 1970; Hedin 1934.

ment. In the Ancient Egyptian context, meteorites are singled out as stones with ritual significance, and associated with lightning and with the god ithyphallic god Min; associated representations are recorded for Togo (Balfour 1903). Meteorites were similarly venerated in Ancient Arabia (*cf.* the Holy *Ka^caba* shrine), while one stage of the Islamic *hajj* pilgrimage has been the pilgrims' throwing of stones in defiance of demons. In addition to these, admittedly heterogeneous and multidimensional, stone aspects of Heitsi Eibib, even his affliction of the lower extremities may reflect transcontinental continuities, after all: the wobbling gait as a result of ritual mutilation of the lower extremities (*i.e.* 'wounded knee') or the groin in the context of initiation especially initiation into royal office (Graves 1964, 1988), constitutes a recurrent feature of Eurasian cultures and may well be originally a Pelasgian trait; a case in point is, again, Erichthonius or Erechtheus, the first Athenian king, who had to be carried around in a basket²⁴¹ because – just like the Chinese culture hero Fu Xi and (by some interpretations) the legendary Mesopotamian culture hero Oannes – he was snake-footed.

Could we invoke the same kind of Upper Palaeolithic, transcontinental connections to explain the traces of a transformation cycle of elements among the Zambian Nkoya? One of the most cherished regularities perceived by linguists, folklorists, and comparative mythologists is that *the periphery of a cultural domain has the tendency to retain archaic forms which have already been supplanted by newer ones at the centre of the domain*, where subsequent innovation has been more intensive. Do we have something similar here? If the Nkoya rudimentary transformation cycle of elements had to be explained in this light, we would expect a large number of other attestations of that transformative element system both in sub-Saharan Africa and in North America.

For North America, this expectation is not convincingly confirmed. Admittedly, we did adduce, in Chapter 4, a number of instances that seem to betray a transformative element cycle from a handful of North American ethnic groups. Now, the cultural and linguistic diversity of North

²⁴¹ Ovid, *Metamorphoses*, II, 552 *f.*; Hyginus (1872), *Fabulae*, 166; Pausanias, *Description Graeciae*, I, 24, 7; Herodotus, *Historiae*, VIII, 41. Note the remarkable parallel with the Ugandan queens, which I discussed above (p. 102n) with reference to the Ancient Egyptian hieroglyphic sign  *nbtj*.

America is proverbial. The selected cases that appeared to manifest a transformative element cycle, have no recognised common cultural or linguistic affinity vis-à-vis one another, and neither case belongs to the Na-Denē linguistico-cultural cluster whose affinities with the Sino-Caucasian linguistic macrophylum of the Old World is now fairly widely accepted.²⁴² If we wish to explain the North American presence of traces of an element system they so unmistakably display, it can hardly be by exclusive reference to a common Amerind substratum going back to the Upper Palaeolithic. Instead, the attempted explanation should rather include reference to what is now an accepted model in pre-Columbian transoceanic studies (Jett 2002): an unsystematic, much more recent trickle of demic diffusion ('people on the move', bringing both their genes and their cultural and linguistic baggage) from the Old World (even from identifiable Sino-Tibetan and Afroasiatic provenances). Any transformation cycle of elements which these splinter groups on the move may have brought to North America, would ultimately have originated (possibly via illiterate, more or less acephalous, derived intermediate stages) from literate Eurasian cultures that have developed or adopted a transformative cycle of elements system.

A case apart is that of the Pacific coast of Mexico.²⁴³ We have seen how Nuttall claims a four-element system for Ancient Mexico, with several other Old-World continuities. We should not just take the antiquated anthropology of Nuttall's 1909 article at face value (however, for a fuller study see Nuttall 1901). From the pioneer British anthropologist Tylor to the diffusionist Thor Heyerdahl (1952, 1988) and the Afrocentrist Van Sertima (1976), claims have been made as to extensive trans-Atlantic and trans-Pacific cultural exchanges in pre-Columbian times, and they have been passionately contested (*e.g.* Ortiz de Montellano 2000), even though the accumulated evidence in their favour is now overwhelming.²⁴⁴

²⁴² Cf. Ruhlen 1998; Renner 1995; Shevoroshkin 1991; Dürr & Renner 1995.

²⁴³ Persistent though generally rejected claims 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. Nuttall 1909; Elliot Smith 1929: 10f; Also cf. Tylor 1879, 1880, 1896, on board games.

²⁴⁴ Cf. Jett 2002; Needham & Lu 1985; Sorenson & Raish 1996; Sorenson & Johannessen 2004. Cavalli-Sforza *et al.* 1994 even adduce some genetic evidence in support of Heyerdahl's hypothesis of demic diffusion from Peru to Polynesia (although not for the postulated transmission from Western Eurasia to Peru).

Among the correspondences listed by Nuttall, the Mexican purple industry (*cf.* Pankonien 2008) suggests Phoenician connections – after all Phoenicians were major navigators not only for their own account but also in the service of the great states of Antiquity, and their mediating role in the transformation and transmission of art, knowledge, and the alphabet has been duly recognised. In fact, however, the case need not be specifically Phoenician: the purple snails in question are widely distributed along the Mediterranean and the Atlantic coasts of both Europe and Africa. Significantly, meanwhile, the Mexican purple industry is situated on the Pacific, not the Atlantic, coast. Let us briefly consider Nuttall's other arguments in favour of transcontinental borrowing to Pacific Mexico: the round calendar, weaving, pearl fishing, shell trumpets and mining for precious metals. As renderings of an annual cycle, calendars may have a general tendency to be round, but the round calendars of the Maya appear to have counterparts especially in Ancient China. Weaving, probably an Upper Palaeolithic invention, is widely distributed over the Old and the New World, and therefore hardly suitable to pinpoint transcontinental connections. Pearl fishing especially refers to the Indian Ocean and its extensions (Red Sea, Persian Gulf – two regions traditionally associated with Phoenician origins and activities) including its South Chinese Sea fringe, but is also common throughout the Pacific – so again inconclusive. Conch shell trumpets are conspicuous in Oceania as well as in South and Central Asian Buddhism, but they are also known from the Ancient Mediterranean – Ovid's Flood is introduced by the sea god Triton blowing one (*Metamorphoses*, I, 449f). Mining for copper, silver and gold has likewise been a fairly ubiquitous affair since the Early Bronze Age, although Meso America may have had in common with sub-Saharan Africa extensive Indian and possibly Chinese intrusions and initiatives in this field. Tylor suggested, on the basis of striking continuities in colour symbolism and board games, a link between South Asia and Meso-America, trans-Pacific rather than trans-Atlantic. This is also the model one would be inclined to adopt if one might be prepared to jump to conclusions on the basis of Nuttall's mixed bag of reminiscences concerning the four-element system in Ancient Mexico.²⁴⁵ Our conclusion

²⁴⁵ Interestingly, attention could be drawn to another indication of South Asian provenance apparently penetrating, perhaps not all the way to the Americas, but at least deeply into the Pacific. When discussing Terrien de Lacouperie's work we had occasion to remark that he was the first to recognise the uncanny similarities between

should be that Nuttall's case on West Asian Bronze Age penetrated to Mexico remains weak but plausible (also *cf.* Heyerdahl 1952: Part V, pp. 219-345, on alleged pre-Columbian Caucasian, *i.e.* West Asian, intrusion in South America) while other South and East Asian candidates for such intrusion seem to offer a better case – and they might easily have transmitted a cyclical element cosmology.

Returning now to Africa we must admit that the elaborate Nkoya system is rather at variance with the other element systems in Africa. Particularly *the transformative aspect and the presence of a catalyst*, so striking in the Nkoya system and so strikingly similar to Taoism, both seem to be lacking in the other African systems reviewed in Section 4.3.1. Also in North America, attestations of the transformation cycle of elements, although not totally lacking, are far more sporadic than we would expect in the case of an Upper Palaeolithic substrate trait. At this junction it may be useful to adduce again, to the consideration of the South Central African Nkoya case, evidence from another major strand of my Africanist research, that of Southern African divination (Table 2.3). In my ongoing research into the African geomancies in their transcontinental environment from 1988 onward, I have tended to see the emergence of the four-tablet oracle in South Central and Southern Africa as the projection of a pre-existing divination system (based on an interpretative catalogue with 2ⁿ distinct categories), onto a new type of random generator:

- no longer the chance hitting of the ground with a stick, as in the Islamic form;
- nor the throwing of sticks or coins, as in the East Asian form;
- nor the throwing of special geomantic dice, as in the relatively recent and derived South Asian form, counterparts of which are also sporadically found in Africa;
- nor the throwing of cowries or divining chains as in the West African forms including Ifa;
- nor the throwing of half-shells of *mungongo* nuts as in Southern Africa and West Africa;
- or so-called 'temple-blocks', *chiao pai*, and the bundle of sticks

Indus Valley apparent scriptural signs, and those of Easter Island. In this connection we may also mention Lessa's (1969) attestation of the Chinese trigrams in Micronesia.

known as *chim*, as in the East Asian form;

- nor the clockwork emulation of the geomantic process as in Islamic divinatory machines of the early 2nd millennium CE;

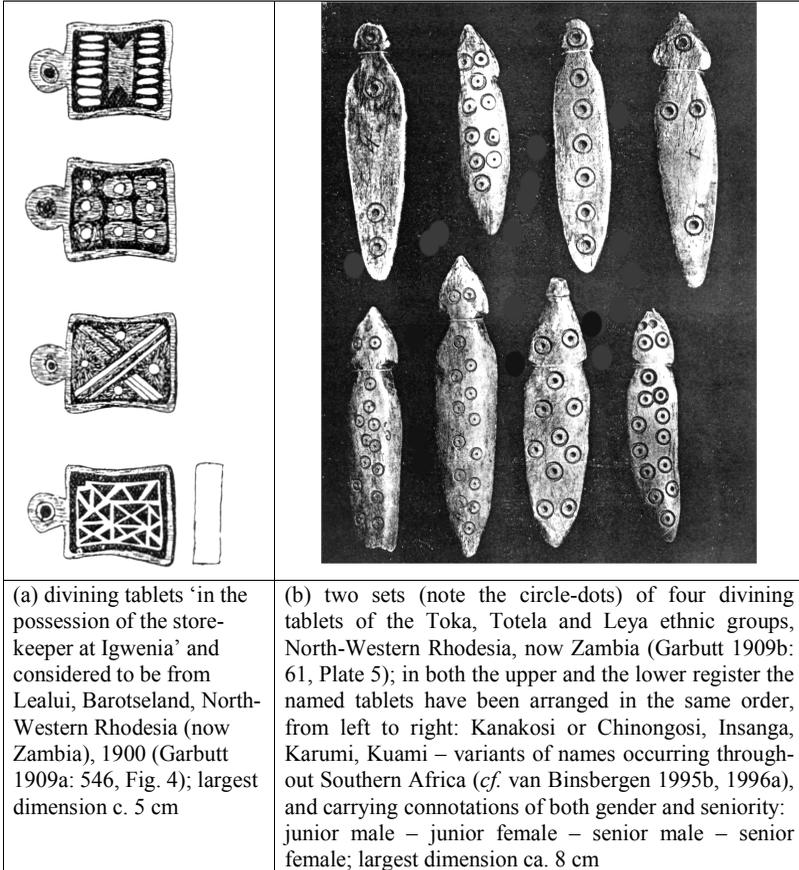


Fig. 8.4. Divination tablets from Western Zambia.

- but by a random generator consisting of four ivory or wooden tablets, each marked to be distinguished from the other three, and moreover marked so as to distinguish between front and back.

Such tablets allow for $2^4 = 16$ different names / configurations when thrown together, and the divination process consists in the production and

interpretation, in close collaboration with the client, of a specific series of these configurations, by reference to a written or oral interpretative catalogue listing all possible configurations, and assigning meanings to them and to their sequence. Against the background of the other random generators listed, and of the proven convergence of the geomantic interpretative catalogues underlying all these forms of divinations listed, continuity of the underlying system but change of random generator is a plausible explanation of the Southern African tablet cleromantic oracle.

I studied this system in the first place in Southern Africa. However, in the light of the emphasis, throughout the present book, on the ethnography of the Nkoya people of South *Central* Africa, it is relevant that divination tablets continuous with the Southern African types have also been occasionally recorded for the wider region in which the Nkoya are situated (*i.e.* Barotseland, now Zambia's Western Province), even though during my four decades of fieldwork among the Nkoya (1972-2012) I have never encountered any.

In the second quarter of the 19th century the so-called *Mfecane* ethnic migratory turmoil brought the Sotho-speaking Kololo offshoot of the Nguni ethnico-linguistic cluster of South Africa all the way to the Upper Zambezi region, where they redefined the existing Luyana state into the Kololo state, and greatly expanded it, so as to include Nkoyaland among other parts. Apparently Southern African diviners and their tools were introduced in that connection. The documentary evidence on the Barotseland divining apparatus is puzzling. One missionary who spent many years in Barotseland, reported various divination methods with bones (Bouchet 1922: 32) but remained very unspecific as to their material description. Another missionary there described many divinatory methods but nothing that could be positively identified as the four-tablet oracle (Jacottet 1899-1901: 157 *f.*). The *mungongo* nuts that are elsewhere in Southern Africa used for divination, have been recorded as *mankala* tokens in use in Barotseland (Chaplin 1956: 168). Frobenius 1931 (*Karte* 8, p. 45) sees the *Hakata* (the Shona generic name for the Southern African four-tablet oracle) as limited to the region between the Zambezi and the Limpopo, so outside Barotseland. Garbutt, however, in two partially overlapping publications from 1909, is unequivocal in his description and depiction of four-tablet oracular sets from Barotseland's indigenous capital Lealui (Garbutt 1909a: 546, fig. 4, and 1909b: 61): square tablets

with a circular appendix on one side (Fig. 8.4).



Source: Ronnberg *c.s.* 2011: 549. Note the frayed material surfaces, lavishly hung with bone elements that are decorated with circle-dots and that are often indistinguishable from the divination tokens used in Southern Africa in historical times

Fig. 8.5. A present-day shamanic apron from the Tlingit, N.W. Coast, Alaska, c. 1860 CE.

Although such a circular element is reminiscent of the eye symbol that appears on many Southern African tablets, the Barotse tablets are without striking parallels in Southern and South Central Africa, especially where the circular appendix is concerned; however, Northeast African / West Asian parallels could be suggested for them, from Ancient Mesopotamia (notably – Farber 1987 – New Assyria, whose penetration into West Africa c. 600 BCE is now an established fact due to Dierk Lange’s work – 2009, 2012), Ancient Egypt (which incidentally was under Assyrian occupation in the 7th c. BCE), and Bronze Age Cyprus. In these Ancient contexts the winged solar disk was a central symbol, as was also the case in Ancient Israel and Ancient Iran.²⁴⁶ In addition, Garbutt (1909a: 539) reports more usual *Hakata* from the Southern periphery of Barotseland,

²⁴⁶ Cf. Mayer 1984; Parayre 1987, 1990; Anonymous, ‘winged [S]un’; Sergi 1901: 30; for Cyprus: Ohnefalsch-Richter 1899; and for Africa: Jeffreys 1951.

among such peoples as the Toka, Totela and Leya, who (Brelsford 1965 / 1956) have strong cultural and political affinities with the Nkoya.

I am not in the least suggesting a direct and exclusive link between Ancient Mesopotamia and Barotse-land. Rather, one is tempted to see a shamanic substrate surfacing here. There is a striking similarity with the ornaments on the shamanic apron shown in Fig. 8.5, from the Tlingit of British Columbia. Distinctive features here are the elongated tooth shape (not uncommon in Southern African divination pieces, but not including the Barotse-land ones of Fig. 8.4) and especially the circle-dot incisions. The circle-dot is a simple pattern whose very wide distribution in space and time need not point to a common origin. In prehistoric contexts the circle-dot and related dotted signs (*cf.* cupmarks, such as abound worldwide in megalithic contexts; and leopard-skin symbolism) is often interpreted as an evocation of potency,²⁴⁷ although in certain contexts (as we have seen with regard to the Pleiades) specific reference to stars and constellations may be involved.²⁴⁸ In historical times, the circle-dot motif's regions of concentration have included sub-Saharan Africa, especially Southern Africa (Segy 1953; Nettleton 1984) but also Madagascar (Linton 1933: 77); the Arctic and sub-Arctic regions of North America,²⁴⁹ and Ancient West Asia.²⁵⁰ In Egypt (with echoes elsewhere in the Ancient Mediterranean, *e.g.* among the Ancient Etruscans; von Vacano 1961: 75) the circle-dot was the hieroglyph N5 ☉ denoting the Sun, Rē^c – whose veneration appears to be a Pelasgian²⁵¹ cultic theme gaining

²⁴⁷ *E.g.* Middleton 1994; Lewis-Williams & Dowson 1988; Clottes & Lewis-Williams 1996; Garlake 1995.

²⁴⁸ Thus a Chinese astronomical disc shows an arrangement of circle-dots arranged according to a grid (Anonymous [Marseille, Jacques] 1994: 102).

²⁴⁹ Jenness 1961: Plate XI, on unnumbered page preceding p. 837: the Items 4, 11, 13 show circle-dots; so does the text illustration on p. 844.

²⁵⁰ Gurney 1952: Plate b opposite p. 128; Hrozný 1951: 169, after E.J.H. MacKay.

²⁵¹ Meuli (1975: 863) stresses, following Eduard Schwarz, that also Siberian shamans venerate the Sun as a deity – interpreting extensive mendicant tours as emulating the Sun's course through many countries. Perhaps this should be read as an indication that the shamanic influence reached Egypt already well before the second millennium. When the Greeks came into contact with this cult among the Scythians, they interpreted it as directed at Hyperborean Apollo. The position of the Sun in the Greek pantheon remains puzzling: the Indo-European gods are male and celestial, but not in

momentum in Egypt only from the 5th dynasty on. Like so much in the Egyptian Old Kingdom, this is suggestive of West Asian continuities, and by the same token we may note the surfacing of traits suggestive of shamanism in Ancient Mesopotamia²⁵² and Egypt – where a pardivested shaman is claimed to appear in the person of the Țt official on one of the earliest written documents (the Nrmr / Narmer cosmetic palette) from the very outset of the dynastic period, but where also major theonyms, as well as the New Kingdom tomb of Tut-^cAnḥ-Amon, turned out to contain suggestions of shamanism and Uralic / Altaic elements including what looks like a shaman's crown.²⁵³ As an Upper Palaeolithic substrate going back to the disintegration of *Borean with its suggestion of a Peripheral cluster of macrophyla including Amerind, Austric and the African macrophyla Khoisan, Niger-Congo and Nilo-Saharan, and / or as a result of much later Pelasgian transmission from the Late Bronze Age on, these motifs – even though simple enough to allow independent parallel invention – yet may well have found their way into sub-Saharan Africa from a common Eurasian origin, and surface in Africa in the context of divination.

Another intriguing comparative ethnographic fact relating to the Southern African divinatory foursomes is, meanwhile, that they are strikingly similar to sets of four tablets or sticks used in Native American games and forms of divination in North America, which most probably follow a pre-Columbian tradition (Culin 1975 / 1902-1903; cf. Fig. 8.6 below). Under the Back-to-Africa Hypothesis *this may be seen as much more than mere coincidence* – notably, as a sign that a four-based element cosmological system was already available in Central Eurasia in the Upper Palaeolithic, and from there was transmitted to *both* sub-Saharan

the first place solar; and Helios, although around at least since Homeric times, is, as a Titan, rather an outsider. Bernal's identification of Apollo as ḥpri, 'rising Sun' suggests that the Greeks derived part of their religious perception of the Sun, from Egypt, and that this was an indirect way in which shamanic / Asian influence was transmitted to the Aegean during the Bronze Age.

²⁵² *E.g.* in the art of the traditional healer, and in mythical motifs *e.g.* the *Descent of Inanna* which – among other dimensions, cf. Buccallati 1982 – recounts a shaman's descent into the underworld; Ritter 1965; Jacobsen 1976; van Binsbergen & Wiggermann 1999. Oppenheimer (1966: 37) also sees extispicy as part of the 2nd mill BCE intrusion of shamanism in the Ancient Near East.

²⁵³ Cf. Helck 1984; van Binsbergen & Woudhuizen 2011: 18, 93, Fig. 4.6 and 4.7, and p. 370 *f.*, Table 28.4.

Africa, and North America – just like the linguistic macrophyla of Niger-Congo, Khoisan and Amerind under the *Borean Hypothesis. As we have seen, the general thesis claiming historical, generic continuity between speakers of Niger-Congo and Amerind is now well supported by linguistic and comparative ethnographic data: female puberty rites, mythology, basketry, etc. In the specific field of divination, there is some slight archaeological support for the postulated, Upper Palaeolithic link between sub-Saharan Africa and North America in that a pair (not four, alas) of extensively worked bone artefacts, rather resembling the North American divination and gaming tablets as well as Southern African divination tablets, have been unearthed in Upper Palaeolithic Western Europe (Dewez 1974; van Binsbergen 2005b; see Fig. 8.6). All this then constitutes additional, yet still weak, support for the suggestion that a four-based cosmology probably revolving on the idea of elements existed in the Upper Palaeolithic Old World, more than 10,000 years before Empedocles. Yet our discussion of prehistoric modes of thought makes it very unlikely that this Upper Palaeolithic system was already both transformative and cyclical.

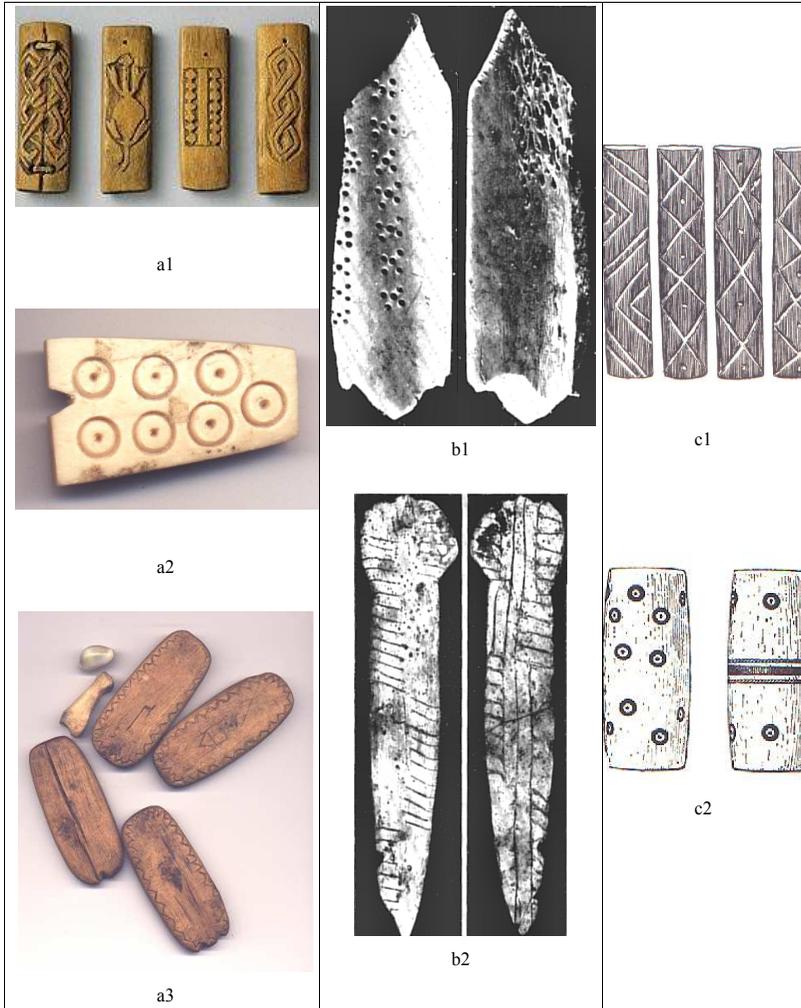
The long-range connections which thus manifest themselves in the context of divination have been spotted before by others. Above we already noted Trilles's account of Pygmy divination, and Coon's reflection upon it. Similarly, Baumann, Westermann & Thurnwald in their classic *Völkerkunde von Afrika* (1940), where ample attention is paid to divination forms, identify a cleromantic oracle whose basic opposition is that between male and female, as characteristic of the Steppe-hunter culture. Such a characterisation has obvious Upper Palaeolithic implications (before Neolithic times hunting and gathering constituted the universal mode of production!), but also has echoes in the gendered conception of the present-day oracular tablets in Southern Africa, and of *Yin / Yang* as the underlying dichotomy informing the 2ⁿ configurations of *Yi Jing*. However, for the above typological and historical reasons such a rudimentary prehistoric system would still lack the crucial features of the Nkoya clan system: transformation, and catalytic action in triads. This renders it impossible, despite the above discussion, to explain the Nkoya clan system in its totality as the surfacing of an transcontinentally widespread Upper Palaeolithic substrate cosmology. Let us now assess whether the Pelasgian Hypothesis brings us further on this point.

8.3.2. Pelasgian transmission in the Bronze Age: Vindicating our Alternative Working Hypothesis

My Pelasgian Hypothesis identifies Neolithic Bronze-Age West Asia as seething with cultural initiatives, resulting in an extensive package of cultural traits percolating through that region, expanding into the Mediterranean, and from the Late Bronze Age being transmitted in all four directions including, via the Steppe, to East, South and South East Asia and even into Oceania; moreover (along the Sahara and the Indian Ocean) into sub-Saharan Africa; and perhaps occasionally, via unrecorded so merely postulated trickles of demic diffusion, to North America. Above we have seen indications of the existence of a transformative element cycle in West Asia and Egypt during the Bronze Age, and it is quite conceivable that this system, as part of the Pelasgian expansion, ended up in South Central Africa. Many of the c. 80 Pelasgian traits which I identified and whose distribution I traced *grosso modo* (van Binsbergen & Woudhuizen 2011: Table 28.5, p. 374 *f.*) are actually found in sub-Saharan Africa, not least among the Nkoya, so the overall framework for Pelasgian transmission of the transformative element cycle certainly seems to apply there.

Ancient Egypt is a region where our dozens of Pelasgian traits are particularly well-attested, and if there are manifestations of Egyptian traits in sub-Saharan Africa, this would prepare us for the possibility that also the transformative element cycle followed the Pelasgian route South – as well as, by the same token, being transmitted transcontinentally in the other three directions of the ‘cross-model’. As we have seen (p. 73), Egyptian manifestations in sub-Saharan Africa are in fact abundant, also among the Nkoya.

That the postulated cross-model creates astounding parallels between sub-Saharan Africa and East Asia we have already seen in the Introduction, with the case of the mythical role of the wagtail (*Motacilla*) (p. 39 *f.*). Let us cite another case, of a specific Nkoya-Japanese parallel. Rather to my surprise, the primal Nkoya mythical character Katete ‘Reed Person’ (which I argue to relate, with her counterpart Luhamba, to the Ancient Egyptian royal title *nswt-bit* , ‘She of the Reed and the Bee’; van Binsbergen 2010a and above, p. 101).



(a) Recent southern African divination tablets, author's collection (a1, commercially acquired wooden set, Bulawayo, Zimbabwe, 1989; a2, item from a commercially acquired set of four, ivory, bought in Limpopo Province, South Africa, 1994, courtesy Gina Buys; note the circle-dots); a3, set (the author's of a four wooden tablets (with one cowry and one goat's foot bone as peripherals), cut in a *sangoma* lodge, Francistown, Botswana, 1989); (b) possible divination tablets from Remouchamps Cave, Belgium, Upper Palaeolithic: b1 excavated in 1902 (68.8 mm); b2 excavated in 1970 (72 mm) (both after Dewez 1974); (c) c1, c2, 19th century gaming / divining tablets from North America (Culin 1902 / 1975).

Fig. 8.6. Divination: Continuities in space and time.

has a literal counterpart in the Japanese god うましあしかびひこぢのかみ Umashi-ashi-kabi-hiko-ji-no-kami ‘sweet reed-shoot prince elder’, of the first generation of gods in the Japanese classic 日本紀 *Nihongi*. This could be sheer coincidence, despite at least one other such coincidence: that of the wagtail. However, the Japan-Nkoya reed parallel takes on a different significance once we realise that, at various parts of the putative Pelasgian periphery (if we take its epicentre to be in West Asia) great cosmogonic importance is attributed to reed: Ancient Egypt, Yoruba, unspecified Bantu-speakers, the Nkoya, the Zulu, and Ancient Japan. Emphasis on reed is also found in North American Flood myths. The Pelasgian Hypothesis proves to be an illuminating perspective.

In my study of transcontinental resonances in Nkoya mythology²⁵⁴ I noted a number of surprising Scythian and Mongolian correspondences with the South Central African case. The Altaic language family to which Turkic, Mongolian, Korean and Japanese belong, dominated the Eurasian Steppe before modern times, and Scythians are considered to belong to either that language family or to Indo-European. But this belongs to a period many millennia after the disintegration of *Borean. The Nkoya / Scythian-Mongolian parallels cannot all be convincingly be attributed to a common Upper Palaeolithic substratum but must, in large part, be attributed to much more recent intrusions, during or after the Bronze Age, either as a result of direct Pelasgian, cross-model expansion into sub-Saharan Africa, or as a result of indirect mediation of Scythian-Mongolian traits via South Asian or East Asian penetration during the Common Era, into South Central Africa, and via India, Ceylon, China, Korea, or Japan.

In my most elaborate published discussion of the Pelasgian Hypothesis so far (van Binsbergen & Woudhuizen 2011: 372 *f.*) I provisionally listed²⁵⁵ 80 proposedly Pelasgian traits, and indicated that several dozens of these traits also obtained among the present-day Nkoya, who therefore are

²⁵⁴ van Binsbergen 2010a; where also cross-cultural references to *reed* in comparative mythology may be found at p. 177 *f.*

²⁵⁵ van Binsbergen & Woudhuizen 2011: 374 *f.*; this tabulation was still only provisional in the sense that full references to all the 80 entries had to wait till the more definitive publication in van Binsbergen, in press (a).

clearly part, at least typologically, of the Pelasgian realm. Moreover, the cross-model transmission of Pelasgian traits in all four directions of the compass is suggested by me to start in the Late Bronze Age (13th -11th c. BCE), which is half a millennium *before* Empedocles, but *after* the time when, according to my reconstructions above, the West Asian correlative system had been invented. Conceivably, therefore, the Nkoya clan system with its transformational and catalytic overtones could derive from the Pelasgian heritage, but we have only very slight and circumstantial evidence to back up such an explanation.

8.3.3. East Asian intrusion into Africa during historical times?

Given the severe limitations of the Pelasgian explanation in the case of the Nkoya clan system, we must consider the obvious alternative: *recent East or South Asian intrusion into South Central Africa in historical times*. In recent centuries, Africa and Africans have been pushed to the periphery of the World System and to the bottom of a global scale of prestige and power – resulting in their appearance as the outsiders *par excellence*. To counter this unfortunate and historically distortive situation, I have cherished, for decades now, the idea of Africa's continuity with the other continents, even if this means that the intra-continental cultural initiatives and achievements to be attributed to Africa appear in a more relative light of transcontinental exchanges and common origins, thus blurring what Strong Afrocentrists have claimed to be Africa's inalienable contributions to global cultural history, *e.g.* geomancy. Now, although I have often expressed my sympathy for the Afrocentrist perspective, the painstaking analysis of empirical data as in the present argument yet brings me to admit that Africa has always been an integral part of global cultural history at large, but hardly, since the Upper Palaeolithic (30-12 ka BP), with the decisive, pan-continental impact Afrocentrists have claimed for the African continent. (For the Out-of-Africa Exodus, 80-60 ka BP, such an impact goes without saying.)

Now, apart from an effect of the 'Back-in-Africa' overland migration flow from Central or West Asia which started in the Upper Palaeolithic, and from the Pelasgian transmission from the Late Bronze Age onward, could the presence, among the Nkoya, of apparent Central and East Asian themes, such as traces of a transformation cycle of elements, *be accommodated by direct, much more recent transoceanic influences*, effected

from the far end (Korea, Japan) or from a Southern branching (South Asia) of the Steppe and its culture? There has been considerable critical debate doubting the presence of Malagasy / Austronesian kingdoms beyond Madagascar on the African mainland (Kent 1970). Likewise, there have been extensive claims of a historic Japanese Buddhist influence on Madagascar (Raison-Jourde 1994); but also these claims were dismissed as mythical. Yet a strong case is currently building up, largely in and around my recent work but with great initial stimulus from the Oppenheimer–Tauchmann–Dick–Read Hypothesis on a considerable demographic and cultural influx from South and South East Asia on sub-Saharan African soil, for a considerable South and South East Asian, especially Buddhist presence in South Central Africa in the last two millennia.²⁵⁶ In Southern Africa, the archaeological complexes of Great Zimbabwe and Mapungubwe,²⁵⁷ from the late 1st and early 2nd millennium CE, have been widely²⁵⁸ recognised to incorporate Asia-derived elements. It is my contention, now backed up by extensive empirical evidence and elaborate arguments, that other Asian state complexes had a more or less precarious and short-lived existence in South Central Africa and along the African Atlantic coast in the first and second millennium CE, where the prevalence of the name *Mbedzi* / *Mbetsi*²⁵⁹ (common Bantu: ‘Moon’; but also, in Asia, a widespread designation of the Buddha; name of a major ethnic cluster among the Venda of Transvaal; and also of an apical ancestor in the Douala region, Cameroon) reminds us of them, as do numerous institutional traits surrounding the kingship, popular ritual, (second) burial (e.g. among the Bamileke of Cameroon), reincarnation beliefs,

²⁵⁶ Cf. Dick-Read 2005, 2012; Thornton 2012; Hromnik 2012, cf. 1981; and my work in connection with the 2012 Leiden conference.

²⁵⁷ E.g. Garlake 1973; Huffman 1984, 1987; Vogel 1994; Caton-Thompson 1931; Bent 1892 / 1969; Fouché & Gardner 1937-1940; Schofield 1937; Huffman 2000.

²⁵⁸ ‘Widely recognised’, but not universally so. There is a widespread tendency in African Studies to insist that things African must be uniquely explained by reference to Africa – an unfortunate form of Political Correctness, which, if applied to the study of European cultural history (where much of the constitutive culture, religion, script, probably also languages, initially derive from outside Europe) would immediately reveal its ideological, identity, in short false, overtones.

²⁵⁹ Cf. Ralushai & Gray 1977; Frobenius 1931; van Binsbergen 2003: 300 f.; Dolisane-Ebossé Nyambé 2005; Birkeli 1936.

kinship (e.g. the institution of the paramour; Tauchmann 2010), cults of affliction, etc.²⁶⁰ There is also considerable genetic evidence for such South Asian and East Asian intrusions into sub-Saharan during the last few millennia (van Binsbergen 2012e).

Among the Nkoya, specifically, a South Asian element is suggested by many details of social life especially the kingship. In Nkoya royal circles, personal names circulate that have scarcely a Bantu etymology and that appear to have come straight from South Asia (e.g. Shikanda, cf. Skanda, the South Asian god of war – or स्कन्ध, *skandha*, ‘element’, especially in the Buddhist context; and Mangala, the South Asian god presiding over the planet Mars, and as such equivalent to Skanda. Moreover, in court culture and protocol, ceremonial arrangements, royal control over natural resources, paraphernalia and regalia, the royal orchestra, layout of the capital, royal historical traditions, royal burial practices, we find a remarkable number of close parallels with Indonesia, Buddhist South East Asia and Buddhist South Asia (from the first millennium CE onward) which constitute the topic of my ongoing research into African-Asian continuities. The Nkoya king, although in an intact South Asian tradition he (but the Nkoya ruler is often a queen) would have to be assigned to the Kshatriya warrior caste, yet looks in many ways like an exalted Brahmin, secluded and pure, and unable to receive food from others. Nkoya royal traditions trace their origin to an enigmatic, distant land to the North East, ‘Kola’, which some informants situate in Central Africa near the Congo-Zambezi watershed (cf. the toponym ‘Angola’) but which may well be in South, South East or East Asia.²⁶¹ Among the Nkoya and surrounding

²⁶⁰ However, the alternative possibility is that we, reversely, attribute the Asian-African parallels to early *African sallies into Asia*, as suggested by Winters (1981, 1983, 1988).

²⁶¹ Munda-Kolar(-ian) is an Austro-Asiatic (< Austric) language group around the Gulf of Bengal. Repeated Tamil invasions in Sri Lanka have been associated with the C[h]ola dynasties. In a generally dismissed late book, the famous decipherer of Hittite, Hrozný (1951: 196), claims that in Ancient Egyptian inscriptions, the name Kode (<*Kole?) is used for the peninsula Kathiavar south of Sindh, South West Asia. Karst (1931a: 241) mentions for the Dravidian region the toponyms ‘Kurukh, Koroi, Kurru, Kora’; Sanskrit कुल *kula* translates, among other meanings, as ‘group, people’ (Monier-Williams 1960 / 1899, s.v., pp. 294 f.; Karst 1931a: 538), which would suggest a wide range of applicability for that word as an ethnonym. Kola as a toponym has a wide geographical distribution also beyond South Asia (e.g. Northern Europe on the White Sea and in East Anatolia), cf. Table 2.1. in van Binsbergen &

peoples the name Kapesh ka-Mununga-Mpanda ('Kapeshe Who Joined Forked Poles') appears as a dynastic apical ancestor associated with a Tower (and by implication Flood) myth – the name has no proper etymology in Central Bantu, but compare (de Vries 1958 *s.v.* 'gaffel') **ghabasti*, proto-Indo-Iranian for 'forked gable, chariot pole' – a nearly perfect match both semantically and phonologically. By the same token, one of the principal regalia among the Nkoya is the hourglass drum, *mukupele* – again a common Nkoya word without a proper Bantu etymology, but *cf.* Sinhalese (Sri Lankan) *mahabela*, 'big drum'. Elsewhere (2012d) I have argued how the Tower myth of hubris and destruction surrounding the Nkoya king Kapesh seems to have considerable historical roots in the Sri Lankan episode around king Kasyapa of the towering Sigiriya rock, in the 1st millennium CE, – in addition, of course, to the Biblical Nimrod (*Genesis* 10-11). Several other South Asian references cluster around the Kapesh name: Kashapa, originally a pre-Vedic god, became a most prominent Hindu sage (Rishi) to whom even the Buddha paid homage²⁶² and who is counted as the father of Garuda (Vishnu's mount), Aruna (Dawn), the Nagas (serpent lords), Apsaras (vegetation gods), etc. and pseudo-epigraphical author of the *Kashap Samhita*, a classical Ayurvedic medical text. The historical person Mahakasyapa was a prominent disciple of the Buddha. All these parallels between South Central Africa, and South Asia, are too close and too specific than that they could be convincingly attributed to remote and diffuse transmission processes several millennia or longer back. Against this extensive South Asian background among the Nkoya dating from historical times, we are justified to propose a recent Asian background also for the Nkoya clan nomenclature. One major hurdle then still to be taken is that most of the Asian traces in South, South Central and West Africa have South and South East Asian connotations rather than East Asian ones, while the opposite is true for correlative systems displaying our central features of cyclicity, transformation and element cosmology. Element-cosmological aspects are implied in certain aspects of South Asian mythology, icono-

Woudhuizen 2011: 43. Considering the remarkable Scythian and Mongolian traits among the Nkoya (van Binsbergen 2010a), we should also consider, as an etymon of Kóla, 'Kórea' (at the Eastern end of the Eurasian Steppe), which of course is an alien-imposed designation yet goes back to the Goryeo (Korean: 고려) dynasty (918-1392 CE) – in terms of transcontinental contacts a plausible periodisation.

²⁶² *Vinaya Pitaka, Mahavagga*, I, 249; Rhys Davids & Oldenberg 1988 / 1881-1910.

graphy and ritual (e.g. the हवन *homa* fire ritual and its Vedic protoform; Staal *et al.* 1983), and were listed as such in our Table 4.1, but it would require a specialist argument in its own right (for which I lack the Indological competence) to ascertain whether South Asian cosmological expressions can be said to revolve on cyclicity and transformation. Meanwhile, for Vedic India a system of caste nomenclature has been described where each professional group, in totem-like fashion, is identified with an animal species, and which is strikingly reminiscent of Nkoya clan nomenclature:²⁶³

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

Table 8.1. Proposed relations between professional castes and their animal 'totems' in Vedic India.

Although most of the species mentioned in Table 8.1 are not highlighted in the Nkoya clan context, 'elephant' and 'beehive' are, and the 'turner' element that is so conspicuous among the Nkoya (*Sheta*), is encountered here in a different light. Even though there is no evidence yet that a transformation cycle underlies the South Asian caste names, yet the proximity of East Asia and the many contacts e.g. through Buddhism and seafaring make more specific Taoist influences quite possible.²⁶⁴

I suggest that these observations, if they can be substantiated systematically, have a wider applicability than just the Nkoya case. They point to

²⁶³ The unauthoritative source of Table 8.1 is: Anonymous, 'Language'; however, a further background for the association between animals and castes is offered by Michelutti 2007; Deshpande 2001; Smith 1991, 1994.

²⁶⁴ Around the major sea port of Baṣra, where Chinese ships abounded at the time (Chau Ju-Kua 1911; Sauvaget 1948; Tibbets 1971) and which also received part of the Silk Road trade, Taoist influences are conspicuous at the end of the first millennium CE, for instance among the important intellectual movement of the *Iḥwān al-Ṣafā* / Brethren of Purity, and include the adoption of Taoist medicine e.g. reading the pulse (Needham *c.s.* 1961, Vol. I), while the notational system of the divination system of *ilm al-raml*, decisively developed in this milieu, appears to be indebted to the later Chinese notation of *Yi Jīng*, *i.e.* broken and unbroken lines – of course, after the original open or filled dots had given way to lines with the invention of the writing brush.

the presence, in addition to

- a) the postulated results of Upper Palaeolithic continuity and of
- b) Pelasgian transmission,

of

- c) a massive Asian substrate, resulting from the more recent phases of the Back-to-Africa migration *i.e.* from the last two millennia, and informing – to a greater or lesser extent – a wide variety of cultural expressions we have so far been used to cherish as typically or uniquely African.

If our point (c) here can be substantiated, it means that we are well on our way to liberate ourselves from the essentialisation of African identity and of the African past, and begin to accept that Africa's cultural history within the wider world has been very similar to that of Europe: sometimes taking historic initiatives, but often receiving the initiatives from elsewhere, and turning them into something local and vital in a creative process of adaptive localisation.

Chapter 9. Conclusion: Diachronic varieties of the transformation cycle of elements, and their global distribution

9.1. Recapitulating our indications of the distribution and history of element systems worldwide since the Middle Palaeolithic

We are now finally in a position to sketch the diachronic varieties of the transformation cycle of elements in their global distribution (Fig. 9.1).

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 fully-fledged catalytic transformation cycle has been attested so far. The Nkoya / Taoism continuity can hardly be explained by the Pelasgian Hypothesis let alone by the Back-to-Africa model or by the *Borean Hypothesis: whereas a simple, recursive element system (including Empedocles's) is likely to be a Pelasgian trait, the world distribution of the transformative element cycle is too restrictive than that it can be taken to be transmitted by any of these three models which combine a perspective of several or many millennia with the concomitant, wide distribution on the world map.

Around 2000, 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 (van Binsbergen 2002) by a similar rapprochement between East Asia and Sub-Saharan Africa in the field of formal cultural systems: animal symbolism underlying astronomical classifications, divination systems, clan systems, and toponymical systems (notably the nomenclature of the Ancient Egyptian *nomes*). I wondered if such systems might have enough in common to treat them

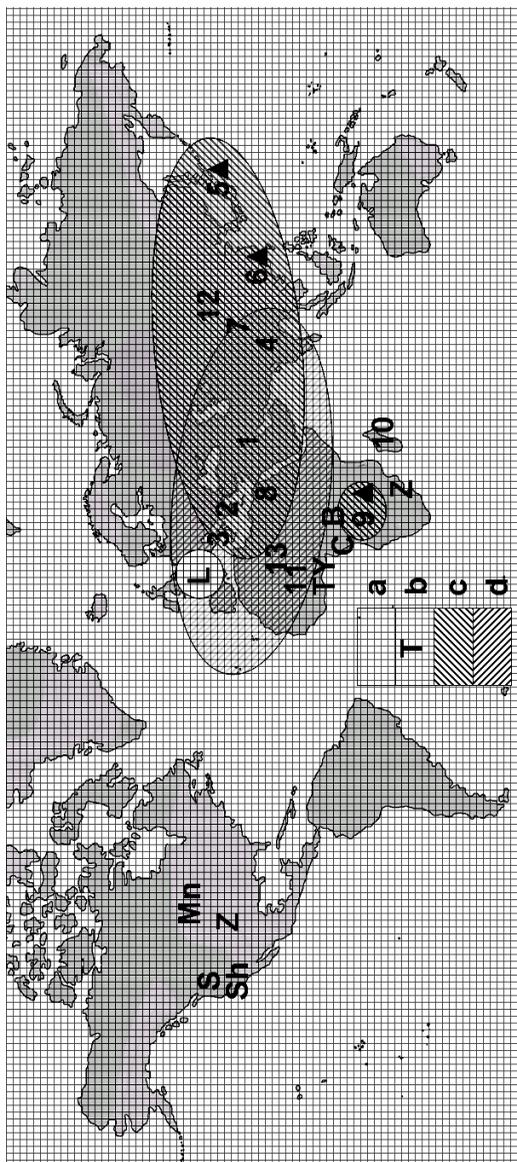


Fig. 9.1. Diachronic varieties of the transformation cycle of elements: Global distribution.

a. Globally distributed substrate ingredients towards element cosmologies presumably

dating back to Middle Palaeolithic Africa, before the Out-of-Africa Exodus (80-60 ka BP) (this book, Table 6.1)

b. Intermediate element systems lacking a transformative and cyclical nature: Z Zuñi and neighbouring peoples; S Skagit; Sh Shasta; Mn Menomini; Y Yoruba; T Togo; B Bushong; C Lower Congo; Z Zulu; L Lascaux (Upper Palaeolithic)

c. Fully-fledged correlative element systems attested in historical times, and estimated to go back to 2nd millennium BCE: transformation cycles with a limited number of elements: from this book, Table 4.1: 1 Ancient Mesopotamia 2 Greek; 3 Latin; 4 Hindu and Buddhist; 5 Japanese: *Godai*; 6 Chinese *Wu Xing*; 7 Bön; 8 Ancient Egypt; only by implication and analogy: 9 Nkoya; 10 Madagascar; 11 Dogon; 12 Mongolians; 13 circum-Saharan zodiacal lore (Pâques 1964). *Of these, 5, 6 and 9 are cyclical, transformational, and catalytic.*

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

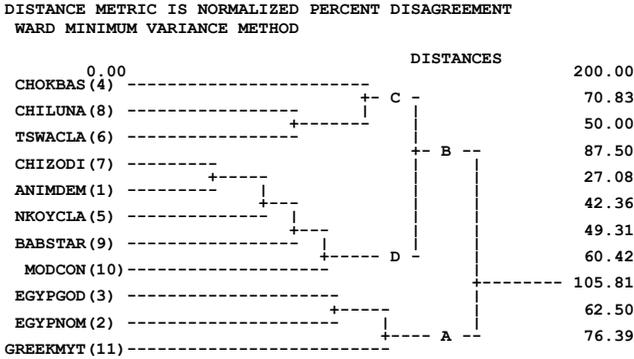
as belonging to one corpus whose internal patterns of coherence could be subjected to statistical cluster analysis. Then already I found close affinity between the Nkoya clan nomenclature (and other African systems of animal symbolism), on the one hand, and the Chinese zodiac and Chinese lunar mansions, on the other hand – whereas Ancient Egyptian, Ancient Mesopotamian and Ancient Greek series of animal symbolism (astro-nomical, 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.

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 origin then would have to be situated in the Upper Palaeolithic. I am now aware that the catalytic transformation cycle of elements is typologically very advanced, and therefore can only be a few millennia old.

The affirmation of Chinese influence on Africa has been the subject of numerous studies,²⁶⁵ and the circulation of material objects and forms of symbolism reminiscent of East Asian specifically Taoist divination (di-

²⁶⁵ *E.g.* Duyvendak 1949; Snow 1988; Li Anshan 2000; Neville *et al.* 1975; Davidson 1959; and my work in connection with the 2012 Leiden conference. Moreover, I recently reviewed in detail much of the literature on Chinese global maritime explorations from an Africanist perspective (van Binsbergen 2012f). Numerous studies also have been devoted to Indonesian influence across the Indian Ocean, see Solheim II 2000 and references cited there; and with special attention to Africa, Dick-Read 2005, 2012.

vining tablets, numerical symbolism, divining bowls etc., and Buddhism) makes it quite conceivable that such recent East Asian influence resulted in the South Central African clan nomenclature as a catalytic transformation cycle of elements in disguise.



1. Old World animal demons – ANIMDEM; 2. Ancient Egyptian nome names – EGYPNOM; 3. Ancient Egyptian gods – EGYPGOD; 4. Chokwe divining basket items – CHOKBAS; 5. Nkoya clan names – NKOYCLA; 6. Tswana clan names – TSWACLA; 7. Chinese zodiac items – CHIZODI; 8. Chinese Moon stations – CHILUNA; 9. Babylonian star names – BABSTAR; 10. Modern constellation names – MODCON; 11. Attributes of gods in Ancient Greek mythology – GREEKMYT.²⁶⁶

Fig. 9.2. Comparing Old World formal systems through cluster analysis, provisionally²⁶⁷ bringing out the unexpected clustering of African nomenclatural material with Chinese and Babylonian material, clustering away from Ancient Egyptian and Greek material.

These considerations lead to the following tentative reconstruction of historical relationships as in Fig. 9.3:

²⁶⁶ Source: van Binsbergen 2002. These eleven distributions (numbered as in Figure 9.2) are each derived from a considerable literature, from which I here list only a small selection: 1. Fontenrose 1980; 2. Roeder 1952; 3. Bonnet 1971; 4. Rodrigues de Areia 1985; 5. author’s fieldnotes and van Binsbergen 1992; 6. Schapera 1952; 7, 8. Walters 1989; 9. Walker & Hunger 1977, Hunger & Pingree 1989; 10. Moore 1984; 11. Smith 1880, Graves 1964.

²⁶⁷ These results are provisional in that recently, in anticipation of final publication, the analysis has been replicated with some additional material and with closer attention to the specific mathematical requirements for cluster analysis on this kind of (dichotomised) data. The results, though, have remained the same.

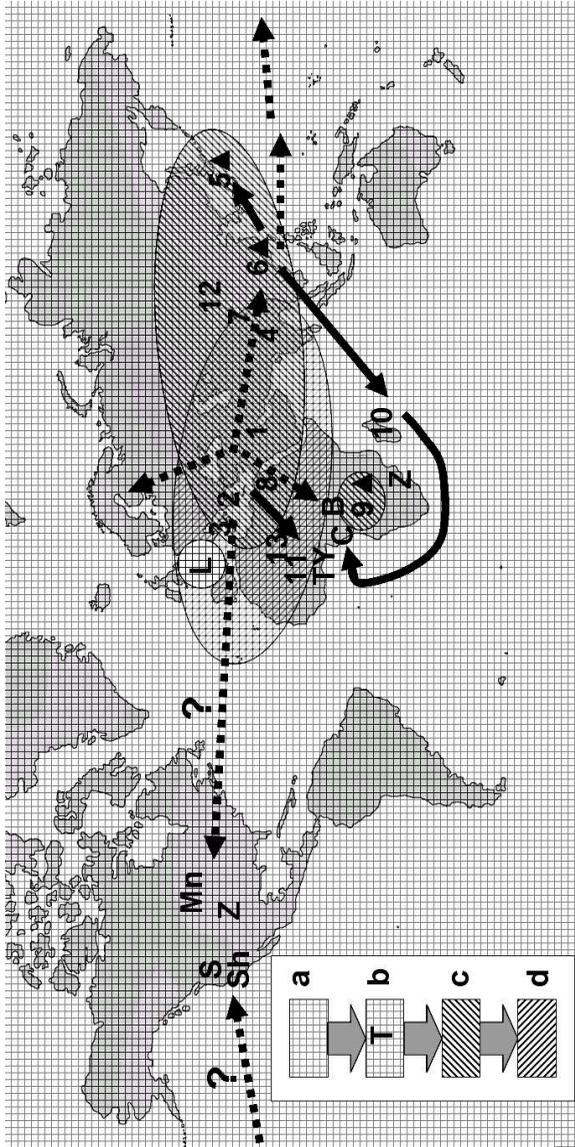


Fig. 9.3. Tentative historical reconstruction for Fig. 9.1.

Legend: as Fig. 9.1. The proposed historical sequence of the four types a-d appears bottom left. Upper Palaeolithic lines of influence and transmission have not been indicated. Broken lines give proposed Pelasgian / protohistorical transmissions from

the Late Bronze Age on – note the cross model of transmission in four directions. Question marks indicate particularly uncertain instances of proposed transmission. Unbroken lines give proposed transmission in historical times (last two millennia, especially the most recent millennium).

In Chapter 5 I posed, in passing, the question whether perhaps all of the world's element systems could be considered to descend from Empedocles' four-element system. By now we have accumulated enough data and insight to persuade us to limit the extent of massive Empedoclean influence to those parts of the world where Hellenic and subsequently Hellenistic civilisation effectively penetrated, *i.e.* the Western Old World (Europe, the world of Islam, South Asia, and North and circum-Saharan Africa) – even though it remains possible that the South, South East and East Asian overseas influence conveyed to sub-Saharan Africa, transmitted some of that Empedoclean orientation to more Southerly parts of Africa, and there, with its emphasis on foursomes, contributed to the shaping or reshaping of the four-tablet oracle and Ifa.

9.2. Conclusion

Having taken glances at numerous instances of element cosmologies from all over the world, we are now in a position to argue their historical connectivity against a broad canvass informed by recent long-range genetics, linguistics, comparative mythology and comparative ethnography.

We started out with the Working Hypothesis that element cosmologies, even those with cyclic, transformational and catalytic features, are globally widespread and have a great antiquity, going back to the Upper Palaeolithic. This Working Hypothesis was vindicated in so far as the global distribution and antiquity of element systems *per se* are concerned, but had to be utterly rejected: cyclicity, transformation and catalytic dimensions turn out to be much more recent and local than the Upper Palaeolithic. Our analysis reveals that element cosmologies were not an invention of the Presocratics in Ionia and Graecia Magna in the middle of the 1st mill. BCE. Careful reconstructions of prehistoric modes of thought reveal that the first, minute vestiges of element thinking can already be traced to the pre-Out-of-Africa common heritage of Anatomically Modern Humans, to the contents of 'Pandora's Box' – where mythical proto-types of the most prominent elements circulating in historic element

systems can already be reconstructed. Subsequently, simple cosmologies of a handful of elements, but still without the features of cyclicality and transformation, may be reconstructed for the Upper Palaeolithic, on a global scale.

However, it was not until the Bronze Age, and specifically in West Asia, that out of these time-honoured ingredients of element cosmology, a fully-fledged transformational and cyclical element system was constructed. The present-day distributional ramifications of the cosmology of the transformative element cycle, as well as etymological research of the *Yi Jing* terminology, suggest that this transformative system has a distinct and traceable history going back to Bronze Age West Asia, third or second mill. BCE – perhaps in a context that may be related to early metallurgy (on the assumption that it is metallurgy that would bring local specialists to consider – perhaps in order to manage and hand down as secret initiation formulae – detailed notions of element transformation, especially if one of the elements thus identified is metal). From these putative West Asian beginnings, the early transformative element cycle may readily have been communicated towards Central and East Asia on the spur of dramatically increased communications with the Central Asian invention of the chariot,²⁶⁸ with the Scythian-Korean-Japanese connection ensuring that the system ended up in Japan as well as in Shang China (implying therefore, contrary to popular belief, but in line with Terrien de Lacouperie, that the system is *not* indigenous in China). Subsequently, the transformative element cycle spilled over into at least one region of now Bantu-speaking sub-Saharan Africa (the Nkoya of South Central Africa), probably as a result of *direct transmission* from East or South Asia, in a process of recent cultural and probably also even demic diffusion across the Indian Ocean.

Meanwhile, the transformative element cycle was also introduced into the New World, again probably²⁶⁹ not on the basis of Upper Palaeolithic,

²⁶⁸ Kazakhstan, 2000 BCE; for references, once more, see van Binsbergen & Woudhuizen 2011: 382 *f.* with extensive literature.

²⁶⁹ Tacitly we are operating here on the common assumption (also often applied, *mutatis mutandis*, to sub-Saharan Africa) that North America can only have been the destination, and never the origin, of cultural innovations in prehistoric times. For North America, this view is based on the assumption that that continent was peopled in an eastbound influx from the West, across Beringia or otherwise across the Pacific

*Borean continuities (for which the system seems to be far too recent), nor of Pelasgian transmission, but through the trickle of transcontinental migrations which recent research (*cf.* Jett 2002) has brought to light for periods long *after* a major wave of peopling the Americas via the Bering Strait route took place.

Let us finally consider the implications of the scholarly affirmation, in the present argument, of an immensely widespread and seminal, Upper Palaeolithic element system, with a Bronze Age West Asian reformulation in terms of cyclicity and transformation. It amounts, in the first place, to a further corrective of now rapidly obsolescent, Eurocentric views as to the Presocratic origin of philosophy and science.²⁷⁰ The Presocratics' search, in the middle of the first millennium BCE, for the *prima materia* has throughout the history of Western thought, and especially during the past two centuries, been 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 regressive misinterpretation (reification, compartmentalisation, and immobilisation), in a 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 Presocratics was already at least a thousand years old. We are compelled to add at least one millennium to the starting date of philosophy, and to move its place of origin further into West Asia, instead of continuing to situate it in Ionia, Ancient Greece (now Western Turkey) and Graecia Magna, *i.e.* Southern Italy.

Traces of the transformation cycle of elements may also be found with

– perhaps with a slight trickle from Western Eurasia and Africa. However, recent genetic research has demonstrated that there have also been population movements across Beringia from East to West, into Eurasia, 10-15 ka BP (Tamm *et al.* 2007, with illuminating diagram). Elsewhere (van Binsbergen & Woudhuizen 2011: 125, 156 – the later page presents the diagram from Tamm *c.s.*) I discuss this finding in the context of the possible American origin of a particular type of Flood myth and Flood hero, in the light of similar suggestions emerging from my multivariate analysis of Flood myths (van Binsbergen with Isaak 2008). It is therefore not totally unthinkable that the four-element cosmology was the gift of America's early inhabitants, to humankind as a whole.

²⁷⁰ *Cf.* the *Black Athena* debate initiated by Martin Bernal (1987-2006); also van Binsbergen 1997a / 2011a.

Aristotle, Plato, and even Empedocles himself. Meanwhile the recursive, more archaic, system (lacking cyclicality, transformation, and catalytic action) remained dominant, and – to the detriment of more dialectic, dynamic and flexible instruments of thought – it was this that, in Western thought, set the norm for element cosmologies until today. The Presocratics were active in an environment where already c. 1,000 years earlier a transformative element cosmology had been in circulation, probably as sacred, esoteric innovation of a much older, widespread, recursion-based simple element system. The presumably secret nature of the transformation cycle of elements (probably in metalworking contexts) might explain why it did not massively surface except in East Asia from the late 1st millennium BCE onward – with a recent offshoot into South Central Africa, and a trickle into the New World where it was occasionally captured in Flood myths. Given the fragmentation, heterogeneity and often relatively recent provenance of Native American groups from the Old World or perhaps Oceania, the presence of traces of (even transformative and cyclic) element systems in the New World should be allowed to add further detail and precision to our overall analysis but cannot alter or refute it fundamentally.

So it turns out that the message of this book reaches even beyond the specific point of the Presocratics pre- and protohistorical antecedents. For, in addition, three more general points are being made, which I consider of the greatest importance, and towards whose substantiation my specific long-range argument on the Presocratics goes a long way:

1. *We can reconstruct thought systems of the remote past in some detail and with some reliability.*
2. *Such reconstruction is predicated on the fundamental unity of (Anatomically Modern) humankind and the relative, porous nature, therefore, of cultural boundaries; and in its turn confirms the validity of such a point of departure.*
3. *This particularly means that sub-Saharan Africa has been part and parcel of global cultural history to a much greater extent than that part of the world is usually given credit for.*

Meanwhile these global perspectives should not obscure the fact that, as far as the Presocratics proper are concerned, setting their long-range context in space and time does answer many questions of established

Presocratics research, but also initiates a wide range of new questions, of which only a few are answered here. We understand now why the various Presocratic philosophers take turns in naming the identity of Primal Matter, selecting their answer from a very limited series that happens to coincide with – what our present research has shown to be – the long-established, West Asian element cycle of transformations.

One question, however, that we could not give the attention it deserves is the following. If the Presocratics were so unmistakably indebted to this wider background of thought in terms of elements, transformation and cyclicity, *what precisely compelled them*, from their peripheral and apparently second-hand perspective, and especially (since, as we have seen, traces of transformation and cyclicity can still be found in Presocratic element thinking), *what compelled their successors* who, from Classical Antiquity onwards received their thought, *to drop the cyclical and transformative element and to end up with a system of a handful of immutable, parallel ontological positions (Earth, Fire, Water, Air, and a Fifth One)?* Was it something in the setup of Hellenic city states and their Hellenistic successors, during the second half of the 1st millennium BCE (e.g., the shift from monarchy or oligocracy to democracy? the growth of a money economy specifically in the Greek world? the decline of Ancient religion?) that was incompatible with cyclicity and transformation? Was such incompatibility perhaps brought about by the very demise of the city state in the Hellenistic world, in favour for much more comprehensive, centralised and undemocratic state systems in violent competition, ultimately to be smothered under the *Pax Romana*, and against the background of a further growth of proto-globalisation? Did such conditions not impose a more or less immutable hierarchical socio-political order, in which the idea of a constant changing of position and identity as between equals – the implied basis of cyclicity and transformation – could no longer be entertained? Was it the political and economic demise of West Asian and Northeast African states (first Hatti, half a millennium later Egypt and Assyria, then the Persians, finally the Parthians and Meroe), that rendered their cyclical, transformative element cosmology obsolete in the eyes of inhabitants of the Aegean and the Central Mediterranean regions? Was dropping of cyclicity and transformation the price which West Asian and Northeast African worldviews had to pay when – in the historically familiar way of the ritual and cosmological systems of vanquished peoples – they subsequently penetrated the Roman Empire as decontextualised,

eroded and redefined, globalised exotic religions, such as the Isis cult, the cult of Mithras, and Christianity?

Was there perhaps an ethnic factor, in the sense that cyclicity and transformation, as manifestations of an ultimately democratic and acephalous, segmentary conception of socio-political life and of the world as a whole, *and as such fitting in the Pelasgian tradition*, were implicitly perceived as archaic, rustic and unsophisticated, possibly with ‘Black’ and ‘barbarian’ overtones (the echoes of Homer’s metal-working, primitive, potentially Black Sinties, Latin evocations of alienness in the figures of Silenus and Pan, etc.), and therefore had to be suppressed from consciousness? ‘Cleansing’ Europe from ‘Blackness’ / non-Indo-European speech / non-Christian religion has been an inveterate, and most regrettable, undercurrent of European popular ideology for two millennia,²⁷¹ right through to the near-extirpation of Roma and Jews in the gas chambers of the Third Reich – but, beyond the proverbial outsider position of blacksmiths throughout the Western Old World, I have so far (fortunately) no concrete evidence to support these sweeping and tendentious ethnic suggestions in the specific relation of transformative, cyclic element cosmologies.

Along such and similar lines, I submit, the nature of the immensely productive and significant ‘misinterpretation’ of the West Asian cosmology of cyclical transformation of elements may be better understood, but the substantiation or refutation of such hypotheses should be undertaken by proper specialists in the intellectual history of Imperial and Late Antiquity, and not by me, and not in the present book.

Another question upon which future research is hoped to throw more light is that of the apparent historical paradox: while the transformative cycle with catalytic third agent could (at least, according to my analysis here) only have emerged with the *triadic* thinking tools of the Late Bronze Age, and while the resulting cosmology (especially in its radical Empedoclean redefinition) had a demonstrable impact not only on the West but also on South Asia and further afield, I have demonstrated that simpler element notions have been very widespread, across the continents, and go back to the Upper Palaeolithic. Hence for a proper apprecia-

²⁷¹ van Sertima 1985; Bernal 1987; but also see Snowdon 1970, 1989; and Keita 1993.

²⁷³ van Melsen 1941, 1949; Strathern 2000; Weeks 2003; Hooykaas 1935; etc.

tion of the cosmology found in South Central and Southern Africa in historical times, we need to appeal to a layered model comprising (a) Upper Palaeolithic, (b) Bronze Age, and (c) recent historical components, each with their own transcontinental history, part of which we have been able to reconstruct. How truly comparable are all these element cosmologies since the Upper Palaeolithic? And what were the specific factors bringing about the *Triadic Revolution* in the Bronze Age? Is it enough to appeal to the emergence of writing, the state, the money economy, organised religion, and proto-science? Surely, a more subtle and detailed empirical and theoretical argument is required on this point – but while the present argument allows us to phrase the question in such novel and focussed terms, its answer, again, should be left to specialists of Bronze Age political, social, economic and religious organisation.

Finally, I see new questions arising in the field of the history of Modern, global science and technology. *I have adduced comparative and historical data on the strength of which the long-range, global contexts, spanning a dozen millennia and more, may be reconstructed against whose background Presocratic thought emerged as a peripheral, radical mutation.* Establishing these pre- and protohistoric antecedents of the Presocratics proved to be a sufficiently taxing undertaking, wrought with numerous pitfalls (many of which I have fallen into, no doubt), and I have so far refrained from projecting *in detail* my new, contextualised understanding of the Presocratics onto the subsequent historical steps that led from them to Modern science and technology. Numerous are the histories of science organised as a discussion of (proto-)scientific element thinking.²⁷³ These histories, spanning the last two millennia of one of the greatest adventures of humankind (*i.e.* the emergence of natural science), tend to be tacitly conceived within an implied Eurocentric and Empedoclean framework,²⁷⁴ and one wonders if, and how, they should be rewritten in the light of the present book's long-range, transcontinental inspiration.

Nor is this all. The world image emerging from the present study and from much of my work of the last two decades, counters cultural, identity and political fragmentation, and reminds us world-wide of our deep-seated unity. Could there be a more timely and important message?

²⁷⁴ Harding 1991, 1993, 1997; van Binsbergen 2007b.

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Index of authors cited

The entries take the form of bibliographical references, exhaustively listing all authors and co-authors referred to in this book. An author may be listed both as single author and as first author in a list of co-authors. An author listed as co-author only has an entry in her or his own right only if also first author of another publication cited. Surnames preceded by a prefix such as 'de', 'von', 'van' appear under that prefix. Some authors (marked with *) also appear as entries in the Index of Proper Names. Persons whose name appears in this book but whose works, although in existence, are not cited, only appear in the *Index of Proper Names*. Ancient Greek philosophers have been treated as authors even if mainly or exclusively attested in secondary sources. Due to last-minute text additions a few page references may be off by 1.

- Abrahams, Roger D., 73
Abu'l Faraj, 63
Acri, F., 158
Adams, Douglas Q., 239
Adelaar, A., 35, 185
Aetius, 159
Aitchison, J., 10n
Aksu, A.E., Mudie, P.J.,
Rochon, A., Kaminski,
M.A., Abrajano, T., &
Yaşar, D., 247n
al-Djahiz, Abu ʿUthman
ʿAmr b. Baḥr, 78
Alexander, H. Burr, 142-
143, 143n
Allain, J., & Leroi-
Gourhan, A., 183n
Allen, Charles, 41
Allen, Nick, 12, 153
Allen, R.E., & Furley,
D.J., 149n
Alpern, Stanley, 244
al-Zanati, Muḥammad, 68,
78, 247, 247n
Amselle, J.-L., 229
Anati, E., 10n
Anaximander, 174, 234
Anaximenes, 149, 157,
174
Andrews, F.H., 217n
Andrews, Tamra, 163
Anesaki, M., 100n
Apollodorus, 39n, 154n
Apollonius of Tyana,
170n
Apollonius Rhodius, 112
Aristotle*, 81, 109, 149-
150, 159, 164-168, 173-
174, 206, 251-252, 255,
293, 165n-166n, 169n,
173n
Armayer, O. Kimball, 229
Armstrong, E.A., 217n
Arnason, J.P., Eisenstadt,
S.N., & Wittrock, B.,
42n
Arrhenius, S., 166-167
Asad, T., 32n
Asante, M.K., 45n
Atsma, Aaron J., 39n,
136n, 154n
Auerbach, E., 151
Avery, C.B., 112
Ayrton, M., & Silcock, A.,
218n
Bachelard, Gaston, 156
Badisches Landesmuseum
Karlsruhe, 183, 231n
Bakalis, Nikolaos, 149n
Balfour, H., 265
Ball, Charles James, 175,
220, 218n, 241n
Baltzer, Eduard, 157n
Bandi, H.G., & Maringer,
J., [following a concept
by Hugo Obermaier †],
230
Banerjee, G.N., 117n
Barnes, Jonathan, 149n,
157n, 160n
Barnes, R.H., 77
Barnett, R.D., 230n
Barthel, Thomas, 218n
Bascom, W., 126
Bates, O., 164n
Baudouin, Marcel, 164n
Baumann, H., Thurnwald,
R., & Westermann, D.,
274
Bayarma Khabtagaeva,
216n

- BBC [British Broadcasting Corporation], 19n
 Beaujard, P., 128, 128n
 Becher, Joachim, 166n
 Bednarik, Robert G., 180, 10n, 231n
 Bellah, R.H., & Joas, H., 42n
 Benedict, Ruth, 115n
 Bengtson, J.D., 77, 240
 Bengtson, J.D., & Ruhlen, M., 185-186, 199, 245
 Bent, J.T., 279n
 Berchem, D., 151n
 Berezkin, Yuri, 261
 Bernabé, Alberto, 149n
 Bernal, * Martin Gardiner, 7, 15, 19, 42, 46, 83-85, 135-136, 138, 174-175, 178, 187, 218, 226, 239, 243, 32n-33n, 153n, 185n-186n, 226n, 228n, 248n, 273n, 292n, 295n
 Berossus, 223
 Berthelot, Marcellin, 115n
 Berthier, H., 128n
 Bertranpetit, J., & Cavalli-Sforza, L.L., 191
 Bessel, Friedrich Wilhelm, 223n
 Bezemer, T.J., 163n
 Bezold, C., 241n
 Bhabha, H., 45, 32n
 Bidez, Joseph, 157n, 174n
 Bidez, Joseph, & Cumont, Franz, 41, 174n
 Bierhorst, John, 100n
 Biès, Jean, 157n, 175n
 Birkeli, E., 279n
 Blagden, C.O., 217
 Blažek, Václav, 12, 136, 153n, 186n, 230n, 240n
 Bleek, W., 185
 Blench, Roger, 218n
 Bohannan, P., 126
 Böhme, Angelika, 174n
 Boll, C., 249, 252
 Bollack, J., 157n
 Bomhard, A.R., 77, 256n
 Bomhard, A.R., & Kerns, J.C., 256n
 Bongioanni, A. & Sole Croce, M., 133
 Bonnet, H., 288n
 Bosman, W., 66n
 Bouché-Leclercq, A., 119, 151, 209, 264, 110n
 Bouchet, J., 39, 270
 Bouissac, P., 189
 Bovill, E.W., 70
 Boyce, M., 41
 Brace, C.L., Tracer, D.P., Yaroch, L.A., Robb, J., Brandt, K., & Nelson, A.R., 219n
 Breasted, J.H., 130n
 Brelsford, W.V., 272
 Bremmer, J., 111
 Breuil, H., 188, 264
 Breuil, H., Lhote, H., & Brenans, le Col., 37, 247
 Brinton, D.G., 219, 177n, 218n-219n
 British Broadcasting Corporation, see BBC
 Brown, D.E., 48, 86
 Brown, Geoffrey, 169
 Brown, J.T., 129n
 Browne, Thomas, 190n
 Brun, Jean, 169n
 Buccellati, Giorgio, 273n
 Buchheim, Thomas, 149n
 Buck, C.D., 181n, 239
 Budge, E.A. Wallis, 73, 124
 Burkert, Walter, 106, 234, 149n, 157n, 171n, 249n
 Burnet, John, 149n
 Burstein, Stanley Mayer, 223n
 Burton, R.F., 69n
 Bushell, Stephen W., 218n
 Butler, James Eric, 152, 156-157
 Butler, Samuel, 152
 Butterworth, E.A.S., 112
 Cadenat, P., 264n
 Campbell, Gordon, 158, 168-169, 171, 167n, 169n
 Campbell, Joseph, 188
 Capelle, Wilhelm, 149n
 Carmody, F.J., 75
 Carra de Vaux, B., 110n
 Carruthers, P., & Chamberlain, A., 10n
 Carus, Paul, 151, 164, 241, 118n, 235n, 241n
 Cassirer, E., 19
 Caton-Thompson, G., 279n
 Cavaignac, Eugène, 164n
 Cavalli-Sforza, L.L., Piazza, A., & Menozzi, A., 62, 142, 191, 231, 186n, 266n
 Cerri, Giovanni, 152
 Chalybaeus, Heinrich Moritz, 209
 Chang Hsing-Lang, 77
 Chaplin, J.H., 270
 Charet, J., 187
 Charpentier, J., 218n
 Chase, P.G., & Dibble, H., 10n
 Chau Ju-Kua, 282n
 Chavailles, J., 201
 Chavannes, E., 249, 252
 Chevalier, J., & Gheerbrant, A., 109n
 Chitwood, Ava, 160n
 Chwolson, D., 110n
 Cicero, Marcus Tullius, 86, 174
 Clark, Ella E., 146-147
 Classen, Carl Joachim, 157n
 Clermont-Ganneau, C., 224n
 Clifford, J., 129
 Clottes, Jean, & Lewis-Williams, David, 256, 183n, 202n, 272n
 Coia, Valentina, Giovanni Destro-Bisol, Fabio Verginelli, Cinzia Battaglia, Ilaria Boschi, Fulvio Cruciani, Gabriella Spedini, David Comas, 33n

- Conder, Claude Reignier, 219n
Confucius / Kǒng Fūzǐ, 41
Conkey, M.W., 189
Cook, Daniel J., & Rosemont Jr, Henry, 106n
Coon, C.S., 151, 274
Cooper, J.C., 150
Copans, J., 32n
Corbey, R., & Roebroeks, W., 10n
Cordier, Henri, 217n-218n
Corney, B.G., 218n
Cornford, Francis Marion, 20, 149n, 157n, 171n
Cory, Isaac Preston, 76, 223n
Cotterell, Arthur, 126, 133n
Coulson, Sheila, Staurset, Sigrid, & Walker, Nick, 201
Courlander, Harold, 73
Crates of Mallos, 159
Cruciani, F., Santolamazza, P., Shen, P., Macaulay, V., Moral, P., Olckers, A., Modiano, D., Holmes, S., Destro-Bisol, G., Coia, V., Wallace, D.C., Oefner, P.J., Torroni, A., Cavalli-Sforza, L.L., Scozzari, R., & Underhill, Peter A., 33n
Cudworth, Ralph, 167
Culin, S., 63, 188, 273, 276
Curd, Patricia, 158n
d'Alverny, M.-T., 75
Dahlby, F., 150
Dang Nghiem Van, 246n
David-Neel, Alexandra, 264n
Davidson, Basil, 287n
Davidson, Gustav, 162
Davies, N., 20, 249
Davis, S., 75
de Boer, T., 110n
de Buck, A., 163,
de Flacourt, E., 63n
de Harlez, C., 219, 216n
de Hevesy, G. [von Hevesy, Wilhelm], 218n
de Liagre Böhl, F.M.Th., 188n
De Maret, P., & Gosselain, O.P., 124n
de Raedemaeker, F., 15
de Saussure, Ferdinand 210
de Saussure, Leopold, 249
de Voogt, A., 63
de Vries, Jan, 281, 124n
DeLancey, Scott, 218n
Delatte, A., & Delatte, E., 264
Deleuze, G., & Guattari, F., 109n
della Corte, Francesco, 155
Delme-Radcliffe, C., 102n
Delporte, Henri, 189
Dennett, R.E., 111, 125-126, 66n
Denoon, Donald, 102n
Descartes, R., 192
Deshpande, A., 282n
Dewez, Michel C., 183, 188, 274, 276
Diakonoff, Igor, 77
Dick-Read, Robert, 34-35, 70, 72-73, 81, 129, 53n, 100n, 279n, 287n
Diels, Hermann, 159, 209, 149n, 157n
Diels, Hermann, & Kranz, W., 149n, 173n, 157n
Dikötter, F., 218n
Dinsmoor, W.B., 114n
Diodorus Siculus, 113, 134n
Diop, Cheikh Anta, 130, 32n, 45n, 117n, 248n
Diringer, D., 141, 71n
Dodds, Erik R., 112, 174n
Dolgopolsky, A., 198-199, 237, 245, 258, 34n
Dolisane-Ebossé Nyambé, Cécile, 279n
Donald, M., 10n
Dorsey, J.O., 143, 143n
dos Santos Gomez, Márcio, 168n
dos Santos, J., 69n
Douglas, Mary, 14, 151
Douglas, R.K., 221
Dowson, John, 39n, 202n, 272n
Drijvers, H.J.W., 116n
Driver, Harold Edson, Riesenberg, S.H., & Curry, H.J., 261n
du Mesnil du Buisson, Robert, 264n
Dubois, W.E.B., 45n
Dubs, H.H., 241n
Duchesne-Guillemin, J., Ducie, Earl of, 264
Dufourmont, Eddy, 218n
Dumézil, G., 208-209, 124n
Dumont, Jean-Paul, with Delattre, Daniel, & de Poirier, Jean-Louis, 157n
Dundes, Alan, 220n
Durkheim, E., 91, 192
Durkheim, E., & Mauss, M., 116, 192
Dürr, Michael & Renner, Egon, 266n
Duyvendak, J.J.L., 287n
Eberhard, W., 118n, 241n
Edwards, I.E.S., 140n
Egberts, A., 186n
Egerod, Soren, 218n
Eglash, Ron, 208
Eisenstadt, S.N., 42n
Eitrem, Samuel, 110
el Tounisi, Mohammed ibn Omar, 65n
Eliade, M., 112, 211, 251, 42n
Eliot, Alexander, 73
Elliot Smith, see Smith
Ellis, Alfred Burdon, 111, 124, 133n
Emery, W.B., 137-138, 140n

- Empedocles*, 4, 8-9, 31-32, 106, 109-112, 115-116, 131, 141, 149-150, 156-161, 164-176, 178, 209, 234-235, 249-252, 274, 278, 285, 290, 293, 295-296, 110n, 118n, 130n, 157n, 160n, 165n, 167n, 175n, 224n
- Evelyn-White, Hugh G., 153
- Fahd, T., 71, 110, 247n
- Fairbanks, Arthur, 149n, 160n
- Fairman, H.W., 125, 134, 125n
- Falconer, Thomas, ed. and transl., 76
- Fanon, F., 32n
- Farber, W., 271
- Farizy, C., & Vandermeersch, B., 188
- Farmer, Steve, 12, 253
- Farmer, Steve, Henderson, J.B., & Witzel, M., 252-253
- Farnell, L.R., 264
- Faulkner, Raymond O., 73, 163
- Fauth, W., 186n, 264n
- Fauvelle-Aymar, F.-X., Chrétien, J.-P., & Perrot, C.-H., 45n
- Feldmann, Susan, 73
- Feng, W., 218n
- Ferrand, G., 210, 69n, 128n
- Ferwerda, Rein, 160, 157n
- Feshbach, S., 157n
- Feuchtwang, S., 247-248
- Fewkes, J. Walter, 142
- Finkelberg, Aryeh, 158
- Fischer, H.G., 135
- Fishbane, Michael A., 162
- Fiskejo, Magnus, 119, 252, 9n, 118n
- Fitting, Melvin, 208
- Flammarion, Camille, 4
- Fleming, Harold C., 34, 49, 185, 187, 227, 240, 34n, 191n, 240n
- Flügel, Gustav, 224n
- Fong, J., 218n
- Fontenrose, J., 123, 134-135, 152, 288n
- Forsdyke, John, 20
- Forster, Peter, 33
- Fouché, L., & Gardner, G.A., 279n
- Frankfort, Henri, 19, 163n
- Frankfort, Henri, Frankfort, H.A., Wilson, J.A., Jacobsen, T., & Irwin, W.A., 19
- Franklin, J.C., 169, 234
- Frazer, James G., 72-73, 100n
- Freeman, Kathleen, 171n
- Freud, Sigmund, 91
- Friedrich, Johannes, 239
- Frobenius, Leo, 44, 202, 218, 270, 67n, 111n, 177n, 279n
- Fung Yu-lan, 41, 118n
- Gadamer, H.-G, 31
- Gadd, C.J., 176, 209, 118n
- Galenus, 150, 177
- Garbutt, H.W., 269-271
- Gardiner, Alan H., 7, 84, 134, 141, 101n
- Garlake, Peter S., 203, 272n, 279n
- Gaster, Theodor H., 73
- Geffken, Joh., 155
- Germond, P., 188n
- Gigon, A., 173-174
- Giles, Herbert Allen, 221, 226, 249-250, 93n
- Gilmore, Donald Y., & McElroy, Linda S., 20
- Gimbutas, M.A., 187
- Girardot, Norman, J., 217n
- Gladisch, August, 175, 175n
- Goff, Beatrice L., 164n
- Goneim, M. Zakaria, 102n
- Goodwin, A.J.H., 264
- Gordon, Cyrus H., 20, 19n
- Görg, M., 225n
- Graham, A.C., 9n
- Graham, Daniel W., 168n
- Gratarolo, Guglielmo, ed. Waite, Arthur Edward, 111n
- Graves, Robert, 264-265, 168n, 172n, 190n, 288n
- Grey, George, 133n
- Griaule, Marcel, 129
- Griaule, Marcel, & Dieterlen, G., 125, 223n
- Griffiths, Thomas, 110n
- Groenen, Marc, 189
- Grünwald, Michael, 149n
- Gruppe, Otto, 175
- Guattari, F., 109n
- Günther, Herbert V., 117n
- Gurney, O.R., 272n
- Guthrie, Malcolm, 185
- Guthrie, William Keith Chambers, 115, 149n
- Haarmann, H., 247n
- Haberland, Wolfgang, 145, 207
- Haile, Berard, & Wyman, Leland Clifton, 143
- Hailot, J., 70
- Hamilton, C.H., 218n
- Hamilton, Calvin J., 223n
- Hammer, M.F., T. Karafet, A. Rasanayagam, E.T. Wood, T.K. Altheide, T. Jenkins, R.C. Griffiths, A.R. Templeton & S.L. Zegura, 33n
- Harding, S., 54, 296n
- Harrod, James B., 188, 10n
- Hart, G., 138
- Harva (Holmberg), U., 42n, 164n
- Hastings, James, with Selbie, J.A., & Gray, L.H., 182, 180n-181n
- Hawkes, Jacquetta, with Trump, David, 231
- Hays-Gilpin, Kelley, 189
- Hébert, J.C., 248, 128n
- Hecataeus, 113

- Hedin, Sven, 264n
Hegel, G.W.F., 149, 208-209
Heidegger, Martin, 31
Heidel, William Arthur, 158
Helck, W., 273n
Hendrickx, S., 188n
Hennig, R., 113n
Henshilwood, C., d'Errico, F., Marean, C., Milo, R., & Yates, R., 201n
Henshilwood, C., Sealy, J., Yates, R., Cruz-Uribe, K., Goldberg, P., Grine, F.E., Klein, R.G., Poggenpoel, C., van Niekerk, K., & Watts, I., 201n
Heraclitus of Ephese, 149, 173-174, 208-209
Heraclitus Ponticus, 155
Herbert, E.W., 124n
Hermes Trismegistus, 241
Herodotus, 38, 229, 265n
Herschel, William, 223n
Hershbell, Jackson P., 169n
Hesiod,* 131, 135, 152-153, 157, 134n, 154n; and Egyptian, 123; cf. *Theogonia*
Hess, Richard, & Tsunmura, D.T., 19n
Heyerdahl, Thor, 266, 266n
Heyne, C.G., 161
Higley, Sarah L., 135
Hodder, I., 183n
Hoffman, M.A., 20
Hölderlin, Friedrich, 149
Hollis, S. Tower, 134n
Holmberg, see Harva
Homans, G., 92
Homer / Homerus,* 20, 152-153, 155, 157, 230, 251, 295, 7n, 39n, 153n, 188n, 273n
Hon, Tze-ki, 218n
Hooykaas, R., 302n
Hopfner, T., 134, 163n
Hopkins, L.C., 218n
Hornblower, S., & Spawforth, A., 112
Horowitz, Wayne, & Hurowitz, Victor, 150, 181n
Hosken, Larry, 66
Houlihan, P.F., 188n
Howard, W., 150
Howe, S., 45n
Hromnik, C., 279n
Hrozny, B., 226, 240, 186n, 272n, 280n
Huehn, H., 149n
Huffman, Thomas N., 279n
Hunger, H., & Pingree, D., 288n
Hyginus, 265n
Ibn al-Nadim, 116
Ibn Ezra, 15, 247n
Ibn Khaldûn, 69
Illich-Svitych, V.M., 49, 198-199, 245, 34n
Illing, Karl Emil, 76
Ions, Veronica, 163
Irwin, G.W., 77
Isaak, Mark., 73, 123, 146-147, 40n, 246n,
Jacobsen, Thorkild, 100n, 273n
Jacoby, F., 223n
Jacottet, Emile, 39, 270
Jairazbhoy, R.A., 229
Jakobson, R., Fant, G., & Halle, Morris, 205n
James, G.G.M., 16
Janko, Richard, 158n
Janmart, J., 201
Jasanoff, J.H., & Nussbaum, A., 186n
Jaspers, Karl, 42, 42n
Jaulin, R., 247n
Jaynes, J., 10n
Jeffreys, M.D.W., 100n, 271n
Jeness, Diamond, 272n
Jensen, A.E., 55n
Jett, Stephen C., 260, 266, 292, 266n
Jettmar, K., 218n
Johnson, H.J., 110
Judd, Neil M., 142n
Judson, Katharine B., 147
Jung, Carl G., 115, 121-122, 115n
Kahler-Meyer, Emmi, 73
Kahn, C.H., 173, 173n, 173
Kaiser, M., & Shevoroshkin, V., 258, 34n
Kakar, S., 117n
Kaliff, Anders, 234
Kamballah, Cheikh Hadji, 70-71
Kammerzell, F., 176, 246n
Kant, Immanuel, 209
Kaplony, P., 101n
Karlgrén, B., 186, 236
Karst, J., 90, 152, 161, 227, 232-233, 240, 42n, 216n, 227n, 230n, 246n, 280n
Kassibo, B., 70-71
Kaul, Flemming, 209
Keightley, David N., 221-223
Keita, S.O.Y, 295n
Keith, A.B., 39n
Kelsen, Hans, 73
Kemp, Barry J., 137, 140n
Kent, R., 35, 279
Kingsley, Peter, 15, 111-112, 115, 159-161, 171, 234, 157n, 160n, 175n
Kircher, Athanasius, 222, 241
Kirk, G.S., 173, 149n
Kirk, G.S., Raven, J.E., & Schofield, M., 149n
Kirkbride, D., 65, 55n
Kitz, Anne Marie, 150
Klein Franke, F., 115, 110n
Knecht, H., Pike-Tay, A., & White, R., 20
Köbben, André J.F., 15
Köhler, U., 97n

- Kovacs, M.G., 188n
 Kramer, S.N., 231, 117n
 Kroeber, A.L., 217n
 Kugler, F.X., 241n
 Kunz, Hans, 42n
 Kyong-McClain, J., 218n
 Lacroix, W.F.G., 76
 Laks, André, 158, 168n
 Lambert, W.G., 117n
 Lambridis, Helle, 157n
 Lambropoulou, Voula, 234
 Lambrou-Phillipson, C., 161
 Lami, A., 149n
 Landesmuseum, see Badisches –
 Lange, Dierk, 73, 271, 220n
 Lao Tze, 41
 Laurel, Fredda, 65n
 Layton, R., 256
 Le Scouézec, G., Larcher, H., & Alleau, R., 180n
 Leclerc, Jean (Clericus Ioannes), 167
 Lefkowitz, Mary R., 16
 Lefkowitz, Mary R., & MacLean Rogers, G., 185n
 Legge, James, 121, 164, 220-221, 235, 241, 221n
 Leibniz, Gottfried Wilhelm, 215, 241
 Leibold, J., 217n
 Leonard, William Ellery, 159-161, 234-235, 157n
 Lepsius, J., 175
 Leroi-Gourhan, André, 183, 189, 183n
 Leser, P., 222
 Lessa, W.A., 268n
 Levenson, Joseph Richmond, & Schurmann, Franz, 217n
 Lévi-Strauss, Claude, 92, 192, 205, 208, 211n
 Levtzion, N., & Hopkins, J.F.P., 70, 72
 Levy, G.R., 151n
 Lewis-Williams, J. David, 10n
 Lewis-Williams, J. David, & Dowson, T.A., 202n, 272n
 Lhote, H., 247, 264n
 Li An-Che, 142n
 Li Anshan, 12, 287n
 Li Fan, 218n,
 Li, X., Harbottle, G., Zhang, J., & Wang, C., 183
 Liddell, Henry George, & Scott, Robert, 160n, 166n
 Lieu, S.N.C., 224n
 Lin, X., 218n
 Lindblom, Gerhard, 53
 Ling, Wang, 119, 121, 241, 252, 111n, 219n, 248n-249n; *cf.* Needham
 Linton, R., 272
 Lloyd, Geoffrey Ernest Richard, 167n
 Lommatzsch, Bernhard Heinrich Carl, 157n
 Long, A.A., 175, 168n
 Longrigg, James, 152, 154, 158, 160, 167, 173-174, 167n
 Lönnrot, Elias, 39n, 153n
 Lucas, Phillip, 200
 Luce, G.H., 238
 Lucebert, 4
 Lusthaus, Dan, 117n
 Lyle, Emily, 109n
 Macauley, David Mark, 109n, 149n, 157n
 Maciocia, G., 118n
 MacKay, E.J.H., 272n
 Mackenzie, D.A., 100n
 Mackintosh, Catharine Winkworth, 39
 MacLennan, B.J., 112
 Macrobius, Ambrosius Aurelius Theodosius, 172n; *cf.* von Jan Majer[i], Michael[is], 154
 Malinowski, B., 92
 Mallory, J.P. & Mair, Victor H., 240
 Mani, 224n
 Mansfeld, Jaap, 160, 149n, 175n
 Marseille, Jacques, 272n
 Marshack, A., 10n
 Martin, Alain, 158n
 Martin, Alain, & Primavesi, O., 158n
 Marwitz, H., 264n
 Maspero, H., 218n
 Massignon, L., 110
 Matissoff, J.A., 238
 Maupoil, B., 70, 69n
 Maximus Tyrius, 230n
 Mayer, R., 271n
 McCall, Daniel, & Fleming, Harold C., 227, 191n, 240n
 McEvelley, Thomas, 234
 McNaughton, P.R., 251
 Meeussen, A.E., 185
 Meier-Oeser, S., 168n
 Mellaart, J., 246n
 Meng-Tze, 177
 Meuli, K., 272n
 Meyer, A., & Esterhuizen, Laura Valerie, 84
 Meyerowitz, E.L.R., 73n
 Michael, Lawrence, 65n
 Michalowski, P., 42n
 Michelini, Ann N., 165
 Michelutti, L., 282n
 Middleton, K., 272n
 Militarev, A.Y., 262n
 Militarev, A.Y., & Shnirelman, V.A., 262n
 Miller, Roy, 164n
 Milled, Clara Elizabeth, 157n
 Minar, Edwin L., 168n
 Mithen, S., 10n
 Moldenke, Charles Edward, 134n
 Monier-Williams, 280n
 Montagu, M.F. Ashley, 219n, 231n
 Moore, P., 288n
 Mori Masako, 243, 223n
 Mostaert, A., 263

- Mudimbe, V.Y., 32n, 45n, 223n
Mugler, Charles, 169, 168n
Mulisch, Harry, 194
Murray, H.J.R., 54, 63n
Musaeus-Higgins, Marie, 135
Nai, H., 183
Nakamura, H., 218n
Naso, Publius Ovidius, see Ovid
Nasr, S.H., 110
Nassau, Robert H., 66n
Naveh, J., 141
Needham, J., 84, 118n
Needham, J., in collaboration with Ling, W., 119, 121, 241, 252, 111n, 219n, 248n-249n, 282n
Needham, J., & Lu, G.D., 266n
Nettleton, Anitra C.E., 272
Neville, H., Chittick, H.N., & Rotberg, R.I., 287n
Nietzsche, Friedrich W., 115, 149, 211, 115n, 149n
Noble, W., & Davidson, I., 10n
Nuttall, Z., 147-148, 266-267, 266n
O'Brien, Denis, 160, 165, 168n, 175n
O'Keefe, M.D., 157n
Oakley, K.P., 10n
Obenga, Theophile, 45n
Ode, A.W.M., 185-187, 185n
Ohnefalsch-Richter, M.H., 274n
Ong, J.W., 10n
Oppenheim, A.L., 242, 222n
Oppenheimer*, S.J., 34-35, 53, 75-76, 129, 34n, 36n, 170n-171n, 273n
Orrells, Daniel, Bhambra, Guminder, & Roynon, Tessa, 83
Ort, L.J.R., 224n
Ortiz de Montellano, Bernard, 266
Osborne, Catherine, 158, 167, 157n
Ovid* [Publius Ovidius Naso], 136, 162, 251, 7n, 134n, 136n, 265n; – 's Flood, 267; – 's *Metamorphoses*, 155
Padró, J., 130
Pankonien, D., 267
Pâques, V., 71, 287, 127n
Parayre, D., 271n
Parker, B., 117
Parker, H., 55n
Parmenides*, 112, 158 ; cf. Reinhardt
Parrinder, Geoffrey, 61, 73
Parry, Richard, 157n
Parsons, Elsie Clews, 142, 142n
Patai, Raphael, 135
Patrick, G.T.W., 174
Patterson, Nick, 231
Pausanias, 134n, 265n; also see **Descriptio Graeciae*; Frazer
Peel, J.D.Y., 70
Peiros I., 187, 198-199, 239
Pellat, C., 78
Peyrony, D., 188
Philippi, D.L., 39
Philolaus, 264
Philostratus the Elder, 154n
Picot, Jean-Claude, 160n, 175n
Pierris, Apostolos L., 168n-169n
Pinch, G., 163
Pinches, T.G., 218n
Pindar / Pindarus, 154n
Pingree, D., 119, 209, 118n, 150n, 288n
Pirzada, Ali, 66n
Plato*, 9, 20, 38, 81, 109-110, 156, 160, 165-166, 177, 251-252, 255, 293, 39n, 166n
Plessner, M., 111n
Plutarch, 134, 100n, 163n
Pokorny, J., 186, 239, 181n
Poppe, N.N., 216n
Popper, K., 86
Pott, A.F., 177n
Pound, J., 223n
Preus, A., 16
Prilop, G., 124
Primavesi, Oliver, 157n-158n, 168n
Przyluski, Jean, 234
Publius Vergilius Maro, 136, 136n
Pulleyblank, E.G., 240n
Pythagoras, 68, 112, 224n
Quine, W.V.O, 54
Quintus Smyrnaeus, 39n
Quispel, G., 110n
Raabe, Eva, 55n
Radcliffe-Brown, A.R., 92-93
Raison-Jourde, F., 279
Ralushai, N.M.N., & Gray, J.R., 279n
Rappenglück, Michael A., 14, 97, 183, 164n, 184n
Rashidi, R., 218-219, 228, 231
Rattansi, A., 45
Ratray, R.S., 126
Ray, J., 101n
Reeves, John C., 224n
Reiner, E., 151
Reinhardt, Karl, 173
Renault, Mary, 18
Renfrew, Colin, 19, 10n, 19n
Renfrew, Colin, & Zubrow, E.B.W., 10n
Renner, Egon, 266n
Rhys Davids, T.W., & Oldenberg, H., transl., 281n
Rigaud, Jean-Philippe,

- 200n
 Ritter, E.F., 273n
 Rivet, Paul, 77
 Robb, John E., 10n
 Robbins, L.H., & Campbell, A.C., 66n, 247n
 Robertson, Edward, 151
 Robinson, K.R., 69n
 Rochberg, Francesca, 117n
 Rodrigues de Areia, M.L., 66n, 288n
 Roeder, G., 288n
 Rollefson, G.O., 65, 55n
 Ronnberg, Ami, with Martin, Kathleen, 131, 143, 162, 172, 271
 Rose, H.J., 264n
 Rostovzev, M.I., 222
 Rowley, H.H., 151
 Ruhlen, Merritt, 185-186, 198-199, 245, 266n
 Runciman, S., 224n
 Rutt, Richard, 217n
 Sagart, Laurent, 238
 Said, E.W., 32n
 Sapir, E., 261n
 Sauvaget, J., 282n
 Säve-Söderbergh, T., 97n
 Schadeberg, Thilo, 35
 Schaefer, P., & Shaked, S., 247n
 Schapera, I., 288n
 Scheffelowitz, F., 224n
 Scheub, Harold, 133n
 Schlegel, G., 219, 243
 Schleiermacher, F., 149
 Schlosser, Katesa, 128, 128n
 Schmandt-Besserat, D., 20
 Schmidt, B., 264n
 Schmidt, P., 223n, 241n
 Schnabel, P., 145, 223n
 Schoff, Wilfred H., ed. & transl., 76
 Schoffeleers, J.M., 13, 99n-100n
 Schofield, J.F., 279n
 Schwartz, Benjamin I., 42n
 Schwarz, Eduard, 272n
 Scoon, Robert Maxwell, 20
 Seaton, R.C., see **Argonautica*; Apollonius Rhodius
 Sedley, David, 160n, 168n
 Segy, L., 272
 Seligman, C.G., 73
 Seligmann, K., 154, 222
 Seneca the Younger, 134n
 Sepp SJ, Fr., 177n
 Sergi, Guiseppa, 230, 271n
 Shahrastani: Muḥammad ibn ʿAbd al-Karim, 110n
 Shaked, Shaul, 15, 247n
 Sheppard, Anne, 160n
 Shevoroshkin, Vitaly, 258, 34n, 266n
 Shimunika, Rev. Jehosphat, 88
 Silber, Ilana F., 42n
 Simonse, S., 16, 264
 Simplicius, 174
 Skinner, S., 247n
 Smith, Brian K., 282, 282n
 Smith, E.W., & Dale, A.M., 89
 Smith, G. Elliot, 148, 249, 266, 164n, 266n
 Smith, R.J., 215
 Smith, William, 288, 288n
 Snell, Bruno, 160, 149n
 Snow, P., 287n
 Snowdon, F.M.S., Jr, 295n
 Sobukwe, Robert, 17
 Socrates*, 20, 112, 149
 Soderblom, Laurence A., & Johnson, Torrence V., 223n
 Soetens, Katinka, 189
 Solheim II, W.G.I., 287n
 Solmsen, F., 158, 169n
 Sophocles, 134n
 Sorenson John L., & Johannessen, Carl L., 266n
 Sorenson, John L., & Raish, M.H., 266n
 Sparks, Rachael, 53
 Spivak, G.C., 45, 32n
 Sprague, Rosamond K., 160
 Staal, Frits, Somayajipad, C.V., Itti Ravi Nambudiri, & De Menil, Adelaide, 281
 Stanley, G.A.V., 164n
 Starostin, Sergei A., & Starostin, George, 34, 49, 135, 185-187, 192, 198, 238, 245, 261, 34n, 181n, 216n, 227n, 238-240n, 245n, 256n, 263n
 Stauffer, Alice Lee, 171
 Steinschneider, M., 68, 75, 248, 69n, 128n
 Stoics*, 86
 Stokes, M.C., 154
 Straffon, Cheryl, 189
 Strathern, P., 296n
 Streck, Bernhard, 90
 Stricker, Bruno H., 115, 126, 136-137, 97n
 Strong, J.H., 150
 Stuij, R.E.V., & Vellekoop, C., 224n
 Suhr, E.G., 264n
 Suidas, 136n, 246n
 Swann, Brian, 142n
 Szemerényi, O., 175
 Tamm, Erika, Kivisild, Toomas, Reidla, Maere, Metspalu, Mait, Smith, David Glenn, Mulligan, Connie J., Bravi, Claudio M., Rickards, Olga, Martinez-Labarga, Cristina, Khusnutdinova, Elsa K., Fedorova, Sardana A., Golubenko, Maria V., Stepanov, Vadim A., Gubina, Marina A., Zhadanov, Sergey I., Ossipova, Ludmila P., Damba, Larisa, Voevoda, Mikhail I., Dipierri, Jose E.,

- Villems, Richard, & Malhil, Ripan S., 292n
Tamminen, Maya, 39n, 153n
Tauchmann, Kurt, 34-35, 280, 34n
Temple, R.F.G., 243, 223n
Terrien de Lacouperie, A.E.J.-B., 151-152, 213, 215-222, 224-225, 228, 231, 239, 241, 243, 250, 291, 215n-218n, 221n, 226n, 267n
Tester, S.J., 119, 209, 110n, 170n
Thales, 86, 149
Theophrastus, 159-160, 174
Thiele, Georg, 159-160
Thomas, P., Veverka, J., Morrison, D., Davies, M., & Johnson, T.V., 223n
Thorndike, L., 75
Thornton, R., 279n
Tibbets, G.R., 282n
Tiedemann, Dieterich, 157n
Tika Yupanqui (Tracy Marks), 261n
Todoua, Maïa, 169n
Tolkien, J.R.R., 16n
Tower of Babel, 239, see: Starostin & Starostin
Townshend, P., 62
Traoré, M.L., 70
Trautmann, R., 69n, 128n
Trépanier, Simon, 157n, 168n
Trilles, le Rév. Père, 151, 274
Trobetti, A., 244
Tsou Yen, 250
Tsung-tung Chang, 240, 240n
Turner II, Christy G., 262n
Turner, Victor W., 99, 99n-100n
Turpin, Solveig A., 145
Tylor, E.B., 266-267, 266n
Überweg, Friedrich, George Silvester Morris, Henry Boynton Smith, Noah Porter, & Vincenzo Botta, 167
Ullman, M., 110
Ulving, T., 240n
Underhill, Peter A., 33, 33n
Ungnad, A., 241n
Uzoigwe, G.N., 102n
van Beek, Wouter E.A., 129
Van Berchem, D., 151n
van Binsbergen, Wim M.J., *passim*
van Binsbergen, Wim M.J., with Mark Isaak, 35, 49, 100, 36n, 40n, 146n, 171n, 220n, 261n, 292n,
van Binsbergen, Wim M.J., & Wiggermann, F.A.M., 273n
van Binsbergen, Wim M.J., & Woudhuizen, Fred C., 17, 77, 137, 192, 205, 207, 209-210, 230-231, 233, 258, 262, 275, 277, 11n, 33n, 35n, 37n-38n, 126n, 136n, 140n-141n, 170n, 185n, 191n, 195n, 216n, 222n, 227n, 229n-232n, 240n-241n, 246n, 248n, 263n, 273n, 277n, 280n-281n, 291n-292n
van Buren, Elizabeth, 164n
van den Dungen, Wim, 130n
van den Es, A.H.G.P., 166n
van der Ben, Nicolaus, 158n, 168n
van der Sluijs, Marinus Anthony, 73, 102n
van Melsen, A.G.M., 16, 296n
van Riet Lowe, C., 264
van Sertima, I., 20, 243, 266, 295n
van ten Brink, J., 161
Vandenbroeck, P., 247
Vansina, J., 90
Verbrugge, Gerald P., & Wickersham, John M., 223n
Vergil, Virgil, see Publius Vergilius Maro, 136, 136n
Vérin, P., & Narivelo Rajaonarimanana, 75
Vettius Valens, 110, 110n
Vigilant, L., Pennington, R., Harpending, Henry, Kocher, T.D., & Wilson, Allan C., 231
Vigilant, L., Stoneking, M., Harpending, H., Hawkes, K., & Wilson, A.C., 231
Vitaliano, Dorothy B., 73, 246n
Vítek, Tomáš, 157n, 175n
Vlastos, Gregory, 154, 160
Vogel, J.O., 279n
von Jan, Ludwig, 172n
von Sicard, H., 202, 163n
von Vacano, O.-W., 272, 248n
von Wilamowitz-Moellendorff, Ulrich, 160
Vriezen, T.C., 151
Vroon, P., 10n
Wada, Toshihiro, 169n
Wagner, F.D., 157n
Wainwright, G.A., 73n
Waite, Arthur Edmund, 110n-111n
Walker, C.B.F., & Hunter, H., 288n
Walker, D.P., 241
Walters, D., 164n, 288n
Wang Chi, 249
Warrington Eastlake, F.,

- 241
Watts, I., 201n
Weber, Max, 42n
Weeks, Mary Elvira, 296n
Wellmann, Eduard, 159-160
Werbner, Richard P., 13, 151
Werner, A., 126
Werner, E.T.C., 216n-217n, 246n
Wescott, R.W., 125
West, Martin Litchfield, 115, 174n
West, S., 218n
Whitehead, A.N., 170
Widengren, G., 224n
Wiens, H.J., 218n
Wiggermann, Frans, 71n, 273n
Wilcox, J., 169
Wilensky, J., 77
Wilhelm, R., 121-122, 236
Wilhelm, R., & Cary, F.B., translators, 122
Wilkinson, T.A.H., 137, 97n, 140n
Willis, Roy, 129, 134, 39n, 100n, 224n
Wilson, M., 93
Winckler, H., 175, 220
Winters, Clyde Ahmad, 58, 77, 243-244, 243n, 280n, 243n
Witzel, Michael, 7, 11-12, 19, 72, 182, 243, 32n-33n, 37n, 219n-220n
Worsley, Peter M., 92, 192
Woschütz, Karl Matthäus, Hutter, Manfred & Prenner, Karl, 224n
Wright, Maureen Rosemary, 157n
Xenophanes, 149, 158
Yates, Frances A., 110n
Yetts, W.P., 217n-218n
Yoshishiro, Ishikawa, 216-217
Zarathustra / Zoroaster,

241
Zeller, Eduard, 161

Explanatory index of proper names other than authors cited

Exhaustive listing of all proper names other than those of authors cited. For names marked with ** also see *Index of Authors Cited*. Some entries have underlying concepts explained under *q.v.* (*quod videre*, 'see there'); for many other entries this index seizes the opportunity of explaining details that could not be accommodated in the main text. When a book title is listed, it appears in *italic*, followed by the author's name (if any) between parentheses. Only capitalised text has been processed – thus e.g. 'Catalyst' is listed but not the many occurrences of 'catalyst', 'catalytic', etc. Due to last-minute text additions a few page references may be off by 1.

- Abaris, Ancient Greek shaman, 112, 114, 114n
Abkhazoids, linguistico-ethnic cluster in the Ancient Mediterranean, 233
Aboriginal Australian, 91, 192; *cf.* Durkheim**
Abraham, Biblical figure, 162
Abri du Facteur, Upper Palaeolithic site, 189
Abyss, Abysmal, 122, 164, 236, 101n; *cf.* Underworld, Apophis, Chaos, Leviathan, Tiamat, *T-hom*, Neith, Mother of the Waters
Achilles, Achilleus, 153, 251, 7n, 153n, 172n, 190n
Achnaton, Ancient Egyptian royal religious innovator, 41; *cf.* Mozes
Acholi, East African language and ethnic identity, 53
Achsenzeit, see Axial Age
Acragas, 109; *cf.* Agrigentum
Adam, Biblical figure, 135
Adonai, Lord, 160; *cf.* Aidoneus
Aegean, Sea and region, 115, 141, 151, 175, 294, 273n; – -Anatolian, 226
Aether, 103-104, 117-118, 130, 137-139, 152, 180-181, 154n, 165n, 184n; Aether and Day, children of Night, 152
Africa(n(s)), sub-Saharan, 8-9, 11, 14, 17-18, 20, 33, 37, 48, 50, 52, 60, 62-63, 70-71, 73-77, 80, 82-83, 102, 118, 123, 126, 129, 137, 140, 151, 179, 200, 209, 225, 232, 234, 243, 247, 259-261, 263, 265, 267, 272-275, 277, 279-280, 285, 287, 290-291, 293, 10n, 100n, 102n, 125n, 127n, 216n, 227n, 291n; Assyrian traces in –, 129; Arab influence on sub-Saharan –, 75; – and Ancient Near East, 73, 129; – and North America, 9, 118, 265, 274; – and Europe, 80; and East Asia, – and Asia, 35, 90, 275, 280, 186n; West Africa, 74, 268, 281; Central Africa, especially South –, 5, 8, 17-18, 31, 43, 62, 64, 70, 87, 90, 99-100, 125-126, 129, 151, 164, 230, 261, 268, 270-275, 277-281, 285, 288, 293, 296, 89n, 93n, 109n, 231n; North –, 264n; Northeast –, 294; *cf.* Nkoya, Zambia, Zimbabwe, Ndembu; Southern Africa, 5-7, 13, 16, 44, 64, 66, 69-70, 74, 81, 112, 126, 128, 151, 188, 202, 264, 268-274, 279, 296, 109n, 231n;

- emphasis on two and four in sub-Saharan African formal systems, 209; South-East Africa, 34; *cf.* Out-of-Africa, Back-to-Africa
- African Linguistics, 35
- African macrophyla (*i.e.* Khoisan, Niger-Congo and Nilo-Saharan), Amerind and Austric, as Peripheral branches in the disintegration of *Borean, 261n; *cf.* Peripheral
- African Studies Centre, Leiden, 12, 14, 36n, 225n
- African Studies, Africanist, 5, 12, 17, 43, 268, 45n, 287n
- Afrika Cultures, non-governmental organisation, Benin, 14
- Afrikaans, creolised Dutch spoken in Southern Africa, 227n
- Afroasiatic, linguistic macrophylum, 52, 73, 90, 135, 186, 232-233, 237, 245, 247, 257-258, 261-262, 266, 191n, 256n, 261n-262n; Proto-, 135, 198-199; – and Eurasiatic, 257-258; – and Sino-Caucasian, 191n; Afroasiaticised Sicanians, 233
- Afrocentricity, Afrocentrism, Afrocentric, Afrocentrist(s), 16-18, 20, 45-46, 58, 70, 74, 77, 83, 130, 218-219, 228-229, 231, 243-244, 247, 266, 287, 45n; Strong – , 7, 17-18, 46, 278; Weak or Attenuated – , 17; North American – , 45; African – , 45; *cf.* *Black Athena*, Van Sertima, Winters, Bernal, Obenga
- Aganju and Yemaja, personified Land and Water in Nigerian cosmogony, 124
- Aggregative Diachronic Model of World Mythology (van Binsbergen), 8, 36, 48-49, 54, 36n
- Agrigentum, Acragas, Ancient city in Graecia Magna, birthplace of Empedocles, 109
- Ahura Mazda, Iranian deity; – and Ahriman, 224n
- Aidoneus, Ancient Graeco / Levantine divinity, used by Empedocles as element name, 159-161; as Air, 159; as Earth, 159; *cf.* Adonai
- Air, element, 101, 104, 116-118, 123-124, 130-133, 137-139, 143, 145, 149, 153-155, 157-160, 165-166, 180-181, 187, 189, 192-199, 212-213, 263, 101n, 117n-118n, 153n-154n, 172n, 246n, 261n; – and Water, 165; – and Fire, 116
- Air-Water-Earth-Fire, 185
- Aither, 124, 137
- Aitnaios kantharos*, mytheme, 136n
- Aje Shaluga, Yoruba god, 124
- Ajña (Third Eye): Light / Dark, 117n
- Akhmim, location in Upper Egypt, 111
- Akkad(ian(s)), 150, 176, 242, 216n; Akkado-Sumerians, 219; *cf.* Mesopotamia, Babylonia
- Alarodian(s), North East Caucasian languages and their speakers, 233
- Alaska, USA state, 207, 271
- Alexandria, ancient city in Egypt, 172
- Algonkian, North American language cluster, 147
- Allegoriae Homericae* (Heraclitus Ponticus), 155
- Altai, mountain range, 249
- Altaic, branch of Eurasiatic / Nostratic, 48, 222, 233, 236, 245, 273, 277, 42n, 216n, 219n; proto-, 216n; – and Indo-European, 219n; – and Dravidian, 233
- Alternative Working Hypothesis, of this book (notably: the transformative cycle of elements goes back, not to the Upper Palaeolithic but to the Bronze Age), 9-10, 110, 178, 253, 255-256, 259, 275 *f.*; *cf.* Working Hypotheses
- America(n(s)), 3, 8-9, 14, 20, 45, 48, 99, 107, 118, 123, 142-143, 146-148, 163, 173, 188, 191, 209, 251, 259-261, 263-268, 272-277, 293, 100n, 142n, 146n, 227n, 231n, 291n-292n; – Flood myths, 8, 146, 251, 277; – Afrocentrist, 45; North America(n(s)), 3, 8-9, 173, 266, 100n; – Flood myths, 8; – mytheme of dying god becomes crop, 100n; (transformation cycle of?) elements in – , 107, 118, 123, 142-148, 173, 251, 259, 265 (negative), 268; – Pleiades and Milky Way star lore, 163-164; – languages, 191, *cf.*

- Amerind; emphasis on two and four in – formal systems, 209; cultural transmission to – from Central Asia, 260-264, 273-274, – with European Upper Palaeolithic parallels, 274, 276; – circle-dot motif, 272; – games and divination, 273; Pelasgian influence in – , 275; reed symbolism, 277; – not only as destination but perhaps also as source of trans-continental transmission, 291n-292n; South America(n(s)), 227n; *cf.* USA, Canada
- Americas, North and South, 129, 176, 261, 292, 100n, 267n; *cf.* North America, South America, USA, Canada
- Amerind, main branch of American languages, 35, 245, 262, 266, 273-274, 191n, 256n, 261n-263n; Proto- – , 198-199; – and Khoisan, 263n
- Amsterdam, city in the Netherlands, 7, 15, 226n
- Amun, primal Ancient Egyptian divinity, 131, 141; *cf.* Amunet
- Amunet and Amun, ‘Air’ and ‘Invisibility’, primal Ancient Egyptian divine pair, 131
- Amurru, ethnic category in the Ancient Near East, 176
- Ana Maqkiu, Menomini mythical evil-doers, 147
- Anahata, Heart, Air, element, 117n
- Anahita, Ancient West Asian goddess, 155n; *cf.* Neith, Athena, Nyambi
- Anasazi Tradition, archaeological complex, New Mexico, USA, 144-145
- Anat, Levantine goddess in Ancient Egypt, 140, 155n; *cf.* Anahita, Neith, Athena, Nyambi
- Anatolia, 41, 135, 183, 222, 232, 245-247, 227n, 230n-231n, 280n; – , Korea and Japan, 222; *cf.* Luwian, Hittite, West Asia
- Anatomically Modern Humans, 10, 18-19, 33, 40, 46, 50, 52, 63, 84, 86, 180, 187, 211, 290, 293, 10n, 33n; – in Africa, 48
- Ancient Near East, 72-73, 99, 115, 129, 171, 176, 188, 209, 20n, 171n, 273n
- Ancients, intellectual producers in Graeco-Roman Antiquity, 38, 155
- Angles-sur-l’Anglin, Upper Palaeolithic site, 189
- Angola((n)s), country and inhabitants, 78, 201, 280
- ANIMDEM, variable in cluster analysis, 288
- Añja, element, 117n
- Anpu, Ancient Egyptian literary character, 134; *cf.* Anubis, Bata
- Antiquity, Graeco-Roman, 68, 77, 115-116, 141, 159, 174, 178, 188, 209, 251, 267, 287, 294-295, 224n; Late – , 150; – and Bible World, 222; *cf.* Ancient(s)
- Antithesis, see Triadic Dialectics
- Antoni, Klaus, 12
- Anubis, Ancient Egyptian god of the dead, 134-135, 97n
- Anyang, Ancient Chinese capital and archaeological site, 242
- Apache, North American language and ethnic identity, 191
- Aphrodite, Ancient Greek goddess of Love, 155, 169; *cf.* Venus, Love
- Apocalypse*, Biblical book, 177; Nordic – 153
- Apollo, Ancient Greek god of sunlight and arts, 112-113, 115, 137, 155, 39n, 113n-114n, 272n-273n
- Apophis, Ancient Egyptian abysmal being, 138
- Apsaras, S and SE Asian nature spirits, 281
- Aquitaine, French region, 184
- Ara, Yoruba thunder god, 124
- Arabia, Arab(s), Arabic, region, ethnic identity and language, 5, 15, 52, 58-60, 62-64, 67, 69-70, 74-75, 77-78, 82, 111, 129-130, 150, 177, 237, 148, 249, 265, 247n; – and Latin, 150; – and Greek, 111; – and Judaism, 82; – and Malagasy, 128n; *cf.* Islam
- Araldo de Luca, photographer, 133
- Aramaeans, ethnic group and language from the Eastern Mediterranean, which in Seleucid times assumed administrative functions deep into Asia, 141; *cf.* Bible
- Archangel, mythical senior celestial messenger in the Judaic / Christian tradition, 177; – Michael, 162

- Archives d'Orient*, 219
Archoas of Athens in the Hellenistic Age, (Dinsmoor), 114n
 Arctic, and sub-Arctic, concentration of circle-dot motifs in decoration, 272
 Arduni Island, Sepik, New Guinea, 55n
Argonautica (Apollonius Rhodius), 112
 Aristaeus, Aristaios, name of two Graeco-Roman mythical figures, 136-139-140, 134n, 136n, 140n; – and Neith, 138; – and Noah, 139
 Aristreas, shaman in the Ancient Greek context, 112
 Aristotle**, 81, 109, 149-150, 159, 164-168, 173-174, 206, 251-252, 255, 293, 165n-166n, 169n, 173n; also see *Physica*, *Meteorologica*; – and Plato, 9, 38, 156, 166, 251
 Arizona, USA state, 14
 Armenia, Armenian language, Armenology, 227, 216n; *cf.* Karst**
 Arousing, Chinese trigram name, 122, 236
 Artemis, Ancient Greek goddess, 113n
 Arthur, King, 135; *cf.* Morgana, Mordred, Shihoka
 Aruna, South Asian mythical figure, son of Kashapa, 281
 Aryballos, name associated with famous Ancient Greek vessel, 37
 ASC, see African Studies Centre, leiden
 Ashanti, ethnic group in West Africa, 126
 Asia(n(s)), 7-9, 11-15, 17-19, 21, 31, 34-39, 41-43, 45, 48, 51-56, 58, 60-65, 68-69, 71-73, 75-77, 79-81, 83, 85, 90, 110-114, 116, 118-119, 121, 126-129, 137, 140-142, 151, 163, 175-176, 182, 188, 190-191, 208-209, 213, 215, 216-22, 224-232, 234-235, 239-244, 248-250, 252, 255-261, 263-264, 267-269, 271-273, 275, 277-283, 285, 287-288, 290-293, 36n-37n, 67n, 92n-93n, 100n, 117n, 153n, 170n, 172n, 177n, 186n, 219n, 221n, 223n, 226n-228n, 231n, 246n, 266n-267n, 273n, 280n; – Steppe, 240; – Minor, 172n; *cf.* Anatolia; – and Africa, 15, 18, 34, 62, 80, 85, 110, 175, 285, 292, 280n; – in the Neolithic, 38, 55, 80; – in the Neolithic to Early Bronze Age, 11, 213, 219, 232, 240; – Bronze Age, 268; – and the Mediterranean, 227, 264, 219n; – and Europe, 12; – and Egypt, 275; Asianisation, *i.e.* transmission of – culture traits to Ancient Egypt, 242; – and Ancient Greece, 13; – and Oceania, 48, 170n; – and the New World, 60; – and Meso-America, 267; – Muslims, 68; – Buddhist, 61; – Blacks, 18, 232; – and Pelasgian, 127; South Asia(n(s)), 8, 11, 54, 80, 295, 37n; – war god Skanda, 39; – Postcolonial Theory, 45; – counterparts of *Yi Jing* and geomantic nota-
- tional system, 67; – and Sunda transcontinental links, 76, 77; – origin of Gypsies, 90; – proposed to have contributed to Bantuoids, 18-19, 90; recent – intrusion into South Central and Southern Africa, 278-290, 93n – notably among the Nkoya, 280-282, 291, 280n; Ayurveda medical system, 117n; Hellenistic influence in – , 117n; Greek astrology as influence upon – , 119; *nakshatra* moon stations, 126; – navigational standards, 142; dominated by specific number symbolism? (Frobenius) 117n; in triadic belt, 208-209; studied by Terrien de Lacouperie, 217; West – , 18, 220, 216n; – Indo-Iranian cosmology continuous with that of Presocratics; – Shiva stones, 264-265; – influence on Meso America? 267, 266n; – influence on Pacific, 267n-268n; – geomantic dice, 268; – possible channel for transmission of Scythian-Mongolian traits to sub-Saharan Africa, 277; – reception of Empedoclean four-element system, 290, 295; trans– , 220; East – , 220; Southeast Asia, 60; and Oceania, 63; – and Africa, 19n; and Western Eurasia, 33-34, 37, 53-54, 61, 72-73, 76, 80-81, 129, 176, 275, 279-281, 295, 36n, 100n, 170n, *cf.* Sunda; Central

- Asia, 34, 51, 63, 68, 80, 129, 140, 182, 188, 190, 217, 221, 243, 252, 256-261, 263, 278, 291, 117n, 216n, 219n, 227n, 231n, 246n, 264n; – Buddhism, 267; – Neolithic, 37; West Asia, proposed global focus of innovation, 253, 257-258, 246n
- Asian Postcolonial Theory, 45
- Asian Studies, Asianist(s), 12, 253; and Assyriologists, 17
- Asiatic, see Asian
- Askese, innerweltliche* (Weber) 42n
- Assyria(n(s)), 74, 129, 150, 271, 19n, 220n
- Assyriology, Assyriologist(s), 14, 17, 72, 176, 217-218, 220, 242, 294, 71n, 117n, 223n, 241n; – and Sinology, 220; *cf.* Sumer, Akkad, Ancient Near East, Bible, Temple**, Oppenheim**, Lambert**, Wiggermann**, Gadd**
- Athabaskan, language cluster; Southern –, 191
- Athabaskan-Eyak, North American language cluster, 191
- Athena, Ancient Greek goddess, 15, 18-19, 85, 131, 153-155, 185-187, 154n-155n, 186n, 228n, 246n; *cf.* *Black Athena*, Pallas, Neith, Anahita, Poseidon, Laco Tritonis, Mother of the Waters
- Athens, Athenian(s), Greek city, 112, 242, 265, 114n, 155n; – and Delians, 114
- Atlantic, North, world region encompassing Europe and North America, 86
- Atlantic, one of the three world Oceans; – Africa, 76, 81; – Europe and North Africa, 264; Transatlantic, 48, 56; Transatlantic to Meso America, 99; *cf.* North Atlantic
- Attis, vegetation god of the Ancient Mediterranean, 100n; *cf.* Dumuzi, Dionysus, Chihamba, Bituma
- Atum, Ancient Egyptian primal god, 131, 139; *cf.* Hidden One
- Aurum, Gold, 155
- Ausci, ethnic group, Ancient Western Mediterranean, 233
- Austin, city in Texas, 145
- Australia(n(s)), 5, 55, 63, 75, 91, 179-180, 230, 234; – Aborigines, 192 and *q.v.*; – and New Guinea, 51
- Austriac, linguistic macrophylum, 35, 53, 77, 90, 141, 186-187, 199, 237, 239, 245, 261-262, 273, 191n, 256n, 262n, 280n; Proto–, 198-199; – and Africa, 273; – and Niger-Congo, 35; – and Amerind, 256n; *cf.* Austroasiatic, Austronesian, Munda, Sumerian
- Austroasiatic, 186-187, 239, 245, 280n; Proto–, 198-199; *cf.* Austric
- Austronesian, 34-35, 76, 185-186, 237, 239, 245, 279; Proto–, 187, 198-199; *cf.* Austric
- Autumn, 172n; *cf.* Spring
- Avatar*, North Atlantic fantasy motion picture, ca. 2010 CE, 110
- Axial Age (Jaspers), 42-43, 85
- Ayurvedic, South Asian therapeutic system, 281, 117n
- Azilian, Epipalaeolithic archaeological complex, 264
- Babel, Biblical toponym associated with the confusion of languages (*q.v.*), 20n; *cf.* Flood, Renfrew**, Kaphesh, Nimrod, Tower of –, Flood and Tower myths
- BABSTAR, variable in cluster analysis, 288
- Babylon, Babylonia(n(s)), 135, 176, 217, 219, 249, 288, 117n-118n; Babylonism as the claim that all civilisation derives from the Ancient Near East, 218, 220, 241n; Babylonian and Chinese, 126; *cf.* Elam, Terrien de Lacouperie, Afrocentrism
- Babylonian and Oriental Record*, 217; *cf.* Terrien de Lacouperie
- Back-to-Africa, 18, 35-36, 56-57, 62, 79-80, 83, 129, 260, 278, 283, 285, 186n; Back-to-Africa Hypothesis, 33, 52, 273
- Bactria, Central Asian region, connecting Western and Eastern Eurasia, 243, 249
- Badger, mythical being North America, 147
- Bak, Bak Sing, hypothetical Asian ethnic group and language (Terrien de Lacouperie) 217, 220, 243, 215n-216n; *cf.* Hundred Families, Kütsché, Terrien de Lacouperie**

- Baker, Mt, 146
- Bakici Baci, 'basic elements', Lower Congo, 125
- Bali, Indonesian island, 14, 67n
- Baltic, North European sea and region, 142
- Baluchistan, Central Asian region, 249
- Bamileke, ethnic group and language, Cameroon, 279
- Bantu, major branch of Niger-Congo, 17, 19, 34-35, 53, 89-90, 129, 185-186, 198-199, 202, 230, 232-233, 237, 244-245, 258, 261-262, 277, 279-281, 291, 124n, 231n, 263n; Common -, 216n; Bantoid, 253; Bantuids, 90; - and Khoisan, 262; in West Asia, 17, 19, 230, 232-233, 244, 216n; from South Asia (Karst), 90
- Barbel, Nkoya clan name, 104; - and Kale, 88
- Bardaisan of Edessa, prophet in Late Antiquity, 116
- Bark, 97-99; - Container Which Could Hear, Shikumbawuyuvu, Nkoya clan name, 99; - Do You Hear, Nkoya clan name, 98
- Barotse(land), region, polity and people in Western Zambia, 87, 269-272; *cf.* Lozi, Nkoya
- Basojaun, Basque god, 223; *cf.* Ganesha, Janus, Oannes
- Basque(s), language and ethnic group, 142, 191, 223, 237, 240, 261; Basquoids, 233; pre-Euscarian Liguroid ethnic and linguistic groups, Ancient Mediterranean, 233; *cf.* Basojaun
- Başra, port on the Persian Gulf, 282n; *cf.* *Iḥuan al-Şafa*, *‘ilm al-raml*
- Bastet, Ancient Egyptian mythical figure, apparently evocation of four-element system, 131-132
- Bata, Ancient Egyptian mythical figure, 134-135; - and Humbaba, 134
- Battle with the Gods, 136; *cf.* Gigantes; *cf.* Combat Myth
- BBC, British Broadcasting Corporation**, 19n
- Bears, mythical beings in North America, 147; *cf.* Ana Maqkiu
- Becher, Joachim, 166n; *cf.* Phlogiston
- Bedouins, ethnic group in Arabian / Islamic context, 64
- Bee, 15, 17, 93, 95-96, 101, 137, 275, 101n; *cf.* Queen Bee, She of the Reed and the Bee, Luhamba. Libupe
- Before Babel* (Renfrew), 19n
- Before Civilization* (Renfrew), 19
- Before the Bible: the Common Background of Greek and Hebrew Civilizations* (Gordon), 20
- Beijing, city in China, and language variant, 12, 186, 238, 223n
- Being, 120, 171
- Belgium, country, 183, 276
- Bell, Nkoya clan name, see Langu, 104
- Bemba, Central African ethnic identity and language, 126
- Benin, West African country, 14, 53, 82
- Berber, branch of Afroasiatic and ethnic identity, North Africa, 78, 198, 230, 237, 247
- Bering Strait, 260, 292
- Beringia, region around the Bering Strait, scene of land bridge before the Holocene, 291n-292n
- Bernal, John Desmond, 84; *cf.* Bernal, Martin**
- Best, meaning of name Aristaeus, *q.v.*, common epithet of several major Greek gods, 137
- Bible, Biblical, 17, 20, 73, 134, 222, 227, 281, 171n, 225n, 227n; *cf.* Nimrod, Exodus, Jesus, Noah
- Bibliotheca* (Apollodorus), 39n, 134n, 154n
- Bibliotheca Historica* (Diodorus Siculus), 113
- Bight of Benin, sea gulf between Nigeria and Cameroon, 70, 72, 76, 78; - and West Africa, 53
- Binary Value, of Chinese trigram, 122, 236; Logic of Binary Opposition, 212; *cf.* Triadic Revolution
- Biri, Yoruba mythical figure, 124
- Bituma, cult of affliction in Western Zambia, 98-99, 126, 100n
- Black Africans, 77, 244; *cf.* West Asia, Pelasgians
- Black Athena Comes of Age* (van Binsbergen), 83
- Black Athena Ten Years Later* (van Binsbergen),

- 46
Black Athena, I-III
(Bernal**, *q.v.*), 7, 19,
45-46, 83, 135, 174, 235,
243, 292n
Black Irish, 230, 243
Black One, see Kale
Black Sea, 112, 153, 247,
172n
Black Vulcan (van
Binsbergen), 153n
Black, 295; – Akkado-
Sumerians of Elam-
Babylonia, 219, 295; *cf.*
Bantu in West Asia
Blacks, West Asian, 18,
232, 234, 216n; *cf.*
Ch`ung Li
Blessing and Hindrance,
element relations, 119
Blombos Cave, Middle
Palaeolithic site, South
Africa, 201, 201n
Body, meaning of Chinese
trigram, 122
Boeotia, Ancient Greek
region, 208
Bonn, German city, 173
Book of Changes, see *Yi*
Jing
Book of the Dead of Lady
Cheritwebeshet, 98
Boreadae, class of aristocrats
in Ancient Europe,
114
*Borean, reconstructed
Upper Palaeolithic, Old
World language form,
traces of which have
been claimed for all
present-day linguistic
macrophyta, 8, 34-35,
49, 51-52, 178, 182,
185-187, 189-199, 204-
206, 209-210, 212, 233,
235-236, 244-245, 256-
259, 261-262, 273-274,
277, 285, 292, 34n,
190n, 194n-195n, 240n,
245n-246n, 261n, 263n;
– and Lascaux, 195; – in
Asia in the Upper Pa-
laeolithic, 35; *Borean
Hypothesis, 34, 185,
187, 233, 261, 274, 285,
240n; *cf.* Starostin**,
Fleming**
Boreas, Graeco-Roman
god of the North Wind,
113-114
Borvon, Celtic sun god,
113n
Botswana, country, 3, 6,
13, 44, 201, 276; *cf.*
Tswana
Bouvet, Joachim, Early
Modern Jesuit in China,
241
Brahman, Hindu primal
god, 117n
Brahmin, Hindu priestly
caste, 280
Brazil(ian(s)), 229
Brethren of Purity, 282n;
cf. Iḥwan al-Ṣafa
British Columbia, 14, 272
British, 14, 132, 216, 249,
266, 272; British-
American, 45; Britain,
113n; *cf.* England
Broers, Nettie, 16
Broers, Peter, 14-16
Bronze Age, 9, 11, 17, 37-
38, 47, 52, 78, 80, 83,
110, 129, 137, 140-142,
205, 208, 210-211, 226-
228, 232, 240, 253, 255,
259-260, 263, 267, 273,
275, 277-278, 290-292,
295-296, 10n, 45n, 101n,
194n, 216n, 219n, 273n;
– and Iron Age, 48, 175;
– Eurasia, 204; – West
Asia, 248, 291-292; –
Mediterranean, 37, 54,
233, 244; – Cyprus, 271;
Late – , 37, 204
Buddha, Gautama, 41,
135, 279, 281
Buddhism, Buddhist, 12,
14, 61, 62-64, 116-118,
128-129, 177, 217, 267,
279-280, 282, 287-288,
42n, 117n-118n; – and
South East Asia, 280; –
and South Asia, 217,
280; – and Islam, 63,
128
Buea, town in Cameroon,
70
Bugun, branch of Sino-
Tibetan, 238
Bulawayo, city in Zim-
babwe, 276
Bumba, creator god
among the Bushong, 126
Burmese, branch of Sino-
Tibetan, 238
Burushaski, language
isolate proposed to at-
tach to Sino-Caucasian,
191, 237, 239, 245
Bushong, ethnic group in
Congo, division of the
Kuba, 61-62, 126, 287
Buys, Gina, 276
Buzzard, Nkoya clan, 104
Byzantium, Byzantine,
Medieval empire, East-
ern Mediterranean, 69,
75, 82, 150
°Aha, First-dynasty
Egyptian ruler, 140
Cairo, town in Egypt, 132,
247n; – Geniza, *q.v.*
°Aissa, see Issa
California, USA state, 146
Cambridge MA, town in
USA, 8, 12, 173; *cf.*
Harvard University
Cameroon(ian(s)), country
and inhabitants, 14, 70,
279; – Western Grass-
fields, 62; – and Indone-
sia, 14
Canada, country, 14
Canis Major, asterism,
223n
Canon of Changes, see *Yi*
Jing

- Canopian Vases, Ancient Egyptian funerary equipment, 131-132
- Cantonese, variety of the Chinese language, 216n
- Cape of Good Hope, 52, 58, 60, 70, 74-75, 81, 129
- Caphthor, Ancient Mediterranean ethnico-linguistic group, 233
- Capitolinus, Roman cult, 161; Egyptian influence claimed, 161
- Caraka Samhita*, 117n
- Carians, identity in the Ancient Mediterranean, 230, 233
- Cartesian, reflecting the thought of René Descartes**, 192
- Casamance, region in Southern Senegal, 14
- Casluhkim, ethnic group in the Ancient Mediterranean, 233
- Castillo, Upper Palaeolithic site, 188
- Çatal Hüyük, Neolithic archaeological site, 183, 246n
- Catalyst, role in the most developed version of the transformative cycle of elements, 120
- Cattle, 181
- Caucasus, mountain range, 191, 229, 240
- Cauldron of Kingship, Nkoya (Celtic, Mongolian, *q.v.*) mytheme, 105
- Cecrops, mythical figure in Early Athenian history, 222-223; – and Erichthonius, 223, 242; *cf.* Erechtheus
- Celts, Celtic, 48, 105, 135, 113n; *cf.* Arthur, King; – and Mongolian, 105
- Ceylon, see Sri Lanka
- Ch'ung Li, Chinese Fire god, 93n
- Chadic, branch of Afroasiatic, 186-187, 198, 237; Central –, 237; Central and East –, 186
- Chaldaean, ethnic and ritual-professional designation referring to the late period of the Ancient Near East, and its proto-globalised traits, 176
- Chaos, primal proto-element, 124, 152, 154, 171, 101n
- Chaozhou, branch of Sino-Tibetan, 238
- Chemmis, location in Ancient Egypt, 6n, 101n; *cf.* Horizon of the Bee
- Cheritwebeshet, Lady, 98
- Cherubim, class of mythical celestial messengers in the Judaeo-Christian tradition, 162
- Chihamba, cult of affliction, NW Zambia, 99, 126; and Bituma, 100n
- Children of Light and the Children of Darkness, 224n
- CHILUNA, variable in cluster analysis, 288
- China, Chinese, region, language and people, 7, 11-12, 41-42, 56, 67-68, 74-75, 77, 80-81, 107, 116, 118-122, 126, 128, 151-152, 163, 177, 183, 186, 208, 213, 215-221, 224, 226-229, 231, 235-236, 238-245, 247-249, 253, 265, 267, 277, 285, 287-288, 291, 53n, 93n, 116n, 118n, 168n, 215n-216n, 219n, 221n, 223n, 226n-227n, 231n, 239n-240n, 246n, 268n, 272n, 282n, 287n; Sinoid, 227n; Preclassic Old – language, 236, 216n, 227n; Classic Old – language, 186; – Sea, 267; – Fire god, 93n; – Emperor, leopard / Dionysian motifs in embellishment of –'s chariot, 246n; West –, 216n; – and Mesopotamia, 220, 231; – and Babylonia, 288; – and European, 218; – and Etruscan, 248; – and Imperial Romans, 248; – and Nkoyaland, 93n; – and Japan, 231n; *cf.* Yi Jing, Wu Xing, Taoism, Terrien de Lacouperie**, Cantonese
- Chinese Academy of Social Sciences, 223n, also see IWAAS
- Chinongosi, see Kanakosi
- CHIZODI, variable in cluster analysis, 288
- Chnum, Ancient Egyptian creator god, 134
- CHOKBAS, variable in cluster analysis, 288
- Chokwe, South Central African language and ethnic identity, 288
- Chola, South Asian dynasty with influence on South Central Africa, 280n
- Christianity, 241, 295, 224n, 227n; non-Christian religion, 295; *cf.* Judaism, Islam, Jesus, Jesuits
- Chukchee-Kamchatkan, linguistic phylum, 236; *cf.* Eurasiatic
- Circle-dot, *cf.* Arctic
- Circumcision, 124
- CITI, see Context of Intensified Transforma-

- tion and Innovation
City King, see Melqart
Classic of History, see
Shūjing, 246n
Clytemnaestra, Ancient
Greek legendary figure,
170; cf. Helen, Dioscuri
Coffin Texts, 163
Colchis, Colchian, region
on Ancient Black Sea,
111
Colophon, Ancient Greek
city, 172n
Columbus, Early Modern
explorer, 20
Combat myth (Fonten-
rose), as evocation of the
cyclical transformation
of elements, 123, 134
Common Era, 62, 141,
277, 19n, 224n
Comoro Islands, 6, 81
Confusion of Languages
after the Flood,
mytheme, 146
Congo Basin, 70
Congo(lese), River and
two countries in Central
Africa, 61, 125-126,
202, 287; – Basin, 70; –
Bushong, 126; –
Zambezi watershed, 99,
280; Lower Congo, 125,
287; cf. Zia
Consciousness, element,
118
Context of Intensified
Transformation and
Innovation, in long-
range history of global
mythology, 49-50, 52,
55, 75
Conus shell, regalia in
South Central Africa, 30
Corpus Hermeticum
(Hermes Trismegistus),
110, 110n
Correlative system, 119;
cf. Yi Jing
Cosmic Egg, 17, 36, 50,
128, 170-171, 180, 36n-
37n, 170n-171n; – in
South East Asia, 170n
Cosmogonic Hypothesis
(van Binsbergen), postu-
lates a succession, in the
Upper Palaeolithic, of
two cosmogonies: first
the Separation of Land
and Water, subsequently
the Separation of
Heaven and Earth, 212
Cosmogonic Virgin and
her Son / Lover, primal
Narrative Complex, 50,
52, 212
Coyote, North American
trickster figure, 146
Crocodile, widespread
African clan name, 126
Cronus, Kronos, Greek
primal god, 133n, 172n
Crown, element, 117n
Cuba, island and country,
82
Culture Hero, 264
Cupid, see Eros
Cushitic, branch of
Afroasiatic, 186, 233,
230n; Low East – , 186,
237
Cyclicity, 3, 145
Cygnean Lake, 162
Cyprus, island, 271
Cyrene, Ancient Mediter-
ranean region and
mythical figure, 137-
139; cf. Aristaeus
Dada, Yoruba deity, 124
Dagon, Ancient West
Asian god, 222; cf. Oan-
nes
Daisanites, followers of
Bardaisan, *q.v.*, 116
Dallit, see Untouchables
Danae, Graeco-Roman
mythical figure, visited
by Zeus in the shape of
a golden rain, mother of
Perseus (Apollodorus,
Bibliotheca, II, 26 and
34), 155
Dance of the Elements:
Fragment B 17 of
Empedocles (Michelini),
165
Darkness, proto-element,
135, 116n, 224n
Dawn, see Aruna
Day, proto-element, 152;
cf. Aether
de Anima (Aristotle), 169n
de Iside et Osiride
(Plutarch), 134, 100n,
163n
de Jong, Joop, 14
Death, implied proto-
element, 135, 159
Deianeira, Graeco-Roman
mythical figure, 134,
134n; – and Delilah,
134; cf. Heracles
Deir el Bahari, Ancient
Egyptian site, 98
Delilah, Biblical figure,
134; cf. Samson
Delos, Delians, Aegean
island and inhabitants,
114, 114n
Delta, Northernmost
Egypt, 140-141, 101n;
cf. Chemmis, Neith, Saïs
Delusion, see Mara
Demeter, Ancient Greek
earth- and vegetation
goddess, 184n
Denē-Sino-Caucasian, 47,
257
Department of Philosophy
of Man and Culture,
Philosophical Faculty,
Erasmus University
Rotterdam, 13
Department of Sanskrit
and Asian Studies, Har-
vard University, 7, 12
Descent of Inanna, mythi-
cal motif in Ancient
Near East, 273n
Descriptio Graeciae

- (Pausanias), 134n, 265n
 Desert and Fire, realm of Seth, *q.v.*
 Desert Fringes, realm of Nephthys, *q.v.*, 130
 Destruction, action between elements, 119-120, 137-139; – and Production, 119; – of element Earth, 139
 Devisch, René, 13
 Dewi Sri, agricultural goddess SE Asia, 100n
 Diachronic Aggregative Model of Global Mythology (van Binsbergen), 8, 36, 48, 54, 36n
Die Anfänge des kulturellen und Handelsverkehrs in der Mittelmeerwelt (Hennig), 113n
 Dietz, Ton, director, African Studies Centre, Leiden, 12
 Dilmun, legendary Sumerian location often identified as Bahrayn, 77
 Diomedes, Graeco-Roman mythical figure, 246n
 Dionysus, Ancient Graeco-Roman god, 115, 208, 100n, 172n, 223n, 246n
 Dioscuri, Graeco-Roman mythical figures, 170; *cf.* Helen, Clytemnaestra, Leda
Dissertationes (Maximus Tyrius), 230n
Dithlaola, Southern African designation for cleromantic divination set, 6
 Djunatan, Stephanus, 13
 DNA, genetically vital protein, 33, 50, 52, 79-80, 178, 33n; mt [mitochondrial] DNA Type B, 63, 182; – and RNA, 178
 Dogon, West African ethnic group, 125, 129, 287, 223n
 Doquebuth, Native American Creator figure, 146
 Dordogne, region in France, 184
 Douala, town in Cameroon, 279
 Down, extra dimension added to four directions so as to obtain six elements, 142; *cf.* Up
Doxographi Graeci (Diels), 159
 Dravidian, branch of Eurasiatic, 77, 230, 233, 237, 245, 280n
 Drone, Nkoya clan name, 93, 95; *cf.* Bee
 Drought, see Shihoka; *cf.* Water, Earth
 Duality, see Twins
 Dumuzi, Thammuz, Eastern Mediterranean and Mesopotamian mythical figure, 100n
 Dutch, see Netherlands
 Eagle, 145; Nkoya clan, 91, 104
 Early Modern, 6, 55, 74, 76-77, 109, 115, 150, 156, 162, 193, 222, 287, 10n, 19n
 Early-Dynastic, see Egypt
 Earth, mainly as element, 36, 50-52, 101, 104, 116-121, 124, 130-131, 133, 136-139, 145-147, 149, 152-155, 157-161, 163-167, 178, 181-182, 185, 187, 189, 192-199, 208, 211-212, 234-235, 251, 256, 39n, 93n, 101n, 110n, 133n, 153n-154n, 172n, 181n, 195n, 226n, 246n, 261n; –, Water, Fire and Air, 143; – and Air, 195, 212-213, 263; – and Fire, 182, 212-213; – and Stone, 157; – and Time, 117n; – and Water, 143, 154, 171, 212; – and Wood, 146n; as the Source of Cattle (Neolithic), transformation of the Narrative Complex ‘the Earth as Primary’, 181; – and Horus, 133; Earth and Sicily, 136; – People and Sky-People, 143; Kind – (Empedoclean expression), 161
 Earth-diver mytheme, 147; *cf.* Mink
 Easter Island, 217, 268n
 East-West, pendulum-swing influence, 75, 240-242, 252, 111n, 219n, 246n
 East, West, North and South cultural transmission since Late Bronze Age, proposed ‘cross-model’, 253
 Eaton, Arthur, 12
Edda, Nordic classic mythical text, 124n
 Edessa, town in Ancient Mesopotamia, 116
 EGYPGOD, variable in cluster analysis, 288
 EGYPNOM, variable in cluster analysis, 288
Egypt before the Pharaohs (Hoffman), 20
 Egypt(ian(s)), Ancient, 9, 16, 20, 42, 73-74, 83, 98, 101-102, 107, 111, 115, 118-119, 123-125, 129-141, 143, 150, 160-161, 163-164, 172-173, 175-177, 186-188, 195, 198, 209-210, 227-228, 230, 241-242, 249-250, 263, 265, 271-273, 275, 277, 285, 287-288, 294, 6n,

- 55n, 97n, 101n-102n, 117n, 124n-125n, 134n, 153n, 175n, 225n, 230n, 265n, 272n-273n, 280n; – Upper, 137, 139-140; and Lower –, 102, 138-139, 186, 101n; Early Dynastic, 137-138; – Old Kingdom, 273; – New Kingdom, 230n; – Late Period, 132; Egyptianising, 136-137; Egyptian ‘Horizon of the Primal Waters’, possible etymology of the name Noah, 140n; – Hermetic, 141; – Dynastic, 249; – and Mesopotamia, 210; – and Greek, 288; *cf.* Hermopolis, Isis, Horus, Neith, Re^c, and other Egyptian deities listed, Aristaeus, Mizraim, Two Lands
- Egyptian Museum, Cairo, Egypt, 132
- Egyptology, Egyptologist, Egyptological, 7, 45, 101, 130, 136, 140, 163
- Elam(ite), region, language, ethnic identity in Ancient Near East, 77, 176, 219, 249; – and Dravidian, 77
- Elder Sister / Younger Brother, 154n
- Elegba, West African phallic divinity, 124
- Elephant, Nkoya clan, 104
- Elymians, Ancient Mediterranean ethnic group, 230; *cf.* Ligurians
- Empedocles,** 8-9, 31-32, 106, 109-112, 115-116, 131, 141, 149-150, 156-161, 164-176, 178, 209, 234, 249-252, 274, 278, 285, 290, 293, 110n, 118n, 130n, 157n, 160n, 165n, 167n, 175n, 224n; Sphere, 169-170; *Fragments*, 106, 160, 234; Cosmic Cycle, 168; Empedocles and Indo-Iranian, 234
- England, English, 89-90, 99, 152-153, 158, 187, 110n, 227n; Anglo-Saxon, 6n; *cf.* French-English, United Kingdom, British
- Enki, Ancient Mesopotamian deity, 243
- Enlightenment, period in intellectual history of Europe / North Atlantic region 10n; *cf.* (Early) Modern
- Ennead, Ancient Egyptian group of primal beings, 131, 134, 139; Bull of the –, 139; *cf.* Heliopolis
- Enoch, Biblical and Islamic figure; and Noah, 241
- Epimenides, Greek shaman, 112
- Erasmus University Rotterdam, 3, 7, 13
- Erebus, Graeco-Roman primal mythical figure, 152
- Erechtheus, snake-footed Graeco-Roman mythical figure, 265; *cf.* Erichthonius
- Erichthonius, snake-footed Graeco-Roman mythical figure, 223, 242, 265, 223n; *cf.* Erechtheus; – Fu Xi, and Oannes, 223n
- Eros, Greek mythical figure, 155; *cf.* Love
- Eskimo-Aleut, language phylum, 245; *cf.* Eurasianic
- Ether, element, 117n
- Ethiopia(n(s)), Ancient region and identity, 78, 227, 227n; – and Ancient Egypt, 55n
- Ethnicity in Mediterranean Protohistory* (van Binsbergen & Woudhuizen), 7, 13
- Etruscan(s), Etruria, language, ethnic identity, and region, 126, 136-137, 242, 248, 272
- Euphrates, River, 219, 242; *cf.* Mesopotamia
- Eurasia(n), *i.e.* Asia and Europe together, 9, 33-34, 36-37, 54, 80, 105, 110, 116, 118, 141, 148-149, 174, 176, 190-191, 204-205, 210, 234, 242-244, 248, 256, 259-261, 263-266, 273, 287, 42n, 97n, 117n, 184n, 223n, 246n, 292n; – Upper Palaeolithic, 205; – Neolithic and Bronze Age, 19; – Steppe, 37, 222, 252, 277, 153n; – and Africa, 36; – and Oceania, 170; – and North America, 3
- Eurasia, Western, 33, 80, 148-149, 174, 190, 264, 287, 266n; – and Africa, 292n
- Eurasianic, linguistic macrophylum, 16, 52, 233, 236, 244-245, 257-258, 261-262, 191n, 240n, 256n, 262n; Proto–, 198-199; – Upper Palaeolithic, 36; – Hypothesis, 34n; – and Afroasiatic, 262n; –, Afroasiatic and Sino-Caucasian, 261n
- Eurocentric, Eurocentrism, 9-10, 16, 19-20, 31, 42, 47, 130, 175, 213, 227, 248, 292, 296, 227n
- Europe(an(s)), 6, 12, 18-

- 19, 37, 41, 44, 47, 53, 71, 75-77, 80, 82, 84-86, 115-116, 119, 129, 142, 149-150, 161, 185, 209, 215, 218, 227, 241, 248, 251-252, 258, 264, 274, 283, 290, 295, 6n, 223n, 228n, 279n-280n; – Upper Palaeolithic, 163, 188; European Romantic poets, 149; – and the North Atlantic region, 175; – and Africa, 267
- Eurydice, Broad Justice, Graeco-Roman mythical figure, 137-138, 134n; *cf.* Orpheus, Aristaetus
- Eurytus, pupil of Philolaus, 264
- Ewe, West African ethnic group, 123
- Ewige Wiederkehr des Gleichen* (Nietzsche), 211
- Ex Oriente Lux*, ‘Light from the East’, 175
- Exalted Insider, 257; *cf.* Sacred Outsider
- Exile, Babylonian: pre-Exilic Israelite, 150
- Exodus*, Bible book, 225n
- Exodus*, Out-of-Africa, *q.v.*
- Extended Fertile Crescent, Neolithic, 47, 52, 56-58, 62, 79-80, 211, 253
- Fabulae* (Hyginus), 265n
- Fagbemissi, 14
- Fan Qie, Chinese pronunciation device, 238, 218n
- Fasti* (Ovid), 136n
- Fathers, epithet for planets, 110; *cf.* Mothers
- Feminine Arts, the, Narrative Complex, 181; *cf.* Spider
- Fertile Crescent, 79; see Extended Fertile Crescent
- Field, Chinese trigram name, 122, 236
- Figurism, see Jesuits
- Finisher, Nkoya clan, 96
- Finn, Finland, Finnish, Iron as mythical figure, 39
- Fire, 18, 39, 95, 104, 116-121, 124, 130-133, 137, 139, 143, 145-146, 149, 153-155, 157-159, 165-166, 172, 180, 182, 187, 189, 192-199, 211-213, 230, 234, 250-251, 263, 39n, 93n, 116n-117n, 146n, 153n-154n, 160n, 246n, 261n; – Giant, 154; – and Water, 137, 153n-154n; – and Air, 137, 143, 117n; Fires, as part of foursome, 196, 128n, *cf.* Wind etc.; Firegod, 246n; Fire, Water, Lion and Snake, apparent transformation cycle of elements, traversed in narrative of Thetis seeking to avoid marrying Peleus, 172
- Firewood, Nkoya clan, 104
- Fish Eagle, Nkoya clan, 104
- Fish Spear, Nkoya clan, 88
- Five Phases, Chinese elements, see *WuXing*
- Flood Plain, Zambezi, 87, 102n, 154n
- Flood, mytheme, 8, 36, 39-40, 49-51, 58, 63, 72-73, 100, 123, 146-147, 162, 182, 204, 208, 220, 247, 251, 261, 267, 277, 293, 19n, 146n, 246n, 292n; – and Tower myths, 72, 281; *cf.* Confusion of languages
- Fomorians, mythical ethnic group, Ancient Ireland, 230
- Font de Gaume, Upper Palaeolithic site, 188
- Fontes atque pontes: Reihe Ägypten und Altes Testament* (series on Ancient Egyptian / Ancient Israelite continuities, ed. Görg, M.), 225n
- Force, Chinese trigram name, 122, 236
- Formosa, see Taiwan
- Fortes, Meyer, 84
- Foundations of Intercultural Philosophy, Chair, Philosophical Faculty, Erasmus University Rotterdam, 3
- Fragmente der griechischen Historiker, Die* (Jacoby), 223n
- Fragments* (Empedocles), 106, 160, 165, 173, 234
- Fragments* (Heraclitus), 173
- France, French, language, country and ethnic identity, 14, 156, 183-184, 188, 192, 212, 216, 200n, 227n; – -British, 213, 216
- Francistown, town in NE Botswana, 6-7, 13, 44, 276
- Franco-Cantabrian region, in Southern France / Northeastern Spain, with high concentration of Upper and Meso Palaeolithic sites, 183, 188, 191, 197, 202, 219n
- Freyr, Nordic mythical figure, 153
- Fu Xi, Chinese mythical figure, 222, 241, 243, 246, 265, 223n, 246n; and Nü Wa, 243
- Furtherance, between elements, 119
- Fusion, Empedoclean theme, 169; *cf.* Love,

- Strife
- Fuzhou, division of Sino-Tibetan, 238
- Ga, ethnic group, West Africa, 123
- Gaia, Graeco-Roman mythical figure, Earth, 133n
- Game Meat of Kingship, Nkoya mytheme, 105; *cf.* Cauldron
- Ganesh, elephant-shaped Hindu god, 223
- Ganga, South Asian mythical figure representing the River Ganges, 39
- Garuda, mythical figure S and SE Asia, 281; *cf.* Vishnu
- Gaul, region coinciding with present-day France and N Italy, 113n
- Gautama, see Buddha
- Geb, Ancient Egyptian Earth god, 130, 138, 163
- Genesis*, Bible book, 72, 100, 134, 150, 204, 229-230, 281, 19n, 216n, 227n, 230n
- Geniza, storeroom of a synagogue, notably at Cairo, Egypt, 15, 247n
- Gentle, Chinese trigram name, 122, 236
- Geomancy, geomantic, 65, 67; in Africa, 69; further see *‘ilm al-raml*, *Hakata*, *Sixteen Cowries*, *Ifa*, *Yi Jing*, *Sikidy*, *Punk-tierkunst*
- Georgica* (Vergil), 136n
- German(y), Germans, 42, 90, 128, 175, 183, 187, 215
- Giant, 154; *cf.* Gigantes
- Gielgud-Anderson Expedition (1900 CE) to the Hook of Kafue, today's Central Zambia, 1900, 89n
- Gigantes, Graeco-Roman mythical figures, 136
- Gilgamesh, 134-135; *Gilgamesh Epic*, 188; – and Samson, 135
- Global Bee Flight* (abortive earlier draft of the present book; van Binsbergen), 15, 17
- Gluckman, Max, 89n
- Gnostic(ism), 111, 177
- Goat, Nkoya clan, 103
- Göbekli Tepe, Neolithic archaeological site, Anatolia, 231n
- God, 39, 100, 105, 125-126, 160, 162, 164, 39n, 116n, 172n; – of Iron, 39n; Iao, 172n; – 's Child, 100; Supreme –, 126
- Godai, Japanese name for element, 118, 287
- Gonçalo de Silveira, Fr., martyr in Zimbabwe, 69n
- Gorge, Chinese trigram name, 122, 236
- Goryeo dynasty, Korea, 281n; *cf.* Kola
- Graduate School of Asian and African Area Studies, Kyoto University, Japan, 14
- Graecia Magna, South Italy, 18, 38, 41, 109, 234, 250, 290, 292
- Gray Bear, mythical figure, North America, 147
- Great Britain, see British
- Great Zimbabwe, archaeological site, Zimbabwe, 64
- Greece, Greek(s), language, ethnic group, region, 10, 13, 15-16, 20, 37, 41, 47, 69, 75, 81, 83, 85, 107, 109-117, 119, 126, 131, 133, 135-138, 149-152, 154-160, 163, 166, 170-172, 174-175, 178, 185-186, 209, 213, 222, 226, 232, 234, 239, 242, 244-246, 248, 251, 263, 287-288, 292, 294, 7n, 110n, 113n-114n, 118n, 133n-134n, 153n, 170n, 188n, 223n, 226n, 272n-273n; Archaic –, 188n; – Philosophy, 20, *cf.* Presocratics, Stoics, Aristotle, Plato etc.; – Classical Age, 141; – and Indian, 234; – and Hittite, 244; – -Anatolian, 232; Graeco-Roman, 58, 116, 129, 135-136, 150, 157, 162, 178, 188, 222, 243, 264, 6n; Graecianising Roman, 136; – -English, 160n; *cf.* Graecia Magna, *Descriptio Graeciae*, *Doxographi Graeci*, Hellenism, Antiquity, Presocratic; *cf.* Hellenic
- GREEKMYT, variable in cluster analysis, 288
- Grizzly Bear, mythical figure, Menomini people, North America, 147
- Ground, 122, 236; *cf.* Earth
- Guinea Fowl, Nkoya clan, 104
- Guinea-Bissau, country, 14
- Gulf of Bengal, 280n
- Gumede, Mr Smarts, 13
- Gun, Chinese element
- God in the shape of a White Horse taming the Waters, personification of an element, 246n
- Gurung, branch of Sino-Tibetan, 238

- Gypsies, 90, 230; *cf.* Kale, Sinties
- Haarlem, town in the Netherlands, 4, 16
- Hades, Greek underworld, 112, 152, 160, 172n, 184n
- Hadza, Khoisanoid East African language cluster, 230
- Hainuwele, SE Asian agricultural goddess, 100n
- Hakata, South Central African geomantic (*q.v.*) divination system, 6, 64, 81-82, 209, 270-271, 128n
- Hallo, W.W., 14
- Halmaheira, island, Indonesia, 162
- Ĥam, Biblical figure, 216n
- Hamitic Thesis, 73, 233
- Hamito-Semitic, 233; see Afroasiatic
- Hanno, Phoenician admiral and explorer, 75
- Harare, capital of Zimbabwe, 202
- Harmony, Empedoclean concept, 161
- Harrassowitz, publishing house, 225n
- Harvard University, Cambridge MA, USA, 7, 12
- Hasharet al-Fras, 'Mare Stone', shrine, NW Tunisia, 264
- Hathor, House of Horus, Ancient Egyptian goddess, 124, 133
- Ĥatti, polity in Bronze Age Anatolia, 294; *cf.* Hittite,
- Hausa, branch of Afroasiatic, 198; Standard -, 198
- Havamal*, part of the *Elder Edda*, 124n
- Hawk, Nkoya clan, 104
- Heat, meaning attributed to the name of one of Noah's sons, 140n
- Heaven, celestial, 18, 50-52, 100-101, 118, 137, 143, 152-153, 164-165, 181-182, 188-189, 194, 212, 238, 258-259, 39n, 97n, 111n, 124n, 140n, 153n, 184n, 216n; Mesopotamian -, 216n; - and Earth, 36, 51, 104, 133, 152, 164, 181, 208, 234, 93n, 101n, 133n
- Heavy Black, see Ch'ung Li
- Hebrew, 20, 69, 135, 150, 160, 140n, 247n; - Studies / Hebraeist(ics), 15; - and Biblical, 17; *cf.* Judaism
- Heitsi Eibib, SW African culture hero and trickster, 263-265; *cf.* Wounded Knee
- Helena, Ancient Greaco-Roman mythical figure, 138; and Clytemnaestra, 170
- Heliopolis, Heliopolitan, Ancient Egyptian city of On, 130-131, 138-139; - Ennead, 131, 139
- Helios, Helius, Graeco-Roman sun god, 159, 172n, 184n, 273n; *cf.* Sol, Sun, Fire
- Hellenic, also see Greek, 172, 242, 290, 294, 170n; - Athens, 242; Pre-, 174
- Hellenism, Hellenist, Hellenistic (Greek / Eastern syncretism from Alexander the Great onwards), 209, 223, 249, 252, 290, 294, 114n, 117n-118n, 223n; - Mesopotamia, 243; -
- Egypt, 249-250; *cf.* South Asia
- Hephaestus, Hephaistos, 39, 135-136, 153-155, 159, 161, 230, 250-251, 6n-7n, 39n, 153n, 160n; - and Athena, 135
- Hera, Greek goddess, 141, 155, 159-161, 160n; *cf.* Life-bringing Here
- Heracles, Ancient Greek hero, 135, 151, 243, 134n; *cf.* Deianeira
- Heraclitus, as proposed author of four-element doctrine instead of Empedocles, 173
- Heraclitus: the Cosmic Fragments* (Kirk), 173
- Hercules Oetaeus* (Seneca), 134n
- Hercules, see Heracles
- Here, see Life-bringing Hera
- Hereditary Prince, proposed meaning of name Orpheus, 138
- Hermes Trismegistus, 241; Hermeticism, 110; Hermetic, 141; *cf.* *Corpus Hermeticus*
- Hermopolis, Hermopolitan, 139, 177, 209; - Ogdoad, 131, 139
- Hermodimus, Greek shaman, 112
- Hidden One, 130, see Atum
- Hindrance, between elements, 119, 138
- Hindu(ism), 14, 116-118, 128, 281, 287, 67n, 117n-118n; - and Buddhist, 14, 116-118, 287, 117n-118n
- Hirafuji Kikuko, 12, 14
- Historiae* (Herodotus), 38, 229, 265n
- Historische Zeitschrift*, 113n

- Hittite(s), language and ethnic group, 226-227, 232, 239-240, 244, 250, 219n, 226n-227n, 230n, 280n
- Hokan, language in North America, 146
- Holocene, geological period spanning the last 10,000 years, 18, 34, 180, 170n; – South East Asia, 36n
- Homer**, Homerus, 20, 152-153, 155, 157, 230, 251, 7n, 39n, 153n, 188n, 273n; Homer and Hesiod, 152, 157; – 's Sinties, 230; *cf. Iliad, Odyssey, Homeric Hymn to Pythian Apollo, Allegoriae –ica Homeric Hymn to Pythian Apollo*, 39n
- Hook of the Kafue, location, Central Zambia, 89n
- Hopi, North American ethnic group, 142
- Horizon of the Bee, location in Egyptian Delta, 101n; *cf. Chemmis*
- Horizon of the Primal Waters, possible Egyptian etymology of the name of Noah (*q.v.*), 140n
- Horus, H̄r, Ancient Egyptian god, 130-133, 138, 140, 163, 211, 6n, 101n, 134n; Sons of –, 131; – the Younger, 131; Eyes of –, Sun and Moon, 138
- Hou Yi, Chinese mythical archer, 243
- House of the Bee, 101n; *cf. Sais*
- House of the Sun, 137
- Humbaba, Levantine mythical monster, 134-135
- Humbu, South Central African ethnic group, 98-99
- Hundred Families, concept in Chinese Ancient history, 220, 243, 216n; *cf. Bak Sing*
- Hyksos, Asiatic dynasty in Egypt and elsewhere in the Ancient Mediterranean, 141
- Hyperborean(s), 112-114, 272n; – Apollo, 112, 272n
- Hypotheses = Working Hypothesis and Alternative Working Hypothesis, *q.v.*, guiding this book's argument, 171, 174, 251, 253, 255, *I Ching*, 7, 219; see *Yi Jing*
- 'I Studied Inscriptions from Before the Flood': *Ancient Near Eastern, Literary, and Linguistic Approaches to Genesis 1-11* (Hess & Tsumura), 19n
- Iḥuān al-Ṣafā, Brethren of Purity (*q.v.*), 150, 282n
- Iao, fourfold (Levantine) god as attested in Ionian context, 172n
- Iberia(n(s)), 230, 240; Ibero-Sicilians, 233; Ibero-Ligurians, Secondary (*q.v.*), 233
- Iceland, Nordic island state; – South Asia and China, extent of triadic belt, 208
- Idea, element, 117; *cf. Aether*
- Ifa, West African geomantic divination, 69-70, 72, 81, 111, 124, 209, 268, 290, 128n; – and Sixteen Cowries, 81
- Igwenia, community, early colonial Southern Africa, 269
- Ila, ethnic group in Zambia, 90
- Iliad* (Homer), 152-153, 155, 230, 39n
- Illyria(n(s)), Ancient Mediterranean ethnic group, language and region, 233
- ilm al-raml / ḥaṭṭ al-raml, Arabian form of geomancy, 6, 65, 67-69, 74, 81, 150, 209, 247-248, 116n, 128n, 166n, 282n; – in Iraq, 74
- Imagines* (Philostratus the Elder), 154n
- Imbi, personal essence (Kongo), 125
- Inanna, Ancient Mesopotamian goddess, 273n; *cf. Descent*
- India(n(s)), 5-6, 9, 12, 14, 41-42, 66, 77-78, 81, 107, 150, 177, 223, 227, 229, 234, 242, 275, 282, 67n; – Ganesh, 223; – and European, 150; – and Japan, 107, 227; Indology, 282; *cf. Vedas*
- Indian Ocean, 6, 38, 44, 52, 59-60, 63, 68-70, 72, 74, 76, 80, 129, 151, 180, 267, 291, 100n, 287n; – and the Persian Gulf, 68; – and Africa, 78; *cf. Comoro Isl.*
- Indo-Aryan, 69, 233
- Indo-Chinese, 216; *cf. Terrien de Lacouperie*
- Indo-European, 18, 69, 90, 152, 185-186, 226, 232-234, 236, 239-240, 244-245, 247-248, 257-258, 261, 277, 109n, 181n, 219n, 226n-227n, 240n, 272n; and Sino-Tibetan,

- 240; and Afroasiatic, 232; – Studies, 234; non-Indo-European languages, 295
- Indo-Iranian, branch of Indo-European (*q.v.*), 234, 250, 281, 37n
- Indonesia(n(s)), 14, 54, 76-77, 99, 128, 162, 280, 55n, 287n
- Indra, South Asian god, 153
- Indus Valley, 268n; and Easter Island, 217
- Inoue Nobutaka, 12
- Insanga, a name for the junior female tablet in Southern African divination, 269
- Institute for African Studies, UNZA, Lusaka, Zambia, 13
- Institute for Economic and Social Research, UNZA, Lusaka, Zambia, 13
- Institute of West Asian and African Studies (IWAAS), Chinese Academy of Social Sciences, Beijing, People's Republic of China, 223n
- Insult, between elements, 119
- International Association for Comparative Mythology, 8
- International Conference Rethinking Africa's Transcontinental Continuities in Pre- and Protohistory, 12, 36n, 225n
- Internet, 82, 244
- Ionia(n(s)), 18, 38, 41, 86, 171, 174, 234, 250, 290, 292, 172n; – and Graecia Magna, 18; – as Pelasgians, 38; *cf.* Presocratics
- Iran(ian(s)), 41-42, 68, 111, 115, 234, 271; Irani-Syriac, 224n; – and Mesopotamian Magi, 115; – and Northern India to China, 42; *cf.* Persia(n(s))
- Iraq(i), 6, 44, 74, 81, 110, 116, 150, 116n, 128n; – and Iran(ian), 68
- Ireland, Irish, 230, 243; *cf.* Black –, Fomorians
- Isis, 3st, 124, 130-131, 133, 163, 211, 6n, 134n; – and Nephthys, 138; and Horus, 133; – cult in Roman empire, 295
- Islam(ic), 5-6, 44, 63, 65-66, 70, 72, 75, 77-78, 82, 110-111, 115, 119, 128, 241, 264-265, 268-269, 290, 116n, 128n, 166n, 224n, 282n; – Iraq, 6, 68; – Indonesia, 55n; Ottoman –, 84; – in West and East Africa, 73
- Israel(ite), Ancient, 14, 68, 126, 150, 233, 241, 271, 225n; – and Ancient Iran, 271; *cf.* Bible, Hebrew, Judaism
- Issa / ^cAissa, Islamic prophet, identical with Jesus, 70; *cf.* Jesus
- Italy, Italic, Italian, 41, 109-110, 136-137, 140-141, 161, 164, 223, 234, 292, 181n; and Ancient Egypt, 164
- IWAAS, see: Institute of West Asian and African Studies
- Izanagi, Japanese primal god, 39
- Izanami, Japanese primal goddess, 39, 116n
- Jaccetani, Ancient Mediterranean ethnic group, 233
- Jamaica, island and country, 162
- Janus, Ancient Italic god, 223; *cf.* Ganesha, Oannes, Basojaun
- Japan(ese), country, language and identity, 11-12, 14, 37, 39, 81, 107, 116, 118, 216, 218, 222, 227, 242-243, 245, 249, 285, 287, 291, 37n, 100n, 116n, 153n, 216n, 231n; – Buddhist, 279; Japanology, 11; – Nkoya, 277; – and Etruria, 242; – and Indonesia, 99
- Japhet, Biblical figure, 140n
- Jason, Ancient Greek hero, 111, 246n; *cf.* Medeia
- Java, Indonesian island, 14
- Jeddito valley, rock art site, USA, 145
- Jesuits, Society of Jesus, Roman Catholic clerical order, 215, 241; – Figurism, 241
- Jesus of Nazareth, 41, 208, 100n; *cf.* Christianity, Issa / ^cAissa
- Jew(ish), see Judaism
- Jinpho, branch of Sino-Tibetan, 238
- Jongmans, Douwe G., 4-5
- Judaism, Jew(ish) 78, 82, 162, 295, 224n-225n, 227n, 247n; – and Christianity, 225n, 227n; – , Christianity and Islam, 146n; *cf.* Exile, Babylonian, Hebrew, Bible, Israel(ite)
- Judges, Biblical book, 134
- Jupiter, Jove, see Zeus
- Kabambi, Mwene, Nkoya King, 13; *cf.* Kahare, Kale
- Kabbalah, esoteric complex of Judaism, 177
- Kabulwebulwe, Nkoya

- royal title, 89
Ka^caba, main Islamic shrine, 265
Kachin, branch of Sino-Tibetan, 238
Kafue River, Central Zambia 87
Kagutsuchi, Japanese Fire god, 39, 153n
Kahare, Kahale, Mwene, Nkoya royal title, 13, 89-90; Kabambi, 13, 102n
Kaiké, Sino-Tibetan language, 238
Kalapukila, mid-20th c. CE incumbent of the Mutondo kingship among the Nkoya, 91n
Kale, variant of Nkoya royal name Kahare, 88-90, 104-105
Kalevala ([Lönnrot, E. **]), 39n, 153n
Kalinien, Middle Palaeolithic archaeological complex, Angola, 201
Kalmuk, Central Asian group, 216n
Kaluwe, Nkoya deity, 206; *cf.* Luwe, Mwendanjangula
Kamanisha, Nkoya clan, 91, 96-97
Kamunu, first human in Western Zambian mythical accounts, 39
Kanakosi, a name for the junior male tablet in Southern African divination, 269
Kano-haha, Nkoya deity, 206
Kantian, 19, 192; *cf.* Kant**
Kaoma, district and district capital, Western Zambia, 89, 97, 39n, 91n
Kapesh ka Mununga Mpanda, 'the Kapeshe Who Joins the Forked Poles', mythical ruler in South Central Africa, 281, 216n; *cf.* Kasyapa, Nimrod, Mahakashapa
Kapi, conventional twin's name, Nkoya, 206; *cf.* Mbuyu
Kartvelian, branch of Eurasiatic, 245
Karumi, a name for the senior male tablet in Southern African divination, 269
Kashap Samhita, Ayurvedic text, 281
Kasyapa, Sri Lankan king, 281; *cf.* Kapesh
Katete, Reed Person, 98-99, 275; – and Luhamba, 101-102, 206
Kathiavar, peninsula, SW Asia, 280n
Kauket and Kuk, primal divine pair of Darkness, 131
Kawanga, Davison, 6, 13
Kazakhstan, Central Asian region, 246n, 291n
Kazanga Cultural Society, Nkoya neo-traditional organisation named after the revived Kazanga festival, 13
Keeping Still, Mountain, meaning of Chinese trigram name *gèn*, 122, 236
Keerthi, Sri Lankan cult leader, 14
Ketshi, 216n, *cf.* Kütsché
Ketsü, 216n, *cf.* Kütsché
Khami, Zimbabwean archaeological site, 69n
Khanty, see Ostyaks
Khoë, Southern African language and people, 186
Khoekhoe, Southern African language and people, 186
Khoi, Southern African language and people, 186
Khoikhoi, Southern African language and people, 186
Khoisan, macrophylum and genetic cluster, now confined to Southern Africa, 62, 186, 232-233, 257, 261-262, 264, 273-274, 186n, 231n, 263n; Khoisanoid, 230, 253; – and Amerind, 274; Central –, 186; – and North Caucasian, 186; *cf.* Khoi, Khoikhoi, Khoekhoe, Khoë; *cf.* Bantu
Khotan, Central Asian region and Middle Iranian language, 69, 216n; and the Tarim Valley, 249
Khurasan, Central Asian region, 116; and China, 116
Kindling, Nkoya clan name, 92, 104; – and Smoke, 95-96
Kirkland, Forrest, copyist of Lower Pecos River art, 145
Kisha Manido, High God among the Menomini of North America, 147
Kitāb al Ḥayawān (al-Djāhīz), 78
Kitāb al-Aḡāni (Abu'l Faraj), 63
Kobah, Mt, 146
Köbben, A.J.F., 15
Kode, see Kole, Kola
Kojiki (Ancient Japanese text), 39
Kokugakuin Shinto University, Tokyo, Japan, 11
Kola, Kole, transcontinen-

- tal toponym, 280, 280n-281n; *cf.* Korea, Munda, Chola, Angola
- Kololo, Southern African ethnic group and language invading Upper Zambezi region in second quarter of 19th c. CE, 270
- Kon Tiki, 266n; *cf.* Heyerdahl**
- Kora, see Kurukh
- Korē Kosmou*, see *Virgin of the World*, 141
- Korea(n(s)), 37, 81, 217, 222, 277, 279, 216n, 280n-281n; – and Japanese, 277, 216n
- Koroi, see Kurukh
- Kotchi, 216n; *cf.* Kütsché
- Krittika, see Pleiades
- Kshatriya, warrior / royal caste in South Asia, with proposed extension to SC Africa, 280
- *Ksing, [*ba-], 216n; *cf.* Kütsché, Bak Sing
- Kuami, a name for the senior female tablet in Southern African divination, 269
- Kuaua, location in New Mexico, 145
- Kuba, Congolese ethnic group, 61
- Kuk, ‘darkness’, Ancient Egyptian primal deity and proto-element, 131; *cf.* Kauket
- Kun (1) personal name, see Gun (2) *kun*, trigram name Earth, *q.v.*
- Kurru, see Kurukh
- Kurukh, Dravidian toponym, 280n
- Kuruvi, the Path of Luwe, South Central African conception of the Milky Way, 202
- Kush, ethnic and toponomical cluster in the Ancient and Bible World, 229-230, 216n
- Kütsché, ethnic group in Central Asia, which Karst proposes to identify as Terrien de Lacouperie’s Bak Sing, 216n; *cf.* Hundred Families
- Kwame Legwane Traditional Association of Botswana, 3
- Kyoto, city in Japan, 12; Kyoto University, 14
- La Ferrassie, Middle Palaeolithic site, France, 188
- Laceulle MD, Joost, 16
- La-Chapelle-aux-Saints, 188
- Laco Tritonis, in Ancient Libya, 246n; see Šott̄ al-Jerīd; Central Asian location suggested, 146n; *cf.* Athena
- Laduma Madela, lightning sorcerer, Southern Africa, 127-128
- Lake Baikal, 34
- Lake Campbell, 146
- Lake Chad, 244
- Lalafuta, river in Nkoyaland, 99
- Lamaist, variety of Buddhism, 12
- Lamia, destructive mythical figure, 135
- Land, mythical being, 36, 51, 124, 130, 132, 143, 182, 189, 194, 208, 212, 153n, 195n; as Earth, 130; Earth and Water, 124, 208; *cf.* Water, Mother of the Waters
- Langu, Nkoya clan, 90, 104; Langu-Nkwehe, 90n
- Lascaux, Upper Palaeolithic site, France, 20, 183-184, 187-192, 195-197, 200, 287, 183n-184n, 200n
- Latin, Ancient and Medieval language, 15, 69, 75, 117, 136, 150, 287, 295, 7n, 69n, 172n, 181n; *cf.* Rome
- Laussel, Upper Palaeolithic site, France, 189
- Lavwe, Nkoya clan, 89, 90, 96, 98, 100, 103, 105
- Law of Conservation of Matter (Lavoisier), 166
- Le Puits, Grotte de Lascaux, France, Upper Palaeolithic site, 184
- Lealui, Barotse capital, 269-270
- Leda, Graeco-Roman mythical character, 170
- Leg-Child, mythical character born outside normal human birth channel, 181
- Leiden, 3, 12, 15-16, 35, 36n, 53n, 62n, 129n, 171n, 223n, 225n, 279n, 287n; Leiden University Medical Centre, 16; Leiden 2012 conference, see Rethinking Africa’s transcontinental...
- Leipzig, town in Germany, 173
- Leleges, Ancient Mediterranean ethnic group, Secondary (*q.v.*), 233
- Lepcha, Sino-Tibetan language, 238
- Les Eyzies de Tayac, town in France, 14
- Les formes elementaires de la vie religieuse* (Durkheim), 91
- Leto, Graeco-Roman goddess, 113
- Letter to the Editor* (Terrien de Lacouperie), 225

- Levant(ine), Eastern Mediterranean region, 135, 151, 264, 151n; *cf.* Syro-Palestine, Phoenicia, Anatolia, Cyprus
- Leviathan, mythical aquatic figure of Ancient Israelites, 164; *cf.* Tiamat, Neith
- Leya, ethnic group Southwestern Zambia, 269, 272
- Libya(n(s)), 102n, 246n; – Neith, 137
- Lickers, Nkoya clan, 89, 104-105
- Life-bringing Here [Hera], Empedoclean expression, 158; *cf.* Hera
- Light, 135, 116n-117n, 224n; – , Gnostic, 177; Light Comes from the East (Ex Oriente Lux), 175; *cf.* Darkness, Sun
- Lightning Bird, primal Narrative Complex, 50, 180, 36n; *cf.* World or Cosmic Egg
- Lightning, 50, 145, 180, 36n; *cf.* – Bird, Laduma, Fire
- Liguria(n(s)), Ancient Mediterranean language and identity, 230, 233; pre-Euscarian Liguroids, 233; – and Elymians, 230
- Likambi, Nkoya legendary female ruler, 135; *cf.* Shihoka
- Likota Iya Bankoya* (Shimunika), 88-89, 95-96, 99, 102-103, 105-106, 125, 101n
- Lilith, mythical female figure in Judaism, 135
- Limpopo Province, South Africa, 276
- Limpopo River, 270
- Lion, see: Fire, Water, Lion and Snake; *cf.* Sun
- Lipepo, ‘Royal Person Wind’, Nkoya mythical figure, 101n
- Lipupe, Mwene, Nkoya legendary royal ancestor, 101n
- London, English city, 132, 216, 110n
- Lord, epithet for divinity in Ancient Mediterranean region, 160; *cf.* Adonai
- Louvain School of anthropology, 96
- Louvre, Paris Museum, 212
- Love, Empedoclean concept, 157-158, 168-169
- Lower Pecos River, 143, 145; – art, 145
- Lozi, ethnic group and language, Western Zambia, 89, 102n; Paramount Chief, 87; *cf.* Barotse, Nkoya, Kololo, Luyi, Luyana
- Lualaba River, South Central Africa, 64
- Luba, ethnic group, South Central Africa, 202
- Lubumba, Nkoya headman and prophet / witchfinder, 39n
- Luchele, mythical White figure among Bemba and related peoples, South Central Africa, 26
- Ludim, Biblical / Ancient Mediterranean ethnic group, 230; *cf.* Lydia(n(s)), Caria(n(s)), Lycia(n(s))
- Lufupa, stream in Nkoyaland, 99
- Luhamba, ‘Royal Traveling Thing’, Nkoya mythical figure, 98-102, 206, 275; – and Katete, 98-99
- Lui, Haifang, 12, 223n
- Luò, River, 246
- Lusaka, capital of Zambia, 13
- Lushai, branch of Sino-Tibetan, 238, 245
- Lushimba, stream in Nkoyaland, 99
- Luwe, mythical unilateral being, 162; Path of – , Milky Way, 202; *cf.* Mwendanjangula, Kaluwe
- Luwian-Hittite, Anatolian language cluster, 69
- Luyana, pre-Kololo Barotse polity and ethnic group, Western Zambia, 87, 270; *cf.* Nkoya, Lozi, Barotseland
- Luyi, see Lozi
- Lycia(n(s)), Ancient Mediterranean region and inhabitants, 230, 250
- Lydia(n(s)), Ancient Mediterranean region and inhabitants, 230
- Lyovu Iya Mbuwa, Nkoya legendary figure, 99
- Ma Lin, medieval Chinese painter, 246
- Madagascar, Malagasy, island and language cluster, 6, 15, 34, 52, 59, 61, 69, 74-76, 81, 128-129, 272, 279, 287, 128n; – and the Comoro Islands, 6, 81; – and Southern Africa, 74; *cf.* Nkoya, *sikidy*
- Madela, see Laduma
- Madeleine, La, Upper Palaeolithic site, France, 189
- Maghreb, Western North Africa, 230
- Magi, Ancient Mesopotamian ritual specialists, 112, 115; *cf.* Chaldaean

- Mahakasyapa, discipline of the Buddha, 281
Mahavagga, 281n; *cf.* *Vinaya Pitaka*
- Makanga, Nkoya clan, 91, 104
- Makoni, archaeological site in Zimbabwe, 203
- Makuwa, East African language, 35
- Malagasy, see Madagascar
- Malapa, M.M., 13
- Malawi(an), Southern African country, 89n, 99n-100n
- Malaysia, country in SE Asia, 14
- Mali, West African country, 125, 223n; *cf.* Dogon
- Mallos, Ancient Anatolian city, 159
- Manabush, Menomini trickster figure, North America, 147
- Manchester School, of social anthropology, 89, 89n
- Mandarin, variety of Chinese, 238
- Manding, West African language and ethnic group, 77
- Man-faced Ox-creatures, see Ox
- Mangala, planet Mars, 280; *cf.* Skanda, Shikanda, Nkoya
- Manichaeism, 224n, 242n; *cf.* Mani**
- Manidoes, Manido, Menomini mythical evil-doers, 147
- Manipura (Navel): Fire, 117n
- Manjaco, ethnic group in West Africa, 14
- Mankala, board-game, 45, 54-59
- Mantis, primal Narrative Complex, 50-51
- Maori, ethnic group, New Zealand, 133n
- Mapungubwe, archaeological site, Southern Africa, 64, 279
- Mara, Delusion, Buddhist concept, 135
- Marduk, solar chief god of Babylon, 135
- Mari, Bronze Age culture, Eastern Mediterranean, 242
- Mars, planet and deity, 280; *cf.* Skanda, Shikanda, Mangala
- Marsoulas Cave, Upper Palaeolithic site, France, 188
- Masai, East African ethnic group, 73
- Masculinisation, process through which female deities turned into male ones in the Old World during the Bronze Age, 52; *cf.* Athena, Poseidon, Atum, Re^c
- Matsumura, Kazuo, 12, 14
- Matter, 166
- Mawu, High God, Ewe people, West Africa, 123
- Maya, South American ethnic group, 267
- Mayowe, Stanford, 13
- Mbetsi, Mbedzi, 'moon' or 'Buddha', and mythical ancestor, Douala, Cameroon, 279
- Mbona, Malawian and mythical figure, 100n
- Mbunze, Nkoya clan, 89, 91, 99, 104
- Mbuyu, conventional twin's name, Nkoya, 206; *cf.* Kapi
- Medeia, legendary Colchian princess turned sorceress, 111; *cf.* Jason, Pelias, Colchis
- Mediterranean, Sea, and region, 36-38, 47, 53-54, 76-78, 80, 84, 135, 151, 174, 230, 232-233, 240, 244, 264, 272, 275, 294, 100n, 113n, 129n, 219n, 230n; – Bronze Age, 45, 76, 185, 227; – proto-history, 7, 13; – Late Antiquity, 68, 77; – and Western Europe, 37; – and the Atlantic Ocean, 267; – and West Africa, 99; and South Central Africa, 99; and Middle East, 161
- Melqart, city god, 135; *cf.* Heracles
- Melusine, European mythical figure, 135; and Lilith, 135
- Mencius, Meng-Tze, 177; parallel with Meno. *q.v.*
- Menelaus, hero before Troy, 138, 246n; and Helena, 138; and Diomedes, 246n
- Menes, legendary First-Dynasty Egyptian king, 140; *cf.* ^cAha
- Meno* (Plato), 177
- Menomini, Menominee, ethnic group in North America, 147, 287
- Meroe, polity in NE Africa in beginning of Common Era, 294
- Meso-America, 48, 99, 267, 100n, 177n, 266n
- Mesolithic, 230; Natufian, 262n; Eastern Iberian, 230
- Mesopotamian, Ancient, 12-13, 42, 75, 115, 117, 119, 138, 164, 188, 210, 213, 216-218, 220, 222, 226-229, 231, 241-243, 247, 265, 271-273, 287, 100n, 117n, 215n-216n, 219n, 223n-224n, 282n;

- and Ancient Egypt, 75, 119, 188, 227-228, 273, 287; and Ancient Greece, 75, 287; and Barotseland, 272; and China, 220, 216n
- Metal, element, 104, 118-121, 124, 137-138, 181, 263, 153n-154n
- Metamorphoses* (Ovid), 155, 162, 251, 267, 134n, 265n
- Metaphysics* (Aristotle), 206, 173n
- Meteorites, 181, 265; *cf.* Stones
- Meteorologica* (Aristotle), 159, 165
- Meton, Metonic Cycle, Greek astronomical concept to reconcile the lunar and solar calendar, 114n
- Mexico, Mexican, 14, 144, 147, 266-268; *cf.* New Mexico
- Mfecane*, violent upheaval in Southern Africa, first quarter 19th c. CE, 270
- Miao-Yao, East Asian ethnic group and language, 187; Proto- , 186
- Michael, Archangel, see Tears
- Micronesia, part of the Pacific Ocean, 268n
- Middle Ages, Medieval, 115; – and Early Modern Europe, 115; – and Renaissance, 44, 75; – and Early Modern Europe, 6
- Miletus, Milesian, Ancient town in Ionia, 173-174
- Milky Way, 164, 202; *cf.* Luwe, Kuruvi, Pleiades
- Miluzi, river in Nkoyaland, 99
- Mining, 267
- Mink, North American mythical figure, 147
- Mist, 160; *cf.* Tfont
- Mistress, of the Waters Below, 138; – of the Waters Above and Below, 137; – of the Primal Waters, 51; – of the House, 133; *cf.* Nephthys
- Mithras, oriental cult in Roman Empire, 295
- Mizraim, ‘Egyptians’, Ancient Mediterranean ethnic cluster, 230
- MmaNdlovu, Rosi, 13
- MmaShakayile, Elizabeth, 13
- Mn, see Menomini
- Mnengi snake (Zulu representation), 128, 128n
- MODCON, variable in cluster analysis, 288
- Modern, 6, 10, 12-13, 18-19, 31-33, 40, 46, 48, 50, 52, 55, 63, 71, 76-77, 84-86, 109, 115, 148-150, 156, 162, 174-175, 178, 180, 187, 193, 195, 211, 213, 220, 222, 287-288, 290, 293, 296, 6n, 10n, 33n, 45n, 110n, 220n; – World System, 31; – North Atlantic region, 85, 213; – Asian, 12, 77; Pre-Modern 36; Pre-Modern African, 69; *cf.* Early Modern, Post-Modern, Enlightenment
- Mohenjo-Daro, Bronze Age archaeological site, Indus valley, Pakistan, 176
- Moisture (meaning of Ancient Egyptian theonym Tfont, *q. v.*), 130, 160
- Mongolia(n(s)), language, ethnic group and territory, 105, 219, 226, 261, 263-264, 277, 287, 216n, 281n; and Tibet, 264; Mongoloid, 219n
- Montgolfier Bros, inventors of hot-air balloon, 193
- Montignac, location of Lascaux Cave, France, 184
- Moon, 50, 114, 124, 138, 178, 181-182, 279; Moon stations, *nakshatra*, 126, 288; *cf.* CHILUNA, Mbetsi, Eyes of Horus
- Morgana, Celtic legendary figure, 135; and Mordred, 135; *cf.* Arthur
- Moscow, Russian city, 256n
- Moses, Mosis, Moshe, Biblical figure, 41, 225n
- Mosima, Pius, 13
- Motacilla*, wagtail bird, 39, 277
- Mother, 51, 125, 133, 164, 187, 189, 212, 257, 101n, 154n-155n, 194n-195n, 246n; –s, as elements (against planets as Fathers), and as geomantic basic configurations, 110; Mother of the (Primal) Waters, 125, 133, 164, 189, 212, 101n, 154-155n, 194n-195n, 246n; *cf.* Mistress
- Mouth, From the, Narrative Complex, 52; *cf.* Masculinisation
- Mozambique, 78; Mozambican-Angolan corridor, in Sunda transmission in Africa, 61, 64, 76
- Mpororo, Ugandan kingdom, 102n
- Mukuni, Nkoya clan name, 91-92, 104
- Muladhara (Root): Earth,

- 117n
- Mulinga, Nkoya clan name, 104
- Mulombe (Nkoya), Wood From Which Royal Drums Are Made, Nkoya clan name, 104
- Mumbwa, town in Central Zambia, 89n
- Munda-Kolar, branch of Austro-Asiatic, 77, 280n
- Munich, German city, 184; University, 184
- Mupumani, Ila prophet, Zambia, 98
- Musée Nationale de la Préhistoire, Les Eyzies de Tayac, France, 14
- Mushroom, Nkoya clan, 92, 104
- Mushroom, widespread African clan name, 126
- Muskrat, North American mythical figure, 147
- Muslim, see Islam
- Mutondo, Mwene, Nkoya royal title, 88-89; – Kalapukila, 91n; – Royal Council, 91n
- Mvula, Nkoya: Rain, deity and clan, 91, 104-105, 164
- Mwendanjangula, unilateral mythical being in South Central and Southern Africa, 162, 206; *cf.* Luwe, Kaluwe
- Mwene, see Myene
- Mwenekahare, see Kahare
- Mwinilunga, location in NW Zambia, 99
- Myene (kings) / Mwene (king), 87-89, 98, 102, 91n, 101n
- Mythology, 8, 11, 39, 48, 135, 36n; Yoruba and Oceanic, 133; Mythical Wagtails at two ends of the Old World, 39; *cf.* Diachronic Aggregative Model
- Na-Denē, North American language cluster, 142, 191, 240, 260-261, 266, 191n, 261n
- Nagas, 281; *cf.* Snake
- Nalishuwa, Princess Mary, 13
- Namibia(n(s)), 62, 263
- Napoleon's Book of Fate* (Parker), 116-117
- NarCom, see Narrative Complex
- Narmer, Nrmr, Early-Dynastic ruler, Egypt, a famous cosmetic palette bears his name, 141, 273, 188n; *cf.* Menes, °Aha
- Narrative Complex, 36, 49-50, 80, 179-180, 182, 50n, basis unit of long-range mythological analysis; *cf.* Diachronic Aggregative Model
- Natufian, Mesolithic archaeological complex in Syro-Palestine, 262n
- Nature, cosmological concept, 178
- Naunet, Ancient Egyptian goddess of primary waters, 131; *cf.* Nu
- Navaho Nation Health Department, New Mexico / Arizona, USA, 14
- Navaho, language and identity in USA, 14, 143-144, 191, 142n; – and Apache, 191
- Navel, element, 117n
- Nazareth, town in Syro-Palestine, see Jesus
- Ncunguni, Nkoya aquatic-serpentine female deity, 206
- Ndembu, language and ethnic identity, NW Zambia, 126
- Neanderthal, prehistoric branch of Homo Sapiens, 188; Neanderthaloid, 51
- Neikos, see Strife
- Neith / Nt, Ancient Egyptian goddess of the Waters, of warfare, and of domestic arts, 133, 138; *cf.* Athena, Nestis
- Nekhbet, Nḥbt, Ancient Egyptian vulture goddess, 102; *cf.* Two Ladies, Wadjet
- Neolithic, 11, 17, 19, 36-38, 46-47, 50, 54-58, 62, 65, 67, 79-80, 136, 181, 206, 208-210, 241, 243, 246-248, 253, 100n; Pre-Pottery Neolithic B, 231n; – and Bronze Age, 46, 54, 222, 229, 275; – to Iron Age, 52; – Anatolia, 183, 246; – West Asia, 36, 60; – Sahara, 247; – Palestine, 183n; – Mother goddess, 187; *cf.* Extended Fertile Crescent
- Neo-Paganism, 117n
- Neoplatonics, school of philosophers in Late Antiquity, 86; *cf.* Plato**
- Nepal(ese), country etc., 41
- Nephthys, Ancient Egyptian goddess, 130-131, 133, 138, 163
- Nestis, aquatic goddess mentioned by Empedocles, identified as Neith, 140-141, 158-161, 164, 160n; Lucid –, 161; *cf.* Neith, Water
- Netherlands Institute for Advanced Study in the Humanities and Social Sciences (NIAS), Wassenaar, 12-13, 15, 247n
- Netherlands, the / Dutch,

- country, language and identity, 4, 12, 16, 83, 160, 175, 185
- New Guinea, 51, 63-64, 75, 179-180, 234, 55n; – and Australia, 55, 180, 230
- New Mexico, USA state, 145
- New World, the continents of N and S America combined, 97, 235, 261n; *cf.* pre-Columbian, Americas, North America, South America
- New Zealand, 14; *cf.* Maori
- Nguni, ethnic and linguistic cluster in Southern Africa, 270
- Niaux, France, Upper Palaeolithic site, 188
- Niawingi, god in Mpororo kingdom, Uganda, 102n; *cf.* Two Ladies
- Niger, river and god in West Africa, see Oya
- Niger-Congo / Niger-Kordofan, linguistic macrophylum now confined to Africa, 17, 35, 185, 230, 244, 248, 257-258, 261-262, 273-274, 34n, 124n, 261n, 263n; – and Nilo-Saharan, 48, 233, 261, 273; – and Amerind, 262, 274
- Nigeria(n(s)), country and inhabitants, 133n; and Benin, 82
- Niger-Kordofan, see Niger-Congo
- Night, element, 135, 152, 171
- Nihongi*, Japanese classic text, 277
- Nile, River, 38, 52, 133, 163; – Water, 130; – Valley, 52; Delta in the Early Bronze Age, 140; *cf.* Osiris
- Nilo-Saharan, linguistic macrophylum, 199, 257, 273, 256n; – and Niger-Congo, 48, 233, 261
- Nimrod, Biblical figure, 229, 281, 216n; *cf.* Flood and Tower myths, Kapesh, Kasyapa
- Njonjolo, stream in Nkoyaland, 39n
- Nkomba, Nkoya clan, 91-92, 104
- Nkonze, Nkoya clan, 89, 91, 104; – and Mvula, 104
- Nkoya, ethnic group and language, Western Zambia, 6, 8, 11-13, 15, 17-18, 31, 73, 86-91, 93-95, 97-99, 101-107, 123, 125-126, 129, 135, 164, 192, 206, 212, 255, 259-261, 265, 268, 270, 272, 274-275, 277-278, 280-282, 285, 287-288, 291, 39n, 91n, 97n, 99n, 101n-102n, 117n, 154n, 207n, 216n, 238n, 281n; and Madagascar, 129; and South Central Africa, 107; and Japan, 275; and East Asia, 260; Nkoyaland, 270, 93n; see Mwene / Myene, *Likota*
- NKOYCLA, variable in cluster analysis, 288
- Nkwehe, Nkoya clan, 91, 104
- Noah, Nuaḥ, Biblical figure, 139, 204, 241, 140n; *cf.* Egypt, Flood, Horizon
- Nobel prize, 166
- Noé, 70, see Noah
- Nommo, Dogon mythical figure, 125
- Nordic mythology, 153; – Apocalypse, loose reference to eschatological notions in Ancient Germanic mythology, 153; *cf.* Odinn, Ragnarok, etc.
- Norman, Nordic ethnic group; – Medieval kingdom on Sicily, 82
- North Atlantic, *i.e.* Western Europe, USA and Canada, 7, 13, 18, 85, 142, 175, 213, 229, 252, 6n, 10n, 223
- North Caucasian, linguistic phylum, 186, 191, 198-199, 233, 237, 239-240, 260; *cf.* Sino-Tibetan, Khoisan
- Nostratic, 233, 244, 257-258, 34n, 191n, 256n; – Hypothesis, 49; Super—, 258, 34n; also see Eurasiatic
- Ntabi, Nkoya clan, 91, 104
- Ntande's Bridge, South Central African evocation of celestial axis, 202; *cf.* Kuruvi
- Nū Kwa, Nū Wa, Chinese primal goddess, 222, 243, 246n; *cf.* Fu Xi, Noah, Flood
- Nu, male member of Ancient Egyptian Ogdoad representing primordial waters, 131; *cf.* Naunet
- Numidian Persae, ethnic group Ancient Mediterranean, 233
- Nun, Nwt, Nut, Ancient Egyptian sky god, 130, 137, 163
- Nyambi, West and South Central African High God, 39, 164, 39n, 155n; in Christian context, 39n; *cf.* Neith, Anat, Athena, etc.
- Nyambo, Nkoya clan, 91

- Nyan-kupon, Tshi / Twi sky god, 123
- Nyembo, Nkoya clan, 89-91, 93, 95-96, 101-102, 104
- Nyonmo, sky god of the Ga people, 123
- Nyx, Night (*q.v.*), Graeco-Roman god, 152
- Nzambi, West African High God, 125; *cf.* Nyambi
- Nzovu, Elephant, Nkoya clan, 90-91, 104
- Oannes, mythical aquatic figure situated at origin of Sumerian civilisation, 222-223, 243, 265, 223n
- Oba, Nigerian god, 124-125; forms divine foursome with Shango, Oya and Oshun, 125
- Obatala, Nigerian primal god, 123-124; and Odudua, 133n
- Occam, William of, – 's Razor, 253
- Ocean, see Pacific – , Indian – , Atlantic; *cf.* Susanowo, 153n
- Oceania, Oceanian, continent comprising Pacific islands and Australia, 21, 37, 48, 53, 63, 75, 80, 133, 161, 170, 267, 275, 293, 170n, 177n; – and Meso-America, 177n; – and Australia, 63
- Odinn, Ancient Germanic god, 124n
- Odudua, Nigerian primal goddess, 124, 133n
- Odyssey* (Homer), 230, 188n; *Odysseus*, protagonist of – , 188n; *cf.* Homer**
- Oeseburg-Broers, Else, 7, 16
- Ogdoad, eight-some of Ancient Egyptian gods, 131, 139
- Ogetsu, 100n; see Ukemochi-na-kami
- Ogre, see Rescue from
- Ogun, Nigerian god of iron, 124, 39n
- Oke, Nigerian god, 124
- Okò, Nigerian god, 124
- Old World, the continent Africa, Asia and Europe combined, 68, 81, 137, 139, 253, 266, 290
- Olofin II Olofindji Akandé, Vizir, 14
- Olokun, Nigerian god, 124
- Olorun, Nigerian god, 123-124
- Olosa, Nigerian god, 124
- Olympian Ode* (Pindar), 154n
- Olympus, Mt, mythical abode of the Graeco-Roman gods, 152
- Omaha, North American ethnic group, 143
- Opici, ethnic group, Ancient Mediterranean, 233
- Oppenheimer**– Tauchmann**–Dick-Read** Hypothesis, 279, 171n
- Oppenheimer, Stephen, Sunda Hypothesis, 34, 53
- Opisci, Ancient Mediterranean ethnic group, 233
- Orisha, divine manifestation, Yoruba, 124; – Oko, 124
- Orpheus, Orphic cult, 138-139, 171, 134n, 170n-171n; *Orphica*, 112; *cf.* Eurydice, Aristaeus
- Orun, Nigerian god, 124
- Orungan, Nigerian god, 124
- Oshosi, Nigerian god, 124
- Oshu, Nigerian god, 124
- Oshumare, Nigerian god, 124
- Oshun, Nigerian god, 124-125
- Osiris, Ancient Egyptian god, 124, 130-131, 133, 139, 163, 208, 211, 100n
- Osorkon II, Egyptian Pharaoh, Late Period, 211
- Ostyak, branch of Uralic, 236
- Otter, North American mythical figure, 147
- Ottoman empire, 84; *cf.* Turkey, Islam
- Out-of-Africa, 48-49, 75, 290; – Hypothesis, 33, 52; Pre- – , 50, 80; – Exodus, 33-34, 36, 48, 179, 278, 287, 36n; CITIs (*q.v.*), 75
- Ovid** [Publius Ovidius Naso], 136, 162, 251, 7n, 134n, 136n, 265n; – 's Flood, 267; – 's *Metamorphoses*, 155
- Ox-creatures, man-faced, Empedoclean concept, 168
- Oxford, location in England, 89n
- Oya, god of River Niger, West Africa, 124-125
- Pacific Ocean, 142, 266-267, 100n, 267n, 291n; – Mexico, 267
- Pakistan, country, 191
- Palaeolithic, 9-11, 14, 31, 34-36, 43, 46, 50-51, 79-80, 84, 97, 110, 123, 129, 163-164, 178-183, 187-191, 193, 195, 200-202, 204-206, 209-212, 253, 255-256, 259-261, 263-268, 273-274, 276-278, 283, 285, 290-292, 295-296, 42n, 93n, 113n, 177n, 183n, 194n-195n, 231n, 240n, 261n;

- Lower – , 93n; – art, Southern African and Franco-Cantabrian, 202; Africa, 287; *cf.* Upper – Palestine, 183n, 225n; Palestinian Bronze Age, 230
- Pali, South Asian language, 117n
- Pallas Rhodi, Early Modern corruption of Ancient Graeco-Roman mythical figure, 155; *cf.* Athena
- Pan, Ancient Graeco-Roman god, 152, 241, 295
- Pandora, 135; – 's Box, Anatomically Modern Humans' common cultural heritage from Middle Palaeolithic Africa, 34, 36, 49-50, 55, 67, 75, 80, 83, 179-182, 211, 290, 36n
- Papa, Oceanian mythological character, 133n; *cf.* Rangi
- Papstein, Robert, 14
- Papyrus Harris VII*, 163
- Paramount Chief, of the Lozi, Western Zambia, 87
- Paris, city in France, 212
- Parmenides* (Reinhardt, K.), 173; *cf.* *Parmenides***
- Parthians, West Asian people and polity in Imperial Roman times, 294
- Pecos, see Lower Pecos River
- Peithinos, Ancient Greek vase painter, 172
- Peking, see Beijing
- Pelagian(s), Pelasgi, 11, 17, 20, 37-38, 46-48, 53-54, 60, 63, 79-81, 83, 101, 127, 129, 136-137, 140-141, 151, 161, 170-171, 174, 209, 229, 232-233, 242, 244, 248, 259-260, 265, 272-275, 277-278, 283, 290, 292, 295, 36n, 151n, 155n, 170n; Secondary (*q.v.*), 37, 47-48, 233; – Realm, 79; – Hypothesis, 36-38, 46, 48, 54, 73, 274-275, 277, 285; – Lower Egypt, 137, 140; Primary – , 37, 47, 233
- Peleus, father of Achilles, 172, 172n; *cf.* Thetis
- Pelias, King, victim of Medeia (*q.v.*), 112
- People's Republic of China, 12; *cf.* China
- Peripheral cluster of macrophyta, in Upper Palaeolithic, 52, 273, 191n; – and Central luster, 52; *cf.* *Borean, disintegration of
- Persephone, Ancient Greek-Roman underworld goddess, 161; *cf.* Proserpina
- Persia(n(s)), 68, 78, 82, 112, 267, 294, 224n; *cf.* Iran(ian(s)), Numidian Persae
- Persian Gulf, 58, 60, 62, 76, 267
- Peru, South American country, 266n
- Pet, Ancient Egyptian god, 123
- Petit, Gitty, 12
- Pharus, Pharos, island in front of Alexandria, Egypt, 138, 172; *cf.* Proteus
- Pherisites, pre-Israelite – , Ancient Mediterranean ethnic group, 233
- Philae, Ancient Egyptian location, 124; *cf.* Ptah
- Philia, see Love
- Philistines, Secondary (*q.v.*), Ancient Mediterranean ethnic group, 233
- Philosophical Faculty, Erasmus University Rotterdam, 3, 13
- Phlogiston, hypothetical fire stuff, 166n; – Hypothesis, 166
- Phoenicia(n(s)), region, language and identity, 71, 75, 151, 267; – and Graeco-Roman, 58; – and Aramaeans, 141; *cf.* Hanno
- Physica* (Aristotle), 169n
- Pindal, France, Upper Palaeolithic site, 188
- Placita Philosophorum I* (Aetius), 159
- Plains Native American(s), 188; *cf.* America, North America
- Plato**, 9, 20, 38, 81, 109-110, 156, 160, 165-166, 177, 251-252, 255, 293, 39n, 166n; *Ti-maeus*, 110; and Aristotle**, 252, 255
- Pleiades, constellation, 39, 114, 163-164, 272
- Political Correctness, 17, 21, 213, 229, 234, 45n, 279n
- Polynesia, easternmost part of Oceania, 266n
- Pontic, see Black Sea
- Portugal, Portuguese, country, language, people, 82
- Poseidon, Ancient Greek god, 152, 184n, 246n; *cf.* Athena, Mistress, Mother of the Waters
- Postcolonial Theory, 45; *cf.* **Bhabha, **Spivak
- Posthomeric* (Quintus Smyrnaeus), 39n
- Post-Modern, 71, 110, 252; *cf.* Modern

- Potiphar, Biblical figure, 134
- pre-Columbian New World, 266, 273
- pre-Euscarian, see Basque *Présence Africaine*, 45n
- Presocratic(s), 1, 3, 5, 8-9, 11, 15, 18, 21, 31, 38, 41, 81, 85-86, 106, 109, 111-112, 115, 141, 148-149, 157, 167, 171, 173-174, 178, 212-213, 234, 250-251, 253, 255, 292-296, 149n, 168n, 171n; in Western Eurasia, 149; – reception in Late Antiquity, 251; in Ionia and Graecia Magna, 290; and Orpheus, 171n; and East Asian correlative systems, 213; *cf.* Asia (South and West, Empedocles, Heraclitus, Parmenides, Thales, etc.
- Primal Matter, 294
- Primal Waters, and the Flood, primal Narrative Complex, 50-51, 212, 246n; – and the Flood, Narrative Complex, 50-51; – and Heaven, 140n; Primal Waters Above, 140n; *cf.* Mother of – , ,Flood
- Prometheus, Graeco-Roman mythical figure, 153n
- Proserpina, Graeco-Roman underworld goddess, 161; *cf.* Persephone
- Proteus, Graeco-Roman aquatic god, as evocation of cyclical transformation, 138, 172
- Proto-, prefix referring to reconstructed early forms of a language or language cluster
- Proto-African(s), proposed to be partly from West Asia, 198-199; *cf.* Bantu-speaking
- Proto-elements, Fire, 198-199; Earth, 198; Air, 198
- Proto-Human, postulated earliest language form of humans, 51
- Ptah, Pth, Ancient Egyptian god, 124, 136, 141, 153n; *cf.* Hephaestus
- Pueblo, see Regressive-Pueblo
- Punktierkunst*, adulterated geomancy in Modern Europe, 82
- Pygmy, African ethnic groups of diminutive size, 37, 151, 274
- Pyreneans, mountain range separating France from Spain, 189
- Pythagoreans, Neo-Pythagorean movement, 81, 168n; – and Talmud, 81; see Pythagoras**
- Qadesh, qdš, Asian god in Ancient Egypt, 140
- Qarmatians, Shi'ites of eastern Arabia, 110
- Qi, Chinese 'element', comparable to Air, 118n
- Queen Bee, 101n
- Queen of Sciences, obsolete epithet of astrology, 86
- Queen Victoria of England, 110n
- Queen, Sovereign, 137; see Cyrene
- Quest: An African Journal of Philosophy / Revue Africaine de Philosophie*, 1, 3, 41
- Quintessence, element, 117
- Rabbinical, 162; *cf.* Judaism
- Ragnarok, Nordic eschatological representation, 153
- Rain, 145, 50n; Nkoya god, 104-105, 164, 154n; Japanese god Susanowo, 153n; and Drought, 154n; *cf.* Water, Mvula
- Rainbow, 145; – Snake, 50, 181
- Range Semantics, 10, 192, 205, 208, 211-212, 259; *cf.* Triadic Revolution, Recursion, Binary
- Ranger, Terence O., 13
- Rangi, Oceanian primal god, 133n; *cf.* Papa
- Ranier, Mt, 146
- Rasenna, Ancient Mediterranean ethnic group, 233
- Rē^e, R^c, Re-Atum, Ancient Egyptian primal (sun) god, 130
- Reconnection of Heaven and Earth, 50, 52
- Recursion, mode of thought based on self-referential repetition, 192, 206-212, 293; *cf.* Triadic Revolution, Range Semantics, Binary
- Red Sea, 58, 60, 76, 267; and the Persian Gulf, 78
- Reed, 99, 101, 137, 275, 102n; – Person, 101; – and the Bee, 101, 275; *cf.* Katete, *nsw-bit*
- Regressive Pueblo, archaeological period, N America, 145
- Remouchamps Caves, Belgium, 183, 276
- Renaissance, intellectual and artistic movement in Europe, middle 2nd mill. CE, 4, 44, 75, 82
- Republic, the* (Plato), 166n
- Rescue from the Ogre, primal Narrative Com-

- plex, 50-51
Reshef, Asiatic god in Ancient Egypt, 140-141
Rest (Hebrew), proposed meaning of name Noah, 140n
Rethinking Africa's Transcontinental Continuities in Pre- and Protohistory, Leiden conference, 2012, 12, 46, 225n
RH*cde, genetic marker, 142
Rhaetians, Ancient Mediterranean ethnic group, 233
Rhea, Ancient Greek primal goddess, 152
Rhodesia, obsolete name for Zimbabwe, and earlier for the Federation of Rhodesia (= Northern Rhodesia, now Zambia (*q.v.*), and Southern Rhodesia, now Zimbabwe (*q.v.*)) and Nyasaland, now Malawi (*q.v.*), 87, 269
Rhodi [*sic*], Pallas
Athena, who according to Suidas (s.v. 'Hippeia Athena') was a daughter of Poseidon and Polyphye, the latter a nymph from the isle of Rhodes, 155; *cf.* Pallas, Athena
Rishi, Hindu sage, 281
RNA, genetically essential protein, 178
Roma, ethnic group and language, 230; *cf.* Sinti, Gypsies
Romantic(ism), Early Modern intellectual movement in Europe, 149
Rome, Roman(s), Ancient city and empire, 70, 116, 129, 136, 161, 294, 180n, 248, 6n; *Pax Romana*, state of order in Roman empire, 294; *cf.* Latin; Imperial, 248; *cf.* Greece
Root, element, 117n; *cf.* Earth
Rotterdam, city in the Netherlands, 3, 7, 13
Rourou, Sino-Tibetan language, 238
Royal Asiatic Society, 216
Royal Drums, of the Nkoya, 104
Royal Person Wind, see Lipepo, 101n
Royal Travelling Thing, Nkoya mythical figure, 99-101
Ruler of Lower Egypt, [*nswt-*] *bit*, 137; *cf.* She of the Reed and the Bee
Russia(n), – Turkestan, 249, Tsarist, 226n
Rutenu, Ancient Mediterranean ethnic group, 233; *cf.* Sicanians
Rylands Lecture, 249
Sabaeans, Ancient ethnic group and kingdom, Yemen, 110
Sacred Outsider, 257; *cf.* Exalted Insider
Sahara, 37-38, 52, 56, 58, 62-64, 74, 78, 80, 247, 253, 275, 264n; to China, extent of Extended Fertile Crescent, *q.v.*, 62
Sahasrara (Crown): Thought / Space, element, 117n
Saïs, Delta town in Ancient Egypt, 101n; *cf.* Neith
Salishan, North American language, 146; *cf.* Skagit
Samson, Biblical figure, 134-135
I Samuel, Bible book, 151
San, ethnic group and language, Southern Africa, 198, 203
Sand Calligraphy, 6; see ^cilm al-raml
Sand Line, 6; see ^cilm al-raml
Sand Science, 6; see ^cilm al-raml
Sandawe, Khoisanoid ethnic group and language, East Africa, 230
Sanskrit, 12, 280n; Sanskritist, 7
Sardinia, Mediterranean island, 240
Saturn, Roman god (Greek Kronos), 152; planet, and moons, 223n
Saturnalia (Macrobius), 172n
Scamander, River and god, 153, 172, 251
Scandinavia(n(s)), European Nordic countries (Denmark, Norway, Finland, Sweden) and their inhabitants, 234
Schinzioiophyton rautanenii (*mungongo* nut), 66
Schrift-Oiratisch [Written Oiratic] of Western China, 216n
Scythian(s), language and ethnic group, 112, 115, 272n; – and Thracians, 115; – and Mongolian, 277; – -Korean-Japanese, 291; and Nkoya, 277, 281n; *cf.* Celts
Sea Peoples, ethnic and military movement in the Mediterranean Late Bronze Age, 230n
Secondary, quality attributed by Karst in the context of Ancient Mediterranean ethnicity, when a pre-existing

- ethnonym has been projected onto a new, unrelated group replacing the former; *cf.* Philistines, Pelasgians, Leleges, Ibero-Ligurians
- Sedge, see reed
- Selket, *srqt*, Ancient Egyptian goddess, 133
- Semang, SE Asian ethnic group, 230
- Semitic, language phylum, 152, 198, 237, 264, 151n
- Semitology, Semitist, 14, 20, 71n; *cf.* Broers, P., Wiggermann**, Gordon**
- Senegal, country, 14; *cf.* Casamance
- Separation of Heaven and Earth, 36, 50, 143, 182, 194, 212-213, 253; *cf.* Cosmogonic Hypothesis
- Separation of Water and Land, 36, 50, 143, 182, 194, 212, 153n; *cf.* Cosmogonic Hypothesis
- Separation, as Strife (Empedocles), 169
- Sepik, region and culture, New Guinea, 55n
- Serpent, see Snake
- Seth, *Swth*, Ancient Egyptian god, 130-131, 163, 100n, 134n; and Osiris, 133; and Horus, 133; *cf.* Isis
- Seven Chakras philosophy, 117n
- Shabaka Stone, Late Ancient Egyptian document containing Old Kingdom cosmology, 130n
- Shamba, 17th-c. CE King of the Bushong Kuba, 61-62
- Shang, Chinese dynasty, 244, 291
- Shango, Yoruba god, 124-125; – and Odinn, 124n
- Shankpanna, Yoruba god, 124
- Shasta, North American ethnic group, 146, 287
- She of the Reed and the Bee, *nswt-bit*, Ancient Egyptian royal title, 101, 275
- Shensi Province, China, 249
- Sheta, Nkoya clan, 89-90, 96-100, 103-105, 282
- Shigeru Araki, 12, 14
- Shihoka Nalinanga, legendary Nkoya royal figure, 102, 135, 154n
- Shihondo, Nkoya clan, 90-91, 93, 95-97, 100, 103-104
- Shikanda, Nkoya royal name, 280; *cf.* Skanda
- Shikombwe Royal Establishment, one of the Nkoya royal capitals, 91n
- Shikumba, Shikumbawuyuvu, Nkoya clan, 91, 96, 98-99, 100, 103, 105
- Shilombe, Nkoya clan, 91-92, 104
- Shimunziko, Nkoya clan, 91-92, 95-96, 104; and Wishe, 96
- Shinto, Japanese religion, 11
- Shiva, South Asian god, 264, 67n
- Shiyowe, Dennis Kawangu, 6, 13
- Shona, Zimbabwean ethnic group and language, 6, 270
- Šoṭṭ al-Jerīd, salt lake, Tunisia, 246n; *cf.* Laco Tritonis, Athena
- Shu / Św, Ancient Egyptian god of Aair, 130-131, 137, 141, 160, 195, 97n, 101n; and Tefnut, 131, 137, 141
- Shungu, Nkoya clan, 89, 91, 104; and Kale, 88
- Sia, North American ethnic group and language, 142
- Siberia(n), Asian region, 114, 272n
- Sicani, Sicanians, Ancient Mediterranean ethnic group, 233
- Sicily, Sicilian, 82, 113, 161; where Earth hid her child Aristaeus (2), 136
- Sigiriya, Sri Lankan rock fortress, 281; *cf.* Kasyapa
- Sikidy, Malagasy divination system, 209; *cf.* geomancy
- Silenus, alien rustic mythical figure in Graeco-Roman imagination, 295
- Silk Road, 37, 81, 282n
- Silver, one of the four Ages of Man, 177; *cf.* Gold, Bronze, Iron
- Simon Professorship, social anthropology, Manchester, 89n
- Sindh, South West Asian region, 280n
- Sinhalese, Sri Lankan language, branch of Indo-Iranian, 230, 281
- Sinim, Ancient Mediterranean / Biblical ethnonym, 227n; *cf.* Chinese?
- Sino-Caucasian, linguistic macrophylum, 142, 186, 191, 198-199, 227, 233, 237, 239-240, 244-245, 260-262, 266, 191n, 219n, 240n, 262n; –, Proto- –, 186, 191, 197-199, 245, 257; – and Afro-Asiatic, 247; – and Eurasiatic, 240n; *cf.*

- Denē-Sino-Caucasian, Sino-Tibetan, Basque, Burushaski
- Sinology, *Sinologist*, 45, 69, 151-152, 213, 216, 220, 226, 241, 249, 226n, 228n, 241n; *cf.* Walters, Bernal, Chavannes, Carus; – and Assyriology, 218
- Sinosphere, 218, 221n
- Sino-Tibetan, branch of Sino-Caucasian, 69, 186, 191, 199, 226-227, 236-237, 239-240, 244-245, 257-258, 260, 216n, 226n, 238n-240n; Proto–, 199; – and Indo-European, 240n; – and Afroasiatic, 266; *cf.* Sino-Caucasian
- Sino-Vietnamese, Sino-Tibetan language; Regular –, 238; – and Middle Chinese, 238
- Sinties, Sinti, Ancient Mediterranean metal-working ethnic group, 230, 295; *cf.* Hephaestus, Roma, Gypsies
- Siouan, North American language, 143, 143n
- Sirens, Graeco-Roman aquatic mythical figures, 190n
- Sirius, composite star, 223n; *cf.* Dogon, Temple**
- Sister, possible entry in correlative system, 101, 154n; *cf.* Elder Sister
- Sixteen Cowries*, West African divination system and scholarly study of that title (Bascom, W.), 126
- Skagit, North American language and ethnic group, 146, 251, 259, 287
- Skanda, Indian war god, 39, 280, 39n; also term for element, 280; *cf.* Shikanda
- Skirnir, Ancient Germanic god, 154
- Sky, 104, 117-118, 123-124, 130, 133, 143, 160, 163, 182, 194, 212, 246, 258, 101n, 188n; Sky-People, 143; *cf.* Air, Heaven, Horus, Neith, Nephthys, Nut, Nyambi, Waters Above, Mother of the Waters, Helios, Sun, Nū Wa, Olorun,
- Smoke, Nkoya clan, 92-93, 95-96, 104
- Snake, 50, 102, 147, 172, 181, 154n; Snake, Child or Parent of Drought, see Shihoka Nalinanga, 154n; *cf.* ‘Fire, Water, Lion and Snake’, Tso-dilo
- Snuffbox, Nkoya clan name, 104
- Socrates**, Ancient Greek philosopher, largely a literary character created by Plato, 20, 112, 149
- Sogdiana, Central Asian region, 243
- Sol, 155, see Sun; – with Venus, 155; *cf.* Helios
- Song, Chinese dynasty, 246
- Sotho-Tswana, language cluster, 35; Sotho, 270; Sotho-speaking Kololo, 270
- Sound, element, 117-118, 117n
- South Dakota, USA state, 264
- Sovereign Queen, meaning of ‘Cyrene’, 137
- Space, element, 118, 117n
- Spain, Spanish, country and inhabitants, 82, 183, 233, 227n
- Sparkler, Nkoya clan, 93, 95-97; or Tinderbox, 104
- Spear Hunter, Nkoya clan, 104
- Spear, Nkoya clan, 88, 104
- Sphere, Empedoclean concept, 168-170
- Spider, Narrative Complex, 50, 181; *cf.* Nyambi, Neith, Athena, Feminine Arts
- Spring, item in apparent four-element system, 172n
- Sri Lanka, country and island, 14, 63, 77, 277, 281, 280n
- Sri, see Dewi Sri
- St Lawrence River, 142
- Steppe, 37, 222, 240-241, 243, 246, 252, 275, 277, 279, 37n, 153n, 219n, 240n
- Steppe-hunter, 274
- Stoics**, school of Ancient Greek and Roman philosophy, 96, 173, 165n
- Stolen Legacy: the Greeks Were Not the Authors of Greek Philosophy, But the People of North Africa, Commonly Called the Egyptians* (James), 16
- Stone Age, see Palaeolithic
- Stone, element, 157;
- Stones, The / Meteorites as Connection between Heaven and Earth, primal Narrative Complex, 181
- Stonehenge, archaeological site, England, 113n
- Storm, 153n; *cf.* Susanowo, Wind(s), Air,

- Water, Rain
Story of the Two Brothers, 134
 Strassbourg, town in France, 158
 Strife, Empedoclean central concept, 157-158, 168-169
 Study Group on Ancient Mesopotamian Religion and Magic, Netherlands Institute for Advanced Study in the Humanities and Social Sciences, Wassenaar, 1994-1995, 12-13, 247n
 Subartu, kingdom, Ancient Near East, 176
 Su^cudi, Muḥammad, 5
 Sudan, country and region, 53, 90
 Suijkerbuijk, Ineke, 12
 Sumer, Sumerian, language and civilisation in Ancient Near East, 77, 152, 231, 242-243, 223n; – and Elamite, 249; – and Babylonian, 117n; and Austric, 77; *cf.* Mesopotamia
 Summer, 172n; *cf.* Spring
 Sun, 17, 36, 113, 124, 135, 137-138, 146, 155, 171, 182, 272, 172n, 188n, 272n-273n; – and Moon, 138; *cf.* Helios, Sol, Borvon, Apollo, Orun, Light, Life, Night, Fire, Rē^c, Apollo
 Sunda, Sunda Hypothesis (postulated cultural flow from SE Asia to Western Eurasia; Oppenheimer**, q.v.) 13-14, 34-35, 53-54, 58, 60-64, 73-79, 81, 88, 129, 36n, 170n-171n; General – Hypothesis, 35; Special – Hypothesis, 35
 Sung, Chinese dynasty, 249
 Supreme God, see God
 Surt, Ancient Nordic mythical figure, Fire Giant, 154
 Susanowo, Japanese Storm and Ocean god, 153n; *cf.* Storm
 Svadhithana (Sacral): Water, 117n
 Swahili, language and ethnic identity, East Africa, 52
 Swṭḥ, see Seth
 Synthesis, see Triadic Dialectics; *cf.* Hegel, Kant, Chalybaeus
 Syro-Palestine, Syria, Syriac (language and script), 41, 134, 141, 224n, 262n; and North Africa, 248
T'oung Pao, Orientalist journal, 219
 Ta Seti, Afrocentrist Internet discussion group, 70
 Taa, branch of Khoisan, 186
 Tabula Bianchini, Ancient Roman divinatory device, 151
 Taino, ethnic group in Jamaica, 162
 Taiwan, island and country, 217
 Takobah, Mt, 146
Talmud, wisdom compilation of Judaism, q.v., 81
 Tamil Nadu, state in India, 14, 63
 Tamil, South Asian ethnic group and language, 243, 280n
Tao, central concept of Taoism, 242
 Taoism, Taoist, 7-9, 12, 31, 68, 106-107, 119-121, 150, 156, 209, 235, 247, 260, 263, 268, 282, 285, 287, 106n, 116n, 241n, 282n; and Lamaist, 12; and Presocratics, 106; and Nkoya, 212; *cf.* Lao Tze
 Tarim Valley, Central Asia, 240, 249
 Tartarus, 154
 Tassili n' Ajjer, Saharan rock art site, 37
 T3wy, the Two Lands, 186; *cf.* Upper and Lower Egypt
 Tears of the Archangel Michael (and other divine tears), 162; *cf.* Water, Rain
 Telchines, Ancient Mediterranean ethnonym, 233
 Teleges, Ancient Mediterranean ethnonym, 233
 Texas Archaeological Research Library, 145
 Texas, USA state, 143
 Tfn̄t, Tefnut, Ancient Egyptian goddess, 130, 131, 137, 139, 141, 145, 160; *cf.* Moisture
 Thailand, 14, 218; Tai, Thai, South East Asian language and identity, 199
 Thammuz, see Dumuzi
Theaetetus (Plato), 166n
Theogonia (Hesiod), 131, 135, 153, 134n, 154n
Theoi (Atsma), 154n
There and Back Again (Bilbo Baggins / Tolkien), 16
 Thesis, see Triadic Dialectics
 Thetis, Ancient Graeco-Roman goddess, 172; *cf.* *Achilles, Peleus*
 Thinite, *i.e.* Egyptian Early Dynastic, 137, 140
 Third Annual Meeting of the International Association for Comparative

- Mythology, 11
Third Eye, element, 117n
Third Reich, Germany
under Hitler's Nazional-
sozialismus, 295
Thoden van Velzen,
Bonno, 15
T-hom (Hebr.), 'abyss',
164; *cf.* Abyss
Thought, 7-Shakra ele-
ment, 117n
Thracia(n(s)), region,
language and ethnic
group N of Greece, 115;
– and Persian Magi, 112
Throat, 7-Shakra element,
117n
Thummim, see 'Urim and
Thummim
Tiamat, Ancient Mesopo-
tamian primal being,
164; *cf.* Neith, Levia-
than, etc.
Tibet, Tibetan, language,
country, and identity, 81,
116, 118, 238-239, 242,
245, 264, 264n
Timaëus (Plato) 110, 166
Timaïos, see *Timaëus*
Time, element, 171, 117n
Timor, Indonesian island,
180
Tinderbox, Nkoya clan,
93, 95-96, 104
Titans, Greek mythical
figures, 115, 100n, 273n
Tlingit, ethnic group and
language in British Co-
lumbia and Alaska, 191,
207, 271-272
Tocharian, A and B, 239-
240, 226n; and Khotan,
69
Togo, West African
country, 124, 265, 287
Toka, ethnic group South-
western Zambia, 269,
272
Tokyo, Japanese city, 11,
14
Totela, ethnic group
Western Zambia, 269,
272
Totem und Tabu (Freud),
91
Touareg, Saharan ethnic
group and language, 70-
71
Touoyem, Pascal, 13
Tower of Babel, etymo-
logical database, 239; *cf.*
Starostin & Starostin**
Tower, 58, 72-73, 281,
216n; *cf.* Flood and
Tower myths
Trachiniai (Sophocles),
134n
Transformation Hypothe-
sis (Arrhenius), 167
Transformation, 49, 52,
167
Transvaal, 279
Triadic Dialectics, Thesis
– Antithesis – Synthesis
(Chalybaeus; Hegel;
Kant), 209
Triadic Revolution, 208-
210, 295-296
Triton, sea god, 267
Troy, Ancient city in the
Aegean region, 153
Tshis, see Twi
Tsodilo Hills, 201
TSWACLA, variable in
cluster analysis, 288
Tswana, Southern African
language and identity, 6,
288, 192n; *cf.* Botswana
Tubal, Biblical figure and
associated ethnico-
professional cluster, 233
Tuc d' Audoubert, ar-
chaeological site,
France, 187
Tumbwa, Nkoya clan
name, 91, 104
Tungus-Manchu, Central
Asian language, 245,
216n
Tunisia(n), North African
country, 5, 264, 246n
Turan(ic), obsolete desig-
nation for C Asia, 227,
240, 219n
Turba Philosophorum,
111, 159
Turkestan, C Asian
region, 249
Turkey, country, 292
Turkic, language cluster,
277, 216n
Turners, Nkoya clan
name, see Sheta,
Tursac, location of l'Abri
du Facteur, France, 189
Tuscany, region, Italy,
248
Tut^c-ankh-Amon, New
Kingdom Pharaoh, 132,
141, 273
Tuvan, Central Asian
language, 216n
Twi, ethnic and linguistic
cluster, Ghana, 123
Twins, primal Narrative
Complex, 50, 52, 100; –
Sister, 101; Paradisiacal
–, 100
Two Children, see Twins
Two Ladies, the, Ancient
Egyptian royal title, 102,
138; *cf.* Nekhbet, Wadjet
Two Lands, Upper and
Lower Egypt, 140; Uni-
fication of the –, *q.v.*;
see Egypt, T3wy
Tyrrhenia, Central Italy,
248; Tyrrheno-Tuscans,
ethnic group associated
with –, 233
Uganda, 102n, 265n;
Queens, 265n
Ukemochi-na-kami,
Japanese vegetation
goddess, 100n
Umashi-ashi-kabi-hiko-ji-
no-kami, Japanese reed
goddess, 277
Unawatuna, location, Sri
Lanka, 14

- Underworld, 164, 187, 259, 97n, 184n; *cf.* Hades
- Unification of the Two Lands (Ancient Egypt), 139-140, 186
- United Kingdom, *see* British
- United States of America, USA, 8, 12, 14, 82, 143, 145-147, 264; *cf.* Americas, North America
- University College London, 216
- Untersuchungen Zu Heraklit* (Gigon, O), 173
- Untouchables, South Asian ethnico-social category, 243; *cf.* Dallit
- UNZA, *see* University of Zambia
- Up, *see* Down
- Upper Palaeolithic, 9-11, 14, 34, 43, 51, 79-80, 97, 110, 123, 129, 178-180, 182-183, 187-190, 193, 195, 204-206, 209-212, 253, 255-256, 259-260, 263-268, 273-274, 276-278, 283, 287, 290-292, 42n, 177n, 194-195n, 240n, 261n; Upper to Middle Palaeolithic, 46; – Eurasia, 191, 256, 261; – West to Central Asia, 256; – Europe, 188, 274; and Bronze Age, 129, 164; – Mother Goddess, 189; – *Borean-speaking, 204
- Uralic, linguistic phylum, 37, 48, 141, 233, 236, 273, 153n, 219n– and Altaic-speaking, 42n
- Uranus, 133n, and Gaia, 133n
- ʾUrīm and Thummin, priestly cleromantic divination device of Ancient Israel, 14, 150-152, 241
- Urology Department, Leiden University Medical Centre, 16
- USA, *see* United States of America
- Uto, *see* Wadjit / W3dt
- Van Binsbergen, Hannah, 12, 16
- Van Binsbergen, Nezmia, 12, 16
- Van Binsbergen, Sarah and Dennis, 16
- Van Binsbergen, Vincent, 16
- Van Binsbergen-Saegerman, Patricia, 12, 16
- van der Geest, Sjaak, 13
- Van der Mede, Peter, 12
- Van Rijn, Henny, 12
- Van Winden, Marieke, 12
- Vapour, 137; *cf.* Water, Fire
- Vedas, Vedic, 177, 281-282, 37n; pre-Vedic, 281
- Vedda, ethnic group and language, Sri Lanka, 230
- Venda, ethnic group in Southern Africa, 64, 74-75, 81, 279; and West African divining apparatus, 75
- Venus, 155, *cf.* Aphrodite; – of Laussel, 189
- Victoria, Queen, of England, 110n
- Vietnamese, language, culture and country, 238, 246n; – Flood myth, 246n
- Vinaya Pitaka*, 281n
- Virgin Mother and her only Child, basic Narrative Complex, 52, 154n
- Virgin of the World*, 141, 110n
- Vishnu, South Asian primal god, 281
- Vishuddhi (Throat): Ether / Sound, 117n
- Visions* (Zosimos), 115
- Vita Apollonii* (Philostratus), 154n
- Vogelherd, Upper Palaeolithic site, Germany, 187
- Void, element, 118
- Völkerkunde von Afrika* (Baumann, Westermann & Thurnwald), 274
- Vulcan, 155, 153n; *cf.* Hephaestus, *Black Vulcan*
- Vulture, Nkoya clan, 104
- Vulva, widespread African clan name, 126
- Wadjit / W3dt, Ancient Egyptian goddess, royal protectrix, 102, 138
- Ward Minimum Variance Method of cluster analysis, 288
- Warwick, town in United Kingdom, 83
- Washington, USA state, 146
- Wassenaar, town in the Netherlands, 12, 247n
- Waters, element, 36, 51, 99, 104, 116-121, 124-125, 128, 130-133, 137-138, 143, 145-147, 149, 153-155, 157-159, 164-166, 171-172, 182, 187, 189, 192-199, 208, 212, 234, 236, 251, 258, 263, 101n, 116n-117n, 128n, 140n, 146n, 153n-155n, 160n, 184n, 194n-195n, 246n, 261n; – Below, 164, 101n; – Above, 164, 182, 101n; – Above and Below, 137, 184n; Wood Fire Metal Earth and –, 120-121; – and Fire, 193, 128n; –and Earth, 171, 182; Water to Air, 137; *cf.* Primal Waters, Fire-Water-Lion-Snake

- Wei Cuiping, 12
Wene, 'Kingship'
(Nkoya), 88
Wertheim, Wim, 12
West-East, pendulum-
swing movement across
Eurasia, 241, 243, 250,
252
Western Grassfields,
region in Cameroon with
many apparent traces of
Sunda influence, 62, 78
Western Philosophy, 18,
86
White Bear, mythical
figure, Menomini peo-
ple, North America, 147
White Gods, cosmogonic,
241
White Horse, shape
adopted by Chinese
mythical figure Gun
(*q.v.*), 246n
White Sea, 280n
White Spirit, Chihamba
(NW Zambia), 99
White, epithet of Zeus
(*q.v.*) as Fire, 158
Whites, ethnic group
somatically marked by
low pigmentation, 229
Wide Justice, Eurydice
(*q.v.*), 137
Wiesbaden, German city,
225n
Wilito Wilson, Navaho
ritual painter, 143
Wind, element, 117-118,
101n, 116n-117n
Winds, Lands, Waters and
Fires, foursome constitu-
tive of Malagasy cos-
mology, 128n
Winter, 58, 172n; *cf.*
Spring
Wisconsin-Michigan
border, USA, 147
Wishe, Nkoya clan, 91-93,
95-96, 104
Wood, element, 92, 103-
104, 118-121, 124, 137,
139, 146-147, 181, 212,
263, 92n-93n, 146n,
153n, 168n; of the
Shilombe tree (Nkoya),
92; – and Metal, 263
Working Hypothesis, of
this book (notably: the
transformative cycle of
elements goes back to
Upper Palaeolithic), 9-
10, 106, 110, 171, 174,
178, 251, 253, 255-256,
259, 275, 290; *cf.* Alter-
native Working Hy-
pothesis
World Culture, 45
World Egg, see Cosmic
Egg
World System, 32, 84-85,
228-229, 278
WOTRO [
Wetenschappelijk
Onderzoek in de Tropen
, Tropical wing of
NWO, the Netherlands
Research Foundation, 15
Woudhuizen, Fred, 13; *cf.*
van Binsbergen &
Woudhuizen**
Wounded Knee, mythical
designation in SW Af-
rica, perhaps with paral-
lel in North America,
263-264
Wsîr, see Osiris
Wu Xing, 'Five Phases',
Chinese elements, 118,
287
Xia, Chinese dynasty,
244
Xiamen, branch of Sino-
Tibetan, 238
Yang, paired cosmological
concept, 274, 223n-
224n; *cf.* Yin
Yao, ethnic group and
language, North Viet-
nam, 246n
Yasodhara, Gautama's
wife, 135
Yemaja, Nigerian mytho-
logical character, 124
Yemen, Southern part of
Arabian peninsula, 110
Yenisseian, North Asian
language and identity,
191, 237, 239, 245
Yi Jing, Book or *Classic of
Changes*, Ancient Chi-
nese wisdom text, 7, 9,
11, 31, 67-69, 74, 110,
121-122, 164, 209, 215-
217, 219-221, 225-226,
228-229, 231-232, 234-
235, 238, 241, 247, 250,
274, 291, 67n, 221n,
223n-224n, 226n, 282n;
– and West Asia, 215-
254
Yin / Yang, Chinese
fundamental duality,
274, 223n-224n
Yoruba, ethnic group and
language, Nigeria, 123-
125, 133, 277, 287, 39n
Younger Brother, see
Elder Sister
Yu, Da ('Great') Yu,
Chinese mythical char-
acter, 246n
Yuvwenu, Mwene, Nkoya
sub-ruler, 89
Za, see Zia
Zambezi River, 64, 87,
102n; – Flood Plain, 87,
102n; Upper – , 270
Zambia National Ar-
chives, 89n
Zambia(n(s)), country and
inhabitants, 5-6, 13-14,
39, 86-87, 89, 93-94,
123, 269-270, 39n, 89n,
100n; – Nkoya, 125,
265; – 's Western Prov-
ince, 270; *cf.* Nkoya,
Barotse, Lozi, Ila,
Bemba
Zanata, North African
ethnic group, 78; *cf.* al-

- Zanāfī**
Zarathustra**, Zoro-
aster**, Ancient Iranian
religious innovator, 41,
234, 241n
Zen, variety of Buddhism
(*q.v.*), 12
Zeus, Jupiter, Graeco-
Roman primal god, 135,
152, 154-155, 158-160,
170, 113n, 160n, 172n; –
and Hera, as Shu and
Tefnut, 141
Zhou, Later, Chinese
dynasty, 238
Zhu, branch of Khoisan,
186
Zia, 'Four', cosmological
foursome, Lower Congo,
125
Zimbabwe, Zimbabwean,
64, 202-203, 276, 279,
89n; – Christian, 69n
Zoogony, Counter-world
–, 168
Zoroastrianism, see
Zarathustra
Zulu, ethnic group and
language in South Af-
rica, 127-128, 277, 287;
cf. Nguni
Zunbul, °Ali, Medieval
Islamic geomancer, 115
Zuñi / Zuni, ethnic group
and language, North
America, 142, 287; *cf.*
Navaho, Hopi

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