The Border

A Reference Work on the Crossing to the Other World

J. Konstapel

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Seventy traditions, coded from their sources. Methods, healing, magic, alchemy, white and black, and what science measures.

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Abstract

Almost every culture describes a border between this world and another. People cross it in sleep, in trance, in illness and at death. Beings cross it the other way. This book is a reference work on that border. It describes seventy traditions, from Mesopotamia and Egypt to the Amazon, Siberia and the modern reports of Robert Monroe and near-death research. Each tradition is coded for eight recurring features. The coding shows two families of border. The border of the dead has a river or bridge, judges the crosser and turns the threshold into a stay. The border of the living is used for healing, and the other side comes in or one goes to and fro. The book then treats the methods of crossing, healing, magic as a science of the other side, alchemy, the drawing of the line between white and black magic, and what physics and medicine measure at a border. The whole is read with one framework, the Vacuum.Net theory, which is explained in Part I.

How to use this book

This is a reference work. It can be read from front to back, but most readers will look things up.

- **Part I** gives the frame: the theory used to read the material, Monroe's map, the border as physics knows it, and the method of coding.
- **Part II** describes the seventy traditions one by one, by region. Every entry has the same structure: sources, the crossing, and a code line.
- **Parts III to VII** cut across the traditions by theme: methods, healing, magic, alchemy, white and black.
- **Part VIII** treats the sky, the calendar and number. **Part IX** treats what science measures.
- **Part XI** gives the full source dossiers. **Part XII** holds the studies of the previous edition on texts, sky, number, matter, mind and machines. **Part XIII** holds the registers: the full coding table, a chronology, the transfers between cultures, and a glossary.

Statements carry one of four labels. **Proved** means a mathematical proof exists. **Measured** means a measurement or count exists, with its source. **Known** means the statement is established in the scholarly sources cited. **Reading** marks an interpretation with the Vacuum.Net theory; readings stand in grey boxes. Footnotes give the source; the annotated references at the end say what each source offers.

Part I

The Frame

1. The question and the theory that reads it

The question

Ask any culture where the dead go, where dreams come from, or where healing comes from. It will point across a border. The border is near. It can be crossed in sleep, in trance, in illness or at death. Something lives on the other side.

Robert Monroe gave this old question a modern form. From 1958 he left his body, as he described it, and visited places that were not physical. He called the non-physical region Locale II. There, he wrote, thought is the source of existence, time does not exist, and in its vastness lie all the aspects we attribute to heaven and hell.[1] Later he and his students mapped the way there as a ladder of levels, the Focus levels.[2]

Science uses another side every day. A crystallographer measures the reciprocal lattice, not the crystal. An engineer designs a filter in frequencies, not in time. In each case the other side is the same world, read in another way. And in each case there is a line where the two readings weigh the same.[3,4]

The Vacuum.Net theory in brief

The book reads every field with one framework, the Vacuum.Net theory.[5] The theory starts from movement, not from things. At the start there is a direction: a way out and a way back. The movement has no beginning and no end.[6] Five rules describe it.

- **N1, one strand.** There is exactly one strand. Every distinction is a loop of it.
- **N2, closure.** A loop persists only if it closes. What does not close passes on as tension.
- **N3, direction.** The first passage through a point fixes a direction.
- **N4, state.** How the strand responds depends on its present state.
- **N5, scale.** Coarse blocks of the strand obey the same rules again.

A step of the strand is a *trit*. A trit is not a value. It is a direction: out, standing still, or back. Every trit has a *mirror*. Out becomes back, and back becomes out. Standing still is its own mirror.

Trits combine into *ladders*. The two basic ladders are doubling (×2) and tripling (×3). They never meet exactly, because no power of 2 equals a power of 3. Every ladder has rungs that can be counted.

Closure (N2) is the key word. A loop that closes becomes a thing: a particle, a cycle, a habit, a body. A body is a depth of the strand, not a container. A loop that does not close cannot rest; it passes its

[1] [1] Monroe, R. A. (1971). Journeys Out of the Body. Doubleday, New York.

[2] [2] Monroe, R. A. (1994). Ultimate Journey. Doubleday, New York.

[3] [3] Kittel, C. (2005). Introduction to Solid State Physics, 8th ed., Chapters 2 and 7. Wiley, Hoboken.

[4] [4] Stein, E. M. & Shakarchi, R. (2003). Fourier Analysis: An Introduction. Princeton University Press.

[5] [5] Konstapel, J. (2026). The Vacuum.Net Theory, Ninth Edition: Foundations 9.2 and Physics 9.0. Constable Research, Leiden.

[6] [6] Konstapel, J. (2026). Mathematical Theory Generated with the Vacuum.Net Theory, version 7.0 (19 November 2026). Constable Research, Leiden.

tension on. In this framework the border is the place where closure is balanced exactly between two readings of the same loop.

The smallest complete structure of the theory is the Trit Tile.[7] It addresses every point of a plane with the three directions. Each cell splits into three smaller cells, without end. Most points have one address. Points on a cell boundary have two. A few points turn around a fixed point forever.

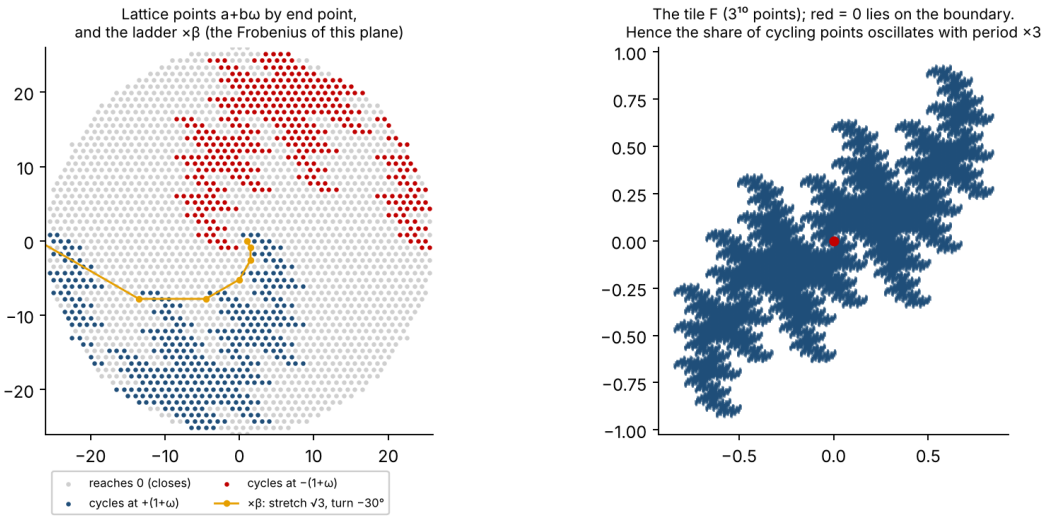

Figure 1.1. The Trit Tile: the plane addressed with three directions. Points on cell boundaries have two addresses. *Proved (construction).*

What "the other side" means here

In this book the other side is not a second world beside ours. It is the same reality read the other way round: the mirror of every trit taken at once. The author's term for that reading is the medium: the vacuum in its own state, with matter as a pattern in it.[8] Beings of the other side are patterns in the medium, as we are. Crossing does not mean travelling far. It means changing the reading.

> **Reading.** Three terms from the theory recur in this book. *Closure*: a crossing succeeds when something closes. *Direction*: a crossing goes out (the person goes) or in (the other side comes). *Ladder*: the other side is often counted in rungs.
>
> Monroe's remark that Locale II interpenetrates our world fits this view.[9] The other side is not elsewhere.

2. Monroe's map

Robert Monroe (1915–1995) was an American radio executive. His out-of-body experiences began in 1958. He described them in three books and built a sound method, Hemi-Sync, to reach the

[7] [7] Konstapel, J. (2026). The Trit Tile: A Reference Work, version 1.1. Constable Research, Leiden.

[8] [8] Konstapel, J. (2026). The Age of Magic. constable.blog, 30 July 2026.

[9] [1] Monroe, R. A. (1971). Journeys Out of the Body. Doubleday, New York.

states again.[10,11,12] The US Army assessed the method in 1983.[13] Because his map is the most detailed modern one, this book uses it as a common grid for the old reports.

The three Locales

- **Locale I** is our physical world, perceived without the body.
- **Locale II** is a non-physical region that interpenetrates ours. Thought is the source of existence there. It holds all that we attribute to heaven and hell.[14]
- **Locale III** is a world much like ours, but different in details.

The Focus levels

Table 2.1. Monroe's Focus levels. Columns 1–2 are *Known* from Monroe; column 3 is a reading.

Focus	State (Monroe)	Old reports that fit (a reading)
10	body asleep, mind awake	incubation; the Egyptian Ba leaving the body
12	expanded awareness	the seer's vision
15	no time	—
21	the edge of time-space; the bridge	Bifröst; the Chinvat Bridge; the Sirat
22	people in sleep, coma or delirium	—
23	the recently dead who do not know they died	ghosts in Mesopotamian medicine
24–26	belief-system territories	the heavens and hells of the traditions
27	the reception centre, the Park	a place of rest before going on

> **Reading.** Monroe's map has both kinds of border that this book finds. Focus 21 is a bridge, like the borders of the dead. Focus 10 is the edge of sleep, used by healers and incubants everywhere. The territories of 24–26 explain why traditions differ: a crosser enters the territory that fits the state in which he arrives.

3. The border in physics

Physics knows borders between two sides with great precision. Three cases matter for this book.

- **The critical point.** A lattice of small magnets is ordered when cold and disordered when hot. Kramers and Wannier found the exact border by a mirror: the two sides map onto each other and the border maps onto itself.[15] Near the border a system settles more and more slowly (critical slowing down).[16]
- **The zone edge.** An electron wave in a crystal splits at the edge of the Brillouin zone into two standing waves, one on the atoms and one between them. A gap opens.[17]

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[10] [1] Monroe, R. A. (1971). Journeys Out of the Body. Doubleday, New York.

[11] [9] Monroe, R. A. (1985). Far Journeys. Doubleday, New York.

[12] [2] Monroe, R. A. (1994). Ultimate Journey. Doubleday, New York.

[13] [10] McDonnell, W. M. (1983). Analysis and Assessment of Gateway Process. US Army, declassified 2003 (CIA-RDP96-00788R001700210016-5).

[14] [1] Monroe, R. A. (1971). Journeys Out of the Body. Doubleday, New York.

[15] [11] Kramers, H. A. & Wannier, G. H. (1941). Statistics of the two-dimensional ferromagnet. Part I. Physical Review 60, 252–262.

[16] [12] Hohenberg, P. C. & Halperin, B. I. (1977). Theory of dynamic critical phenomena. Reviews of Modern Physics 49, 435–479.

[17] [3] Kittel, C. (2005). Introduction to Solid State Physics, 8th ed., Chapters 2 and 7. Wiley, Hoboken.

- **The exceptional point.** Two coupled light guides, one with gain and one with loss, swing evenly until a critical value; there the modes merge and one side wins.[18,19] A sensor held at that point reacts far more strongly to a small disturbance.[20,21]

A fourth case shows that the state of a thing decides on which side it ends. Dysprosium-163 is stable as a neutral atom but decays when stripped of all electrons.[22] Rhenium-187 has a half-life of about 42 billion years as a neutral atom and about 33 years when bare.[23] Thallium-205 behaves like dysprosium; the bare-ion half-life is 291 days.[24]

> **Reading.** Every measured border has the same form: two sides, a point where both weigh the same, great sensitivity near that point, and a state that decides the side. The traditions describe the same form in their own language: a gate, a threshold where little is needed to tip, and a crosser whose state decides whether he passes.

4. Method: how the traditions were coded

Each of the seventy traditions in Part II was coded for eight features. A feature is coded 1 when the scholarly source of the tradition states it, and 0 when it was not found. The coding was done by one coder. Each code carries a certainty: high, or medium when the source is not clear-cut.[25]

Table 4.1. Codebook.

Code	Feature
F1	a guardian or gate
F2	a vertical axis, hole or tree
F3	water or a bridge to cross
F4	passage depends on the crosser
F5	a price for the crossing
F6	the threshold becomes a stay
F7	the border opens at a turning of the year
F8	healing through the crossing
Direction	O out (the person goes), I in (the other side comes), B both, – no crossing
Zones	number of levels or stations the source counts

[18] [13] Bender, C. M. & Boettcher, S. (1998). Real spectra in non-Hermitian Hamiltonians having PT symmetry. Physical Review Letters 80, 5243–5246.

[19] [14] Rüter, C. E., Makris, K. G., El-Ganainy, R., Christodoulides, D. N., Segev, M. & Kip, D. (2010). Observation of parity–time symmetry in optics. Nature Physics 6, 192–195.

[20] [15] Chen, W., Özdemir, Ş. K., Zhao, G., Wiersig, J. & Yang, L. (2017). Exceptional points enhance sensing in an optical microcavity. Nature 548, 192–196.

[21] [16] Hodaei, H. et al. (2017). Enhanced sensitivity at higher-order exceptional points. Nature 548, 187–191.

[22] [17] Jung, M. et al. (1992). First observation of bound-state beta-minus decay. Physical Review Letters 69, 2164–2167.

[23] [18] Bosch, F. et al. (1996). Observation of bound-state beta-minus decay of fully ionized 187Re. Physical Review Letters 77, 5190–5193.

[24] [19] Leckenby, G. et al. (2024). High-precision measurement of the bound-state beta decay of fully ionized thallium-205. Nature 635, 321–326.

[25] [20] Konstapel, J. with Claude (2026). Research logs 'Riemann hypothesis and the Trit Tile' v0.27 and 'Watchers and mathematics' v0.2, with Python scripts and data. Constable Research, Leiden (unpublished; available as the package music_of_the_primes_v1.0).

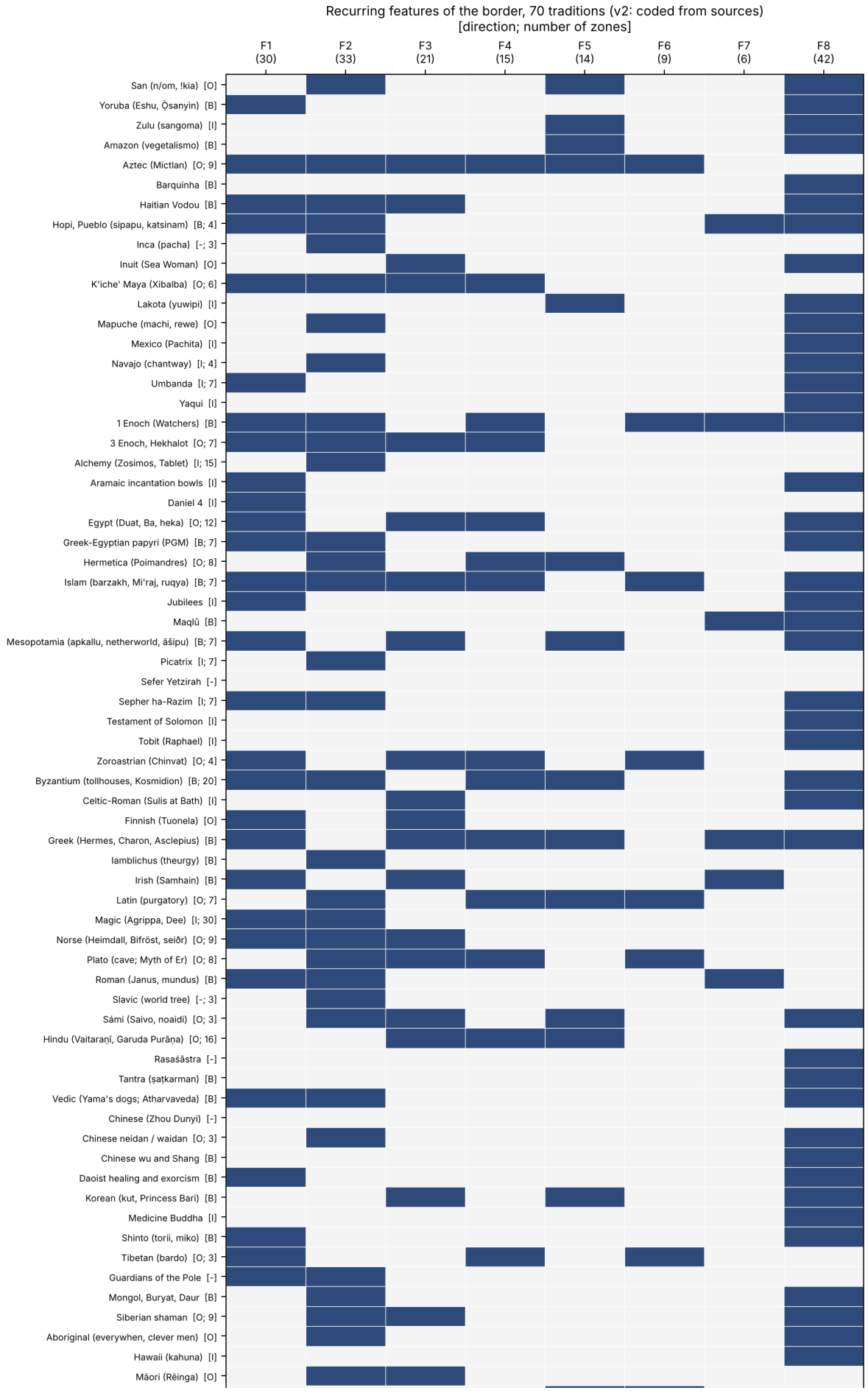
Recurring features of the border, 70 traditions (v2: coded from sources)
[direction; number of zones]
F1 (30)
F2 (33)
F3 (21)
F4 (15)
F5 (14)
F6 (9)
F7 (6)
F8 (42)
San (n/om, !kia) [O]
Yoruba (Eshu, Ọ̀ṣanyìn) [B]
Zulu (sangoma) [I]
Amazon (vegetalismo) [B]
Aztec (Mictlan) [O; 9]
Barquinha [B]
Haitian Vodou [B]
Hopi, Pueblo (sipapu, katsinam) [B; 4]
Inca (pacha) [-; 3]
Inuit (Sea Woman) [O]
K'iche' Maya (Xibalba) [O; 6]
Lakota (yuwipi) [I]
Mapuche (machi, rewe) [O]
Mexico (Pachita) [I]
Navajo (chantway) [I; 4]
Umbanda [I; 7]
Yaqui [I]
1 Enoch (Watchers) [B]
3 Enoch, Hekhalot [O; 7]
Alchemy (Zosimos, Tablet) [I; 15]
Aramaic incantation bowls [I]
Daniel 4 [I]
Egypt (Duat, Ba, heka) [O; 12]
Greek-Egyptian papyri (PGM) [B; 7]
Hermetica (Poimandres) [O; 8]
Islam (barzakh, Mi'raj, ruqya) [B; 7]
Jubilees [I]
Maqlû [B]
Mesopotamia (apkallu, netherworld, āšipu) [B; 7]
Picatrix [I; 7]
Sefer Yetzirah [-]
Sepher ha-Razim [I; 7]
Testament of Solomon [I]
Tobit (Raphael) [I]
Zoroastrian (Chinvat) [O; 4]
Byzantium (tollhouses, Kosmidion) [B; 20]
Celtic-Roman (Sulis at Bath) [I]
Finnish (Tuonela) [O]
Greek (Hermes, Charon, Asclepius) [B]
Iamblichus (theurgy) [B]
Irish (Samhain) [B]
Latin (purgatory) [O; 7]
Magic (Agrippa, Dee) [I; 30]
Norse (Heimdall, Bifröst, seiðr) [O; 9]
Plato (cave; Myth of Er) [O; 8]
Roman (Janus, mundus) [B]
Slavic (world tree) [-; 3]
Sámi (Saivo, noaidi) [O; 3]
Hindu (Vaitaraṇī, Garuda Purāṇa) [O; 16]
Rasaśāstra [-]
Tantra (ṣaṭkarman) [B]
Vedic (Yama's dogs; Atharvaveda) [B]
Chinese (Zhou Dunyi) [-]
Chinese neidan / waidan [O; 3]
Chinese wu and Shang [B]
Daoist healing and exorcism [B]
Korean (kut, Princess Bari) [B]
Medicine Buddha [I]
Shinto (torii, miko) [B]
Tibetan (bardo) [O; 3]
Guardians of the Pole [-]
Mongol, Buryat, Daur [B]
Siberian shaman [O; 9]
Aboriginal (everywhen, clever men) [O]
Hawaii (kahuna) [I]
Māori (Rēinga) [O]

Figure 4.1. The seventy traditions and their features, grouped by region. Direction and number of zones in brackets. *Measured (coding).*

Results

Table 4.2. How often each feature occurs (n = 70). *Measured.*

Feature	Traditions	Share
F1 guardian or gate	30	43%
F2 vertical axis	33	47%
F3 water or bridge	21	30%
F4 passage depends on crosser	15	21%
F5 price	14	20%
F6 threshold becomes a stay	9	13%
F7 turning of the year	6	9%
F8 healing	42	60%

Direction. 23 traditions cross out, 19 in, 22 both ways, 6 not at all. **Zones.** Where the sources count levels, seven is the most frequent count (8 traditions, mostly Near Eastern), then three (5), four (3) and nine (3).

Three associations are strong (Fisher exact test). They hold when only the 44 traditions coded with high certainty are counted.

- Healing goes with the directions *in* and *both*: 33 of 41 such traditions heal, against 9 of the other 29 (odds ratio 9.2, $p = 5\times10^{-5}$).
- 'Passage depends on the crosser' goes with 'the threshold becomes a stay': 8 of the 9 traditions with a stay also judge the crosser ($p = 6\times10^{-6}$).
- 'Water or bridge' goes with 'passage depends on the crosser' (odds ratio 8, $p = 0.001$).

Two families of border

The data fall into two families. **The border of the dead** has a river or bridge, judges the crosser and turns the threshold into a stay; its direction is out. Chinvat, Mictlan, the Sirat, the bardo, purgatory and Plato's Myth of Er belong here. **The border of the living** is used for healing; the other side comes in, or one goes to and fro. Vodou, Yoruba, ruqya, yuwipi, the sangoma, the miko and Raphael belong here. The guardian and the vertical axis occur in both families.

Limits

- One coder; 26 traditions coded with medium certainty only.
- The collection searched for healing on purpose. The share of 60% is therefore not a world estimate. The association between healing and direction holds within the sample.
- A culture with several practices counts as one tradition; Greek, for instance, holds both Charon and Asclepius.

> **Reading.** In the terms of the theory the two families are the two directions of the trit. The border of the dead is crossed outward, once, and closes behind the crosser: hence the judgment and the stay. The border of the living is crossed both ways and stays open: hence healing, which brings something back.

Part II

The Traditions

This part describes seventy traditions, grouped by region. Each entry gives the sources, the crossing as the sources describe it, and the code line of Chapter 4. A few entries carry a reading. Each chapter ends with the coding table of its region.

5. The Near East and the Mediterranean world of texts

The oldest written witnesses of the crossing come from Mesopotamia and Egypt. From there a long line of texts runs through the Hebrew and Aramaic literature, Iran, the Greek-Egyptian world of late antiquity and Islam. In this region the other side is very often counted: seven gates, seven palaces, seven heavens.

Egypt (Duat, Ba, heka)

Sources. The Book of the Dead and the books of the netherworld (Amduat, Book of Gates); medical papyri.[26,27,28]

The crossing. A person had several parts. The Ka was the life force; the Ba, shown as a bird with a human head, left the tomb by day and returned at night; after a successful passage the parts were united as the Akh. The dead travelled through the Duat, the netherworld, through gates guarded by beings whose names had to be known. In the hall of judgment the heart was weighed against the feather of Maat. Healing used heka, the power that made creation work, personified as the god Heka; prescriptions and spells were used together by the same healers.

History of the sources. The Pyramid Texts (from c. 2350 BCE) were carved for kings. The Coffin Texts (c. 2100 BCE) opened the same spells to officials. The Book of the Dead (from c. 1550 BCE) put them on papyrus for anyone who could pay. Each step widened the circle of those who could cross.[29]

The way through the Duat. The Amduat and the Book of Gates follow the sun-god through the twelve hours of the night. Each hour has a gate with a serpent guardian. The dead joined the sun's boat and were reborn with it at dawn. Spells 144–147 of the Book of the Dead give the names of the gatekeepers; whoever knows them passes.[30]

Healing and harm. The physician (swnw), the priest of Sekhmet and the magician used the same toolkit: drugs, amulets and spoken spells. Execration rites smashed pots or figures bearing the names of enemies.[31,32]

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[26] [21] Taylor, J. H. (ed.) (2010). Journey through the Afterlife: Ancient Egyptian Book of the Dead. British Museum Press, London.

[27] [22] Nunn, J. F. (1996). Ancient Egyptian Medicine. British Museum Press, London.

[28] [23] Pinch, G. (2006). Magic in Ancient Egypt, rev. ed. British Museum Press, London.

[29] [21] Taylor, J. H. (ed.) (2010). Journey through the Afterlife: Ancient Egyptian Book of the Dead. British Museum Press, London.

[30] [21] Taylor, J. H. (ed.) (2010). Journey through the Afterlife: Ancient Egyptian Book of the Dead. British Museum Press, London.

[31] [22] Nunn, J. F. (1996). Ancient Egyptian Medicine. British Museum Press, London.

[32] [24] Ritner, R. K. (1993). The Mechanics of Ancient Egyptian Magical Practice. Oriental Institute, Chicago.

Code. guardian, water/bridge, judged crosser, healing · direction: out · zones: 12 · certainty: high.

> **Reading.** The Ba is the oldest picture of the crosser who swings: out by day, back by night. Its daily rhythm is Monroe's Focus 10, the body asleep and the mind awake.

Mesopotamia (apkallu, netherworld, āšipu)

Sources. Cuneiform myths (Descent of Inanna/Ishtar, Gilgamesh), the apkallu tradition, and the medical and exorcistic corpus.[33,34,35,36]

The crossing. Before the flood seven sages, the apkallu, came up from the sea and brought knowledge to humans. The netherworld had seven gates, kept by the gatekeeper Neti; Inanna had to give up one garment at each gate and arrived naked before her sister Ereshkigal. Healing had two specialists: the āšipu, who worked with rites and drove out the cause, and the asû, who worked with drugs. Many illnesses were ascribed to ghosts. The healing goddess Gula, also called Ninisina, had her temple in Isin, named the 'Dog Temple'; dogs were the attribute of most Mesopotamian healing goddesses.

The netherworld. It is called the 'land of no return'. The dead eat dust and are clothed like birds. Gilgamesh crosses the waters of death with the ferryman Urshanabi to reach Utnapishtim, the survivor of the flood, but fails to win immortality.[37]

The sages. The seven apkallu came from the Apsu, the fresh water under the earth, in the form of fish-men. They taught the arts of civilisation. The seventh antediluvian king, Enmeduranki, was taught the secrets of heaven and earth by the gods; he is the model for Enoch.[38]

Healing and harm. The āšipu diagnosed by omens and treated by rites; the asû by drugs. Ghost-induced illness was a major class: an unburied or neglected dead person could 'seize' the living. The goddess Gula and her dogs presided over healing; dog figurines carried prayers.[39,40,41]

Code. guardian, water/bridge, price, healing · direction: both · zones: 7 · certainty: high.

> **Reading.** Inanna's descent is a price paid per rung: a ladder of seven closures, each gate taking one garment.

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[33] [25] Annus, A. (2010). On the origin of Watchers: a comparative study of the antediluvian wisdom in Mesopotamian and Jewish traditions. Journal for the Study of the Pseudepigrapha 19(4), 277–320. doi:10.1177/0951820710373978.

[34] [26] Scurlock, J. (2006). Magico-Medical Means of Treating Ghost-Induced Illnesses in Ancient Mesopotamia. Brill, Leiden.

[35] [27] Böck, B. (2014). The Healing Goddess Gula: Towards an Understanding of Ancient Babylonian Medicine. Brill, Leiden (CHANE 67).

[36] [28] Heffron, Y. (2019). Gula/Ninkarrak (goddess). Ancient Mesopotamian Gods and Goddesses, Oracc, University of Pennsylvania.

[37] [25] Annus, A. (2010). On the origin of Watchers: a comparative study of the antediluvian wisdom in Mesopotamian and Jewish traditions. Journal for the Study of the Pseudepigrapha 19(4), 277–320. doi:10.1177/0951820710373978.

[38] [25] Annus, A. (2010). On the origin of Watchers: a comparative study of the antediluvian wisdom in Mesopotamian and Jewish traditions. Journal for the Study of the Pseudepigrapha 19(4), 277–320. doi:10.1177/0951820710373978.

[39] [26] Scurlock, J. (2006). Magico-Medical Means of Treating Ghost-Induced Illnesses in Ancient Mesopotamia. Brill, Leiden.

[40] [27] Böck, B. (2014). The Healing Goddess Gula: Towards an Understanding of Ancient Babylonian Medicine. Brill, Leiden (CHANE 67).

[41] [28] Heffron, Y. (2019). Gula/Ninkarrak (goddess). Ancient Mesopotamian Gods and Goddesses, Oracc, University of Pennsylvania.

1 Enoch (Watchers)

Sources. 1 Enoch, especially the Book of the Watchers (ch. 1–36) and the Astronomical Book (ch. 72–82), 3rd century BCE.[42,43]

The crossing. Enoch is taken up, sees the throne and the gates of sun and moon, returns and writes it down. Two hundred Watchers go the other way: they come down, take human wives and teach metalwork, the cutting of roots and the signs of the sky. Their petition to return is refused; they are bound until the judgment. Raphael is sent to bind Azazel and heal the earth. The Astronomical Book gives a 364-day year with gates for sun and moon.

The Watchers one by one. Shemihazah leads the oath on Mount Hermon. Asael (Azazel) teaches metalwork, weapons and cosmetics. Others teach spells and the cutting of roots, astrology, the signs of the moon and of the sun. Their children, the giants, devour the earth.[44]

Enoch's journeys. He sees the house of crystal and fire, the throne, the treasuries of the winds, the mountains of the dead with their four hollows for the souls until judgment, and the ends of the earth.[45,46]

The calendar. The Astronomical Book describes six gates in the east and six in the west through which the sun rises and sets during the year, and a year of 364 days.[47]

Code. guardian, axis, judged crosser, stay, turn of year, healing · direction: both · zones: not counted · certainty: medium.

> **Reading.** Enoch and the Watchers are the two outcomes of every crossing: cross, return and write; or cross and stay. The one who returns sleeps; the Watchers, the 'wakeful ones', never sleep.

Daniel 4

Sources. Daniel 4:13, 17, 23 (Aramaic).[48]

The crossing. In Nebuchadnezzar's dream 'a watcher, a holy one' comes down from heaven and decrees the king's madness. The word for watcher, ʿîr, means 'one who is awake'.

Place in the line. Daniel is the only canonical text that names a watcher. The figure links the Aramaic Enoch literature of Qumran with the Hebrew Bible. The watcher comes down, speaks the decree and returns; it does not stay, unlike the Watchers of 1 Enoch.[49,50]

Code. guardian · direction: in · zones: not counted · certainty: high.

Jubilees

Sources. Book of Jubilees, 2nd century BCE.[51]

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[42] [29] Charles, R. H. (transl.) (1917). The Book of Enoch. SPCK, London.
[43] [30] Milik, J. T. (1976). The Books of Enoch: Aramaic Fragments of Qumrân Cave 4. Clarendon Press, Oxford.
[44] [29] Charles, R. H. (transl.) (1917). The Book of Enoch. SPCK, London.
[45] [29] Charles, R. H. (transl.) (1917). The Book of Enoch. SPCK, London.
[46] [30] Milik, J. T. (1976). The Books of Enoch: Aramaic Fragments of Qumrân Cave 4. Clarendon Press, Oxford.
[47] [29] Charles, R. H. (transl.) (1917). The Book of Enoch. SPCK, London.
[48] [31] Daniel 4:13, 17, 23 (Aramaic). Any critical translation, e.g. the NET Bible with notes.
[49] [31] Daniel 4:13, 17, 23 (Aramaic). Any critical translation, e.g. the NET Bible with notes.
[50] [30] Milik, J. T. (1976). The Books of Enoch: Aramaic Fragments of Qumrân Cave 4. Clarendon Press, Oxford.
[51] [32] Charles, R. H. (transl.) (1902). The Book of Jubilees. A. & C. Black, London.

The crossing. Jubilees retells the Watchers: they first came down to teach justice and only later sinned. In chapter 10 the angels teach Noah how to heal with plants against the spirits that cause illness. Healing knowledge thus comes from the other side, and it comes against the other side.

Calendar and healing. Jubilees insists on a 364-day solar year, like the Astronomical Book of Enoch. The healing knowledge given to Noah is written down and passed to Shem; it is the oldest Jewish account of medicine as a gift from the other side against the other side.[52]

Code. guardian, healing · direction: in · zones: not counted · certainty: high.

Tobit (Raphael)

Sources. Book of Tobit, 3rd–2nd century BCE.[53]

The crossing. Raphael, whose name means 'God heals', is sent in disguise. He has Tobias take the heart, liver and gall of a fish; heart and liver drive the demon Asmodeus from Sarah, the gall cures Tobit's blindness. At the end he reveals himself as 'one of the seven angels who stand before the Lord'.

Raphael after Tobit. Raphael became the angel of healing in Jewish, Christian and Islamic tradition. In 1 Enoch he binds Azazel and heals the earth. The fish, the gall and the burning of heart and liver make Tobit the first narrative of healing by an angel who teaches a remedy.[54,55]

Code. healing · direction: in · zones: not counted · certainty: high.

3 Enoch, Hekhalot

Sources. Hekhalot literature and 3 Enoch (Sefer Hekhalot), late antiquity.[56,57,58]

The crossing. The adept 'descends to the chariot' through seven palaces. Each gate has guardians who demand names and seals. At the sixth palace the marble looks like water; who says 'water, water' is turned back. In 3 Enoch Enoch himself becomes Metatron, the prince who stands at the threshold of the Presence.

The descent. The texts call the ascent a 'descent to the chariot'. The adept must show seals at each gate. At the sixth palace a vision of water appears; it is the marble of the floor. Who mistakes it is attacked.[59]

Metatron. In 3 Enoch Rabbi Ishmael ascends and meets Metatron, who tells him he was Enoch, taken up and transformed into fire. He holds the seventy names and stands at the threshold of the Presence.[60,61]

Code. guardian, axis, water/bridge, judged crosser · direction: out · zones: 7 · certainty: high.

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[52] [32] Charles, R. H. (transl.) (1902). The Book of Jubilees. A. & C. Black, London.

[53] [33] Tobit 3:17; 6; 11; 12:15. In: The New Oxford Annotated Apocrypha (NRSV). Oxford University Press.

[54] [33] Tobit 3:17; 6; 11; 12:15. In: The New Oxford Annotated Apocrypha (NRSV). Oxford University Press.

[55] [29] Charles, R. H. (transl.) (1917). The Book of Enoch. SPCK, London.

[56] [34] Davila, J. R. (2013). Hekhalot Literature in Translation: Major Texts of Merkavah Mysticism. Brill, Leiden.

[57] [35] Alexander, P. S. (1983). 3 (Hebrew Apocalypse of) Enoch. In: J. H. Charlesworth (ed.), The Old Testament Pseudepigrapha, vol. 1. Doubleday, New York, 223–315.

[58] [36] Orlov, A. A. (2005). The Enoch-Metatron Tradition. Texts and Studies in Ancient Judaism 107. Mohr Siebeck, Tübingen.

[59] [34] Davila, J. R. (2013). Hekhalot Literature in Translation: Major Texts of Merkavah Mysticism. Brill, Leiden.

[60] [35] Alexander, P. S. (1983). 3 (Hebrew Apocalypse of) Enoch. In: J. H. Charlesworth (ed.), The Old Testament Pseudepigrapha, vol. 1. Doubleday, New York, 223–315.

[61] [36] Orlov, A. A. (2005). The Enoch-Metatron Tradition. Texts and Studies in Ancient Judaism 107. Mohr Siebeck, Tübingen.

Testament of Solomon

Sources. Testament of Solomon, Greek, early centuries CE.[62]

The crossing. Solomon's ring commands the demons. Each demon names the illness it causes and the angel that defeats it; the thirty-six decans each name a bodily complaint. It is a handbook of healing by naming the beings on the other side.

Method. Each demon must give its name, its work and the angel or name that defeats it. Knowledge of the name is the cure. The text stands at the head of the Solomonic grimoires of the Middle Ages.[63,64]

Code. healing · direction: in · zones: not counted · certainty: high.

Sepher ha-Razim

Sources. Sepher ha-Razim, Hebrew, c. 4th century CE.[65]

The crossing. Said to be given to Noah by the angel Raziel. It describes seven firmaments, each full of named angels with tasks, and gives recipes for using them, including healing.

Structure. The first firmament holds seven camps of angels, each with overseers and names; the text gives rites for healing, love, divination and harm. The seventh firmament is the throne, where no rite applies. It joins the Hekhalot ladder with the practical spell.[66]

Code. guardian, axis, healing · direction: in · zones: 7 · certainty: high.

Maqlû

Sources. Maqlû ('Burning'), Babylonian anti-witchcraft ritual, 1st millennium BCE.[67]

The crossing. Performed in one night at the end of the month Abu, when the spirits of the dead were thought to rise. Figures of the witch were burned and her sorcery was turned back on her. Healing and harming use the same means here.

Structure. Eight tablets of incantations and one ritual tablet. The night begins with an appeal to the gods of the night and ends at dawn with washing. The witch is accused before the gods, her figures are burned, and her sorcery returns to her.[68]

Code. turn of year, healing · direction: both · zones: not counted · certainty: medium.

Aramaic incantation bowls

Sources. Jewish Babylonian Aramaic bowls, 5th–7th century CE.[69]

The crossing. Inscribed bowls were buried upside down under thresholds and in corners to trap or bar demons. The house threshold becomes the border, guarded by writing.

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[62] [37] Duling, D. C. (1983). Testament of Solomon. In: J. H. Charlesworth (ed.), The Old Testament Pseudepigrapha, vol. 1. Doubleday, New York, 935–987.

[63] [37] Duling, D. C. (1983). Testament of Solomon. In: J. H. Charlesworth (ed.), The Old Testament Pseudepigrapha, vol. 1. Doubleday, New York, 935–987.

[64] [38] Davies, O. (2009). Grimoires: A History of Magic Books. Oxford University Press.

[65] [39] Morgan, M. A. (transl.) (1983). Sepher Ha-Razim: The Book of the Mysteries. Scholars Press, Chico CA.

[66] [39] Morgan, M. A. (transl.) (1983). Sepher Ha-Razim: The Book of the Mysteries. Scholars Press, Chico CA.

[67] [40] Abusch, T. (2015). The Witchcraft Series Maqlû. SBL Press, Atlanta.

[68] [40] Abusch, T. (2015). The Witchcraft Series Maqlû. SBL Press, Atlanta.

[69] [41] Shaked, S., Ford, J. N. & Bhayro, S. (2013). Aramaic Bowl Spells: Jewish Babylonian Aramaic Bowls, vol. 1. Brill, Leiden.

Texts. The bowls name demons, liliths and curses, and invoke angels, divorce documents and seals to expel them. Many name the client and family. Over two thousand bowls are known from Iraq and Iran.[70]

Code. guardian, healing · direction: in · zones: not counted · certainty: high.

Zoroastrian (Chinvat)

Sources. Avesta (Vendidad 13, 19) and Pahlavi books.[71,72]

The crossing. After death the soul comes to the Chinvat Bridge, guarded by two four-eyed dogs. For the righteous the bridge is wide; for the wicked it is as narrow as a blade. Those whose good and evil balance wait in Hamistagan, a place in between. The way up passes good thought, good word and good deed to endless light.

The fourth day. The soul stays three nights near the body. On the fourth dawn it meets its own conscience (daēnā) as a beautiful maiden or a hag, and comes to the bridge. Mithra, Sraosha and Rashnu judge.[73]

The influence. The bridge of judgment returns as the Sirat of Islam and the narrow bridge of later Jewish and Christian visions.[74,75]

Code. guardian, water/bridge, judged crosser, stay · direction: out · zones: 4 · certainty: high.

Islam (barzakh, Mi'raj, ruqya)

Sources. Qur'an, hadith and later theology; ruqya practice.[76,77]

The crossing. After death the soul enters barzakh, an interval between this world and the next, and is questioned in the grave by the angels Munkar and Nakir. At the end the Sirat, a bridge over hell, must be crossed. In the night journey (Mi'raj) the Prophet ascends through seven heavens. Ruqya is healing by reciting the Qur'an against jinn and sorcery, often with blessed water, oil or honey.

The questioning. In the grave two angels, Munkar and Nakir, ask the dead about their Lord, religion and prophet. The answer decides whether the grave is widened into a garden or narrowed.[78]

The ascent. In the Mi'raj the Prophet rises through seven heavens and meets a prophet at each gate, from Adam in the first to Abraham in the seventh, before the Lote Tree of the Boundary.[79]

Ruqya. The healer recites Qur'anic verses, often over water, oil or honey, against jinn, the evil eye and sorcery. Sihr, harmful sorcery, is forbidden; ruqya is the permitted counter.[80]

Code. guardian, axis, water/bridge, judged crosser, stay, healing · direction: both · zones: 7 · certainty: high.

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[70] [41] Shaked, S., Ford, J. N. & Bhayro, S. (2013). Aramaic Bowl Spells: Jewish Babylonian Aramaic Bowls, vol. 1. Brill, Leiden.
[71] [42] Vendidad (Videvdat) 13.9; 19.27–32. Transl. J. Darmesteter (1880). Sacred Books of the East 4. Clarendon Press, Oxford.
[72] [43] Boyce, M. (1979). Zoroastrians: Their Religious Beliefs and Practices. Routledge & Kegan Paul, London.
[73] [43] Boyce, M. (1979). Zoroastrians: Their Religious Beliefs and Practices. Routledge & Kegan Paul, London.
[74] [43] Boyce, M. (1979). Zoroastrians: Their Religious Beliefs and Practices. Routledge & Kegan Paul, London.
[75] [44] Smith, J. I. & Haddad, Y. Y. (1981). The Islamic Understanding of Death and Resurrection. SUNY Press, Albany.
[76] [44] Smith, J. I. & Haddad, Y. Y. (1981). The Islamic Understanding of Death and Resurrection. SUNY Press, Albany.
[77] [45] Chittick, W. C. (1989). The Sufi Path of Knowledge: Ibn al-'Arabi's Metaphysics of Imagination. SUNY Press, Albany.
[78] [44] Smith, J. I. & Haddad, Y. Y. (1981). The Islamic Understanding of Death and Resurrection. SUNY Press, Albany.
[79] [45] Chittick, W. C. (1989). The Sufi Path of Knowledge: Ibn al-'Arabi's Metaphysics of Imagination. SUNY Press, Albany.
[80] [44] Smith, J. I. & Haddad, Y. Y. (1981). The Islamic Understanding of Death and Resurrection. SUNY Press, Albany.

Hermetica (Poimandres)

Sources. Corpus Hermeticum I (Poimandres), 2nd–3rd century CE.[81]

The crossing. At death the soul rises through the seven planetary zones and gives back at each zone one quality it received on the way down. Stripped, it reaches the eighth, the Ogdoad, and sings with the powers.

The qualities given back. To the first zone growth and waning; to the second evil devices; to the third deceit of desire; to the fourth arrogance of rule; to the fifth daring and rashness; to the sixth greed; to the seventh falsehood. Then the soul enters the eighth nature.[82]

Code. axis, judged crosser, price · direction: out · zones: 8 · certainty: high.

> **Reading.** The Hermetic ascent is closure per rung: going up means giving back.

Greek-Egyptian papyri (PGM)

Sources. Greek Magical Papyri, 2nd century BCE–5th century CE.[83]

The crossing. A large body of practical spells. The so-called Mithras Liturgy describes an ascent through doors, past the seven Fates and the seven Pole-lords. Many spells serve healing, love, binding and protection.

Range. The papyri mix Egyptian, Greek, Jewish and later Christian names. They include spells for dream oracles, for summoning a divine assistant, for healing fevers and for binding. They are the main body of practical magic from antiquity.[84]

Code. guardian, axis, healing · direction: both · zones: 7 · certainty: medium.

Alchemy (Zosimos, Tablet)

Sources. Zosimos of Panopolis (c. 300 CE); the Emerald Tablet.[85,86]

The crossing. In his visions Zosimos sees a priest at a bowl-shaped altar with fifteen steps, where men are dismembered and transformed into spirit. The Emerald Tablet, first attested in Arabic in the late 8th or early 9th century, states that what is below is like what is above.

Zosimos. His visions read the laboratory as a passage through death: the matter is cut, boiled and raised as spirit. The work is a crossing performed on matter.[87,88]

The Tablet. Its few lines describe one thing that rises from earth to heaven and comes down again, gathering the power of above and below. Latin versions from the 12th century made it the motto of European alchemy.[89,90]

Code. axis · direction: in · zones: 15 · certainty: medium.

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[81] [46] Copenhaver, B. P. (1992). Hermetica: The Greek Corpus Hermeticum and the Latin Asclepius in a New English Translation. Cambridge University Press.

[82] [46] Copenhaver, B. P. (1992). Hermetica: The Greek Corpus Hermeticum and the Latin Asclepius in a New English Translation. Cambridge University Press.

[83] [47] Betz, H. D. (ed.) (1986). The Greek Magical Papyri in Translation. University of Chicago Press.

[84] [47] Betz, H. D. (ed.) (1986). The Greek Magical Papyri in Translation. University of Chicago Press.

[85] [48] Dictionary of Scientific Biography (1976), vol. 14, s.v. "Zosimus of Panopolis". Scribner, New York.

[86] [49] Weisser, U. (1980). Das 'Buch über das Geheimnis der Schöpfung' von Pseudo-Apollonios von Tyana. De Gruyter, Berlin.

[87] [48] Dictionary of Scientific Biography (1976), vol. 14, s.v. "Zosimus of Panopolis". Scribner, New York.

[88] [50] Principe, L. M. (2013). The Secrets of Alchemy. University of Chicago Press.

[89] [49] Weisser, U. (1980). Das 'Buch über das Geheimnis der Schöpfung' von Pseudo-Apollonios von Tyana. De Gruyter, Berlin.

[90] [51] Holmyard, E. J. (1923). The Emerald Table. Nature 112, 525–526.

Picatrix

Sources. Ghāyat al-Ḥakīm, Arabic, 10th–11th century; Castilian and Latin under Alfonso X, 1256–58.[91]

The crossing. The largest handbook of astral magic. The spirits of the seven planets are drawn down into talismans made at the right moment.

Theory. Every thing below has its correspondence above. A talisman made at the right moment, with the right materials, draws down the spirit of a planet. The book also gives prayers to the planets. It was read by Ficino and Agrippa.[92]

Code. axis · direction: in · zones: 7 · certainty: high.

Sefer Yetzirah

Sources. Sefer Yetzirah, Hebrew, late antiquity (no separate edition cited).

The crossing. Creation by thirty-two paths: ten numbers and twenty-two letters. No crossing by persons is described; it is included because later magic used its letters.

Use. The text was read as a manual of creation by letters. Later Kabbalah and magic used its letter-combinations; legends tell of a golem made by them.

Code. no feature found · direction: none · zones: not counted · certainty: high.

Table 5.1. Near East: coding.

Tradition	F1	F2	F3	F4	F5	F6	F7	F8	Dir.	Zones
Egypt (Duat, Ba, heka)	●		●	●				●	O	12
Mesopotamia (apkallu, netherworld, āšipu)	●		●		●			●	B	7
1 Enoch (Watchers)	●	●		●		●	●	●	B	
Daniel 4	●								I	
Jubilees	●							●	I	
Tobit (Raphael)								●	I	
3 Enoch, Hekhalot	●	●	●	●					O	7
Testament of Solomon								●	I	
Sepher ha-Razim	●	●						●	I	7
Maqlû							●	●	B	
Aramaic incantation bowls	●							●	I	
Zoroastrian (Chinvat)	●		●	●		●			O	4
Islam (barzakh, Mi'raj, ruqya)	●	●	●	●		●		●	B	7
Hermetica (Poimandres)		●		●	●				O	8
Greek-Egyptian papyri (PGM)	●	●						●	B	7
Alchemy (Zosimos, Tablet)		●							I	15
Picatrix		●							I	7
Sefer Yetzirah									-	

[91] [52] Attrell, D. & Porreca, D. (transl.) (2019). Picatrix: A Medieval Treatise on Astral Magic. Penn State University Press.

[92] [52] Attrell, D. & Porreca, D. (transl.) (2019). Picatrix: A Medieval Treatise on Astral Magic. Penn State University Press.

6. Europe

Europe holds both families of border: the Greek and Christian borders of the dead, and the healing shrines from Epidauros to Bath and Constantinople. In the north the axis is a tree and the worlds are counted.

Greek (Hermes, Charon, Asclepius)

Sources. Homer, Hesiod, Aristophanes; the cure inscriptions of Epidauros.[93,94,95,96]

The crossing. Hermes leads the dead to the Styx and Acheron. Charon ferries them for a coin. Kerberos lets everyone in and no one out. Judges decide between Elysium and Tartarus. At the Anthesteria the dead returned to the city for a day. At the shrines of Asclepius the sick slept in the abaton; the god, or his snakes and dogs, came in a dream and healed. About seventy such cures are recorded at Epidauros.

Katabasis. Heroes go down and return: Odysseus calls the dead at the edge of the world with blood; Orpheus nearly brings Eurydice back; Heracles fetches Kerberos.[97]

Asclepius. The cult spread from Epidauros (5th–4th century BCE) to Athens, Pergamon and Rome. Patients purified themselves, sacrificed and slept in the abaton. The cure inscriptions tell of blindness, paralysis and five-year pregnancies healed in a night.[98]

Healing and harm. Binding tablets (katadesmoi), deposited in graves and wells, handed rivals to the gods below.[99]

Code. guardian, water/bridge, judged crosser, price, turn of year, healing · direction: both · zones: not counted · certainty: high.

Plato (cave; Myth of Er)

Sources. Plato, Republic VII and X.[100]

The crossing. In the cave a freed prisoner sees the light and returns; the return is the hard part. In the Myth of Er the soldier Er sees the souls judged, travel for a thousand years, choose new lives before the spindle of Necessity with its eight whorls, and drink from the river of forgetfulness. Er returns and tells.

The two outcomes. In the cave the one who returns is not believed. In the Myth of Er the souls who drink too much from the river forget; Er does not drink and remembers. Memory decides whether a crossing can be reported.[101]

Code. axis, water/bridge, judged crosser, stay · direction: out · zones: 8 · certainty: high.

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[93] [53] Homer, Odyssey 19.560–567 and 24.1–14. Transl. A. T. Murray, rev. G. E. Dimock. Loeb Classical Library 104–105.

[94] [54] Hesiod, Theogony 767–774. Transl. G. W. Most. Loeb Classical Library 57.

[95] [55] Aristophanes, Frogs 180–270. Transl. J. Henderson. Loeb Classical Library 180.

[96] [56] Edelstein, E. J. & Edelstein, L. (1945). Asclepius: A Collection and Interpretation of the Testimonies. Johns Hopkins University Press, Baltimore.

[97] [53] Homer, Odyssey 19.560–567 and 24.1–14. Transl. A. T. Murray, rev. G. E. Dimock. Loeb Classical Library 104–105.

[98] [56] Edelstein, E. J. & Edelstein, L. (1945). Asclepius: A Collection and Interpretation of the Testimonies. Johns Hopkins University Press, Baltimore.

[99] [57] Gager, J. G. (ed.) (1992). Curse Tablets and Binding Spells from the Ancient World. Oxford University Press.

[100] [58] Plato. Republic, Book VII, 514a–520a (the allegory of the cave). Transl. P. Shorey (1935), Loeb Classical Library.

[101] [58] Plato. Republic, Book VII, 514a–520a (the allegory of the cave). Transl. P. Shorey (1935), Loeb Classical Library.

Iamblichus (theurgy)

Sources. Iamblichus, On the Mysteries, c. 300 CE.[102]

The crossing. Theurgy is 'god-work': rites that raise the soul toward the gods. The gods appear in the rite; the soul is lifted, not by thought alone but by ritual action.

Against Porphyry. Porphyry held that thought alone raises the soul. Iamblichus answered that the soul has fallen too far; it needs rites, names and materials that the gods themselves gave. Theurgy shaped later Neoplatonism and, through it, Renaissance magic.[103,104]

Code. axis · direction: both · zones: not counted · certainty: medium.

Byzantium (tollhouses, Kosmidion)

Sources. Byzantine hagiography; miracle collections of Cosmas and Damian.[105,106,107]

The crossing. After death the soul passes twenty aerial tollhouses where demons charge it for its sins; good deeds pay the toll. In the living world the sick slept in the church of Cosmas and Damian, the Kosmidion outside Constantinople, built in the mid-5th century; the saints came in dreams and healed, as Asclepius had done.

The tollhouses. In the Life of Basil the Younger the soul of Theodora passes twenty aerial stations where demons accuse her of sins: lying, slander, envy, anger, and so on. Angels pay with her good deeds.[108]

Incubation. The collections of Thecla, Cosmas and Damian, Cyrus and John and Artemios record healings in church sleep from the 5th to the 7th century. The place mattered more than the saint; the practice continued that of Asclepius.[109,110]

Code. guardian, axis, judged crosser, price, healing · direction: both · zones: 20 · certainty: high.

Latin (purgatory)

Sources. Le Goff, The Birth of Purgatory; Dante.[111]

The crossing. Between death and heaven the Latin church placed purgatory, a stay of cleansing. The prayers and gifts of the living shortened it. Dante made it a mountain of seven terraces.

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[102] [59] Shaw, G. (1995). Theurgy and the Soul: The Neoplatonism of Iamblichus. Pennsylvania State University Press, University Park.
[103] [59] Shaw, G. (1995). Theurgy and the Soul: The Neoplatonism of Iamblichus. Pennsylvania State University Press, University Park.
[104] [60] Copenhaver, B. P. (1990). Natural magic, hermetism and occultism in early modern science. In: D. Lindberg & R. Westman (eds.), Reappraisals of the Scientific Revolution. Cambridge University Press, 261–301.
[105] [61] Afentoulidou, E. Space and power in Byzantine accounts of the aerial tollhouses. De Gruyter, Berlin. doi:10.1515/9783110597745-030.
[106] [62] Csepregi, I. (2008). The Compositional History of Greek Christian Incubation Miracle Collections. PhD dissertation, Central European University, Budapest.
[107] [63] Csepregi, I. (2024). Incubation in Early Byzantium: The Formation of Christian Incubation Cults and Miracle Collections. Brepols, Turnhout.
[108] [61] Afentoulidou, E. Space and power in Byzantine accounts of the aerial tollhouses. De Gruyter, Berlin. doi:10.1515/9783110597745-030.
[109] [62] Csepregi, I. (2008). The Compositional History of Greek Christian Incubation Miracle Collections. PhD dissertation, Central European University, Budapest.
[110] [63] Csepregi, I. (2024). Incubation in Early Byzantium: The Formation of Christian Incubation Cults and Miracle Collections. Brepols, Turnhout.
[111] [64] Le Goff, J. (1984). The Birth of Purgatory. Transl. A. Goldhammer. University of Chicago Press (French original: Gallimard, 1981).

Growth of the idea. Le Goff dates the noun purgatorium to the late 12th century. Visions of the other world, masses for the dead and indulgences grew with it. It is the clearest case of a threshold that became a stay.[112]

Code. axis, judged crosser, price, stay · direction: out · zones: 7 · certainty: medium.

Roman (Janus, mundus)

Sources. Ovid, Fasti; Roman religious practice.[113]

The crossing. Janus, the two-faced god, guarded doors and beginnings. The mundus, a pit in Rome, was opened three days a year; then the dead could come up.

Lemuria. In May the head of the household walked at midnight throwing black beans to the ghosts and saying nine times that with these he redeemed himself and his family. The dead had their days; the border opened by the calendar.[114]

Code. guardian, axis, turn of year · direction: both · zones: not counted · certainty: high.

Celtic-Roman (Sulis at Bath)

Sources. The temple and spring at Bath; curse tablets.[115]

The crossing. At the hot spring of Sulis Minerva people sought healing. They also threw in lead tablets asking the goddess to punish thieves. The same water healed and harmed.

The tablets. More than a hundred curse tablets from the spring ask Sulis to punish thieves until they return what they stole. The petitioner gives the stolen thing to the goddess; she enforces the claim.[116]

Code. water/bridge, healing · direction: in · zones: not counted · certainty: high.

Irish (Samhain)

Sources. Irish mythology and calendar.[117]

The crossing. At Samhain, the turn of the year, the mounds of the sídhe opened and the otherworld came close. The otherworld also lay over the sea, reached in voyage tales.

The sídhe. The people of the mounds lived in an otherworld that touched this one at certain places and times. Visitors who entered lost track of time; a night could be a hundred years.[118]

Code. guardian, water/bridge, turn of year · direction: both · zones: not counted · certainty: high.

Norse (Heimdall, Bifröst, seiðr)

Sources. Snorri's Edda.[119]

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[112] [64] Le Goff, J. (1984). The Birth of Purgatory. Transl. A. Goldhammer. University of Chicago Press (French original: Gallimard, 1981).

[113] [65] Ovid, Fasti I.63–288 (Janus). Transl. J. G. Frazer, rev. G. P. Goold. Loeb Classical Library 253.

[114] [65] Ovid, Fasti I.63–288 (Janus). Transl. J. G. Frazer, rev. G. P. Goold. Loeb Classical Library 253.

[115] [66] Tomlin, R. S. O. (1988). Tabellae Sulis: Roman Inscribed Tablets of Tin and Lead from the Sacred Spring at Bath. Oxford University Committee for Archaeology.

[116] [66] Tomlin, R. S. O. (1988). Tabellae Sulis: Roman Inscribed Tablets of Tin and Lead from the Sacred Spring at Bath. Oxford University Committee for Archaeology.

[117] [67] MacKillop, J. (1998). A Dictionary of Celtic Mythology. Oxford University Press.

[118] [67] MacKillop, J. (1998). A Dictionary of Celtic Mythology. Oxford University Press.

[119] [68] Snorri Sturluson (c. 1220). Edda (Gylfaginning 27). Transl. A. Faulkes (1987). Everyman, London.

The crossing. Heimdall guards Bifröst, the bridge to the gods; he needs less sleep than a bird. The world tree Yggdrasil holds nine worlds. The road to Hel crosses the river Gjöll on the bridge Gjallarbrú. Seiðr was a practice of trance and prophecy.

Hermóðr's ride. After Baldr's death Hermóðr rides nine nights to Gjallarbrú, where the maiden Móðguðr asks his name, and on to Hel's gate, which his horse leaps. He returns with Hel's terms.[120]

Seiðr. A völva sat on a high seat and, with songs, called spirits to answer questions about the future. Odin himself practised seiðr; it was thought shameful for men.[121]

Code. guardian, axis, water/bridge · direction: out · zones: 9 · certainty: high.

Finnish (Tuonela)

Sources. Kalevala.[122]

The crossing. Tuonela, the land of the dead, lies across the river of Tuoni. The daughter of Tuoni ferries, and returning is nearly impossible. Väinämöinen goes there and escapes.

Väinämöinen. He goes to Tuonela to find words he lacks. The daughter of Tuoni ferries him; a net is stretched across the river to stop his return; he escapes as a snake through it.[123]

Code. guardian, water/bridge · direction: out · zones: not counted · certainty: high.

Sámi (Saivo, noaidi)

Sources. Sámi drums and ethnography.[124,125]

The crossing. The noaidi beat a drum painted with a map of the worlds and travelled in trance, to the upper world, to Saivo, the land of the ancestors under holy lakes, or to the realm of death to bring back a sick person's soul. Sacrifice was offered for the soul's release.

The drum. Painted drums show three levels: the upper world of gods, the middle world of humans and reindeer, the lower world of the dead. A ring or pointer moving on the skin answered questions.[126]

The journey. While the noaidi lay in trance his free-soul travelled, often in animal form, to bargain with Jábmeáhkká, the mother of death, for a sick person's soul.[127]

Code. axis, water/bridge, price, healing · direction: out · zones: 3 · certainty: high.

Slavic (world tree)

Sources. Gimbutas, The Slavs.[128]

The crossing. A world tree joins the sky (crown), the human world (trunk) and the underworld (roots).

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[120] [68] Snorri Sturluson (c. 1220). Edda (Gylfaginning 27). Transl. A. Faulkes (1987). Everyman, London.
[121] [68] Snorri Sturluson (c. 1220). Edda (Gylfaginning 27). Transl. A. Faulkes (1987). Everyman, London.
[122] [69] Lönnrot, E. (1849). Kalevala, canto 16. Transl. K. Bosley (1989). Oxford World's Classics.
[123] [69] Lönnrot, E. (1849). Kalevala, canto 16. Transl. K. Bosley (1989). Oxford World's Classics.
[124] [70] Pentikäinen, J. (2010). The shamanic drum as cognitive map. Cahiers de littérature orale 67–68.
[125] [71] Rydving, H. (1995). The End of Drum-Time: Religious Change among the Lule Saami, 1670s–1740s. Uppsala University.
[126] [70] Pentikäinen, J. (2010). The shamanic drum as cognitive map. Cahiers de littérature orale 67–68.
[127] [71] Rydving, H. (1995). The End of Drum-Time: Religious Change among the Lule Saami, 1670s–1740s. Uppsala University.
[128] [72] Gimbutas, M. (1971). The Slavs. Thames & Hudson, London.

Sources. Slavic religion is known mostly from late and Christian sources. The tree with the bird above, the snake below and humans between is reconstructed from folklore and comparison.[129]

Code. axis · direction: none · zones: 3 · certainty: medium.

Magic (Agrippa, Dee)

Sources. Agrippa, Three Books of Occult Philosophy (1533); John Dee and Edward Kelley.[130,131,132]

The crossing. Agrippa ordered the world into three: elemental, celestial, intellectual. Dee and Kelley received from angels, through a scrying stone, the thirty Aethyrs, each with its governors.

Agrippa. Three books: natural magic (elemental world), celestial magic (stars and number), ceremonial magic (intellectual world of angels).[133]

Dee and Kelley. From 1582 Kelley scryed and Dee recorded. The angels gave a language (Enochian), a system of calls, and thirty Aethyrs, each with three governors.[134,135]

Code. guardian, axis · direction: in · zones: 30 · certainty: high.

Table 6.1. Europe: coding.

Tradition	F1	F2	F3	F4	F5	F6	F7	F8	Dir.	Zones
Plato (cave; Myth of Er)		●	●	●		●			O	8
Greek (Hermes, Charon, Asclepius)	●		●	●	●		●	●	B	
Iamblichus (theurgy)		●							B	
Byzantium (tollhouses, Kosmidion)	●	●		●	●			●	B	20
Latin (purgatory)		●		●	●	●			O	7
Roman (Janus, mundus)	●	●					●		B	
Celtic-Roman (Sulis at Bath)			●					●	I	
Irish (Samhain)	●		●				●		B	
Norse (Heimdall, Bifröst, seiðr)	●	●	●						O	9
Finnish (Tuonela)	●		●						O	
Sámi (Saivo, noaidi)		●	●		●			●	O	3
Slavic (world tree)		●							-	3
Magic (Agrippa, Dee)	●	●							I	30

[129] [72] Gimbutas, M. (1971). The Slavs. Thames & Hudson, London.

[130] [73] Agrippa von Nettesheim, H. C. (1533). De occulta philosophia libri tres. Cologne. English: Three Books of Occult Philosophy, transl. J. Freake (1651).

[131] [74] Peterson, J. H. (ed.) (2003). John Dee's Five Books of Mystery. Weiser, Boston.

[132] [75] Laycock, D. C. (1978). The Complete Enochian Dictionary. Askin, London.

[133] [73] Agrippa von Nettesheim, H. C. (1533). De occulta philosophia libri tres. Cologne. English: Three Books of Occult Philosophy, transl. J. Freake (1651).

[134] [75] Laycock, D. C. (1978). The Complete Enochian Dictionary. Askin, London.

[135] [74] Peterson, J. H. (ed.) (2003). John Dee's Five Books of Mystery. Weiser, Boston.

7. South Asia

Vedic (Yama's dogs; Atharvaveda)

Sources. Rigveda 10.14; Atharvaveda.[136,137]

The crossing. Yama, the first to die, rules the dead; two four-eyed dogs guard his path. The Atharvaveda puts healing charms beside charms against enemies; some charms send sorcery back to its sender.

Yama. Rigveda 10.14 sends the dead on 'the ancient paths' to Yama, past his two broad-nosed, four-eyed dogs, Sarama's sons. The Atharvaveda holds charms against fever, cough and worms, for long life and for the return of sorcery to its sender.[138,139]

Code. guardian, axis, healing · direction: both · zones: not counted · certainty: high.

Hindu (Vaitaraṇī, Garuda Purāṇa)

Sources. Garuda Purāṇa.[140]

The crossing. On the way to Yama the dead pass sixteen towns and cross the river Vaitaraṇī. The gift of a cow helps the dead across; sinners find the river full of blood and filth.

The road. The Garuda Purāṇa describes a year-long journey to Yama's city. Rites by the family on earth feed the dead on the way. The gift of a cow lets the dead hold its tail and cross the river.[141]

Code. water/bridge, judged crosser, price · direction: out · zones: 16 · certainty: medium.

Tantra (ṣaṭkarman)

Sources. Magic tantras.[142]

The crossing. The 'six results' run on one scale from pacifying to subjugating, immobilising, dividing, driving away and killing. One skill, from healing to harming.

The six. Pacifying (śānti), subjugating, immobilising, causing dissension, driving away and killing. The same deity, mantra and fire rite are used; only the colour, direction, time and intent change.[143]

Code. healing · direction: both · zones: not counted · certainty: high.

Rasaśāstra

Sources. Indian alchemy.[144]

The crossing. Mercury is purified and bound into medicines for health and long life. No crossing of persons is described.

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[136] [76] Rigveda 10.14.10–12. Transl. S. W. Jamison & J. P. Brereton (2014). The Rigveda. Oxford University Press.

[137] [77] Bloomfield, M. (transl.) (1897). Hymns of the Atharva-Veda. Sacred Books of the East 42. Clarendon Press, Oxford.

[138] [76] Rigveda 10.14.10–12. Transl. S. W. Jamison & J. P. Brereton (2014). The Rigveda. Oxford University Press.

[139] [77] Bloomfield, M. (transl.) (1897). Hymns of the Atharva-Veda. Sacred Books of the East 42. Clarendon Press, Oxford.

[140] [78] Wood, E. & Subrahmanyam, S. V. (transl.) (1911). The Garuda Purana (Sarodhara). Sacred Books of the Hindus 9. Panini Office, Allahabad.

[141] [78] Wood, E. & Subrahmanyam, S. V. (transl.) (1911). The Garuda Purana (Sarodhara). Sacred Books of the Hindus 9. Panini Office, Allahabad.

[142] [79] Ullrey, A. (2016). Grim Grimoires: Pragmatic Ritual in the Magic Tantras. PhD dissertation, University of California, Santa Barbara.

[143] [79] Ullrey, A. (2016). Grim Grimoires: Pragmatic Ritual in the Magic Tantras. PhD dissertation, University of California, Santa Barbara.

[144] [80] Needham, J. & Lu Gwei-Djen (1974). Science and Civilisation in China, vol. 5, part 2: Spagyrical Discovery and Invention. Cambridge University Press.

Method. Mercury is 'killed' and bound with sulphur and herbs into compounds held to cure and to prolong life. The aim is a body that does not decay.[145]

Code. healing · direction: none · zones: not counted · certainty: medium.

Table 7.1. South Asia: coding.

Tradition	F1	F2	F3	F4	F5	F6	F7	F8	Dir.	Zones
Vedic (Yama's dogs; Atharvaveda)	●	●						●	B	
Hindu (Vaitaraṇī, Garuda Purāṇa)			●	●	●				O	16
Tantra (ṣaṭkarman)								●	B	
Rasaśāstra								●	-	

8. East Asia

Tibetan (bardo)

Sources. The Bardo Thödol.[146,147]

The crossing. After death the consciousness passes three intermediate states. Peaceful and then wrathful deities appear; recognising them as one's own mind brings liberation. Karma decides the rebirth.

The three bardos. At the moment of death the clear light appears (chikhai). Then the peaceful and wrathful deities appear for some days (chönyid). Then the search for rebirth (sidpa). The text is read aloud to the dead to guide them.[148,149]

Code. guardian, judged crosser, stay · direction: out · zones: 3 · certainty: high.

Medicine Buddha

Sources. Medicine Buddha sutras.[150]

The crossing. Bhaiṣajyaguru made twelve vows; two concern bodily healing. Invoking his name heals.

Practice. Recitation of his name and mantra, visualisation of his lapis-blue body and offerings are held to heal body and mind. He is surrounded by twelve yakṣa generals who protect those who invoke him.[151]

Code. healing · direction: in · zones: not counted · certainty: high.

Chinese wu and Shang

Sources. Oracle bones; the Shuowen jiezi (121 CE).[152]

[145] [80] Needham, J. & Lu Gwei-Djen (1974). Science and Civilisation in China, vol. 5, part 2: Spagyrical Discovery and Invention. Cambridge University Press.

[146] [81] Fremantle, F. & Trungpa, C. (transl.) (1975). The Tibetan Book of the Dead: The Great Liberation through Hearing in the Bardo. Shambhala, Boston.

[147] [82] Cuevas, B. J. (2003). The Hidden History of the Tibetan Book of the Dead. Oxford University Press.

[148] [81] Fremantle, F. & Trungpa, C. (transl.) (1975). The Tibetan Book of the Dead: The Great Liberation through Hearing in the Bardo. Shambhala, Boston.

[149] [82] Cuevas, B. J. (2003). The Hidden History of the Tibetan Book of the Dead. Oxford University Press.

[150] [83] Birnbaum, R. (1979). The Healing Buddha. Shambhala, Boulder.

[151] [83] Birnbaum, R. (1979). The Healing Buddha. Shambhala, Boulder.

[152] [84] Strickmann, M. (2002). Chinese Magical Medicine, ed. B. Faure. Stanford University Press.

The crossing. The Shang consulted ancestors through oracle bones. The wu were ritual specialists; the Shuowen defines a wu as a woman who serves the invisible and brings down spirits by dance.

Role. The wu danced for rain, exorcised, healed and spoke for spirits. In later centuries officials pushed them to the margin, but their practices survived in Daoist and popular religion.[153]

Code. healing · direction: both · zones: not counted · certainty: medium.

Daoist healing and exorcism

Sources. Strickmann, Chinese Magical Medicine.[154]

The crossing. Daoist priests healed by petitions to the celestial bureaucracy, talismans and the expulsion of demons. Under the Tang the imperial medical office had an official exorcist.

Method. Illness was read as an offence recorded by the celestial bureaucracy or as the work of demons. The priest wrote a petition, burned it to send it up, and used talismans and spells to expel the demon.[155]

Code. guardian, healing · direction: both · zones: not counted · certainty: medium.

Chinese neidan / waidan

Sources. Chinese alchemy.[156]

The crossing. External alchemy made elixirs, some of them poisonous; several emperors died of them. Internal alchemy (neidan) refines the body's energies through three fields until an 'immortal embryo' forms.

Neidan. The practitioner refines essence into breath and breath into spirit, moving through the three fields of the body. The 'immortal embryo' leaves through the crown: an outward crossing made inside the body.[157]

Code. axis, healing · direction: out · zones: 3 · certainty: medium.

Chinese (Zhou Dunyi)

Sources. Zhou Dunyi, Explanation of the Diagram of the Supreme Ultimate.[158]

The crossing. A cosmology of the Supreme Ultimate, yin and yang and the five phases. No crossing is described.

Why included. The diagram shows a cosmos that unfolds from one source into two and then five phases. It is a map of the other side read as structure, without a crosser.[159]

Code. no feature found · direction: none · zones: not counted · certainty: high.

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[153] [84] Strickmann, M. (2002). Chinese Magical Medicine, ed. B. Faure. Stanford University Press.

[154] [84] Strickmann, M. (2002). Chinese Magical Medicine, ed. B. Faure. Stanford University Press.

[155] [84] Strickmann, M. (2002). Chinese Magical Medicine, ed. B. Faure. Stanford University Press.

[156] [80] Needham, J. & Lu Gwei-Djen (1974). Science and Civilisation in China, vol. 5, part 2: Spagyrical Discovery and Invention. Cambridge University Press.

[157] [80] Needham, J. & Lu Gwei-Djen (1974). Science and Civilisation in China, vol. 5, part 2: Spagyrical Discovery and Invention. Cambridge University Press.

[158] [85] Adler, J. A. (transl.) (2008). Zhou Dunyi's Supreme Polarity Diagram (Taijitu), with commentary by Zhu Xi. Kenyon College.

[159] [85] Adler, J. A. (transl.) (2008). Zhou Dunyi's Supreme Polarity Diagram (Taijitu), with commentary by Zhu Xi. Kenyon College.

Shinto (torii, miko)

Sources. Japanese religion; Blacker, The Catalpa Bow.[160,161]

The crossing. The torii marks the line between the everyday and the sacred. Two figures cross: the miko, a medium through whom a spirit speaks, and the ascetic, who travels to the other world. Both also exorcise.

Medium and ascetic. Blacker describes two complementary figures: the medium (miko, itako), mostly women, through whom spirits speak; and the ascetic, mostly men of the mountain religion Shugendō, who travel to the other world and command spirits. Together they heal by finding and removing the possessing spirit.[162]

Code. guardian, healing · direction: both · zones: not counted · certainty: high.

Korean (kut, Princess Bari)

Sources. Korean shamanism.[163]

The crossing. In the kut the mudang is possessed by spirits and leads the dead across. In the myth of Princess Bari, the rejected daughter crosses rivers to the other world, serves its guardian for years, and brings back the water that heals her parents.

The kut. The mudang dances, receives gods and ancestors, and lets the dead speak through her to their families. A special kut guides the dead across to the other world.[164]

Code. water/bridge, price, healing · direction: both · zones: not counted · certainty: medium.

Table 8.1. East Asia: coding.

Tradition	F1	F2	F3	F4	F5	F6	F7	F8	Dir.	Zones
Tibetan (bardo)	●			●		●			O	3
Medicine Buddha								●	I	
Chinese wu and Shang								●	B	
Daoist healing and exorcism	●							●	B	
Chinese neidan / waidan		●						●	O	3
Chinese (Zhou Dunyi)									-	
Shinto (torii, miko)	●							●	B	
Korean (kut, Princess Bari)			●		●			●	B	

9. North and Central Asia

Siberian shaman

Sources. Eliade, Shamanism.[165,166]

[160][86] Kokugakuin University (n.d.). Encyclopedia of Shinto: 'Torii'. d-museum.kokugakuin.ac.jp.

[161][87] Blacker, C. (1975). The Catalpa Bow: A Study of Shamanistic Practices in Japan. Allen & Unwin, London.

[162][87] Blacker, C. (1975). The Catalpa Bow: A Study of Shamanistic Practices in Japan. Allen & Unwin, London.

[163][88] Kendall, L. (1985). Shamans, Housewives, and Other Restless Spirits: Women in Korean Ritual Life. University of Hawaii Press, Honolulu.

[164][88] Kendall, L. (1985). Shamans, Housewives, and Other Restless Spirits: Women in Korean Ritual Life. University of Hawaii Press, Honolulu.

The crossing. The shaman climbs the world tree or a notched birch, seven or nine notches, to the upper world, or descends to the lower, to bring back a lost soul.

Call and initiation. The future shaman is called by illness and dreams of being dismembered and rebuilt by spirits. He learns the road between the worlds.[167]

The tree. The Altaic shaman climbs a birch with seven or nine notches in the ritual, telling the audience what he sees at each heaven.[168]

Code. axis, water/bridge, healing · direction: out · zones: 9 · certainty: medium.

Mongol, Buryat, Daur

Sources. Humphrey and Onon, Shamans and Elders.[169]

The crossing. Shamans journey to the spirits and are possessed by them; they heal and guide the dead.

Practice. The Daur yadgan travelled to the spirits and was possessed by them; he healed, guided the dead and served the ancestors of the clan. Shamans and elders shared authority.[170]

Code. axis, healing · direction: both · zones: not counted · certainty: medium.

Guardians of the Pole

Sources. Ancient astronomy.[171,172]

The crossing. The stars near the celestial pole never set; many cultures saw them as watchers at the axis of the sky. This entry is astronomical, not a crossing.

Reading. The circumpolar stars turn without setting around the pole. In many sky-lores they are watchers or guardians; the pole is the axis of the sky as the tree is the axis of the earth.[173,174]

Code. guardian, axis · direction: none · zones: not counted · certainty: high.

Table 9.1. North and Central Asia: coding.

Tradition	F1	F2	F3	F4	F5	F6	F7	F8	Dir.	Zones
Siberian shaman		●	●					●	O	9
Mongol, Buryat, Daur		●						●	B	
Guardians of the Pole	●	●							-	

[165][89] Eliade, M. (1964). Shamanism: Archaic Techniques of Ecstasy. Transl. W. R. Trask. Princeton University Press (French original: Payot, Paris, 1951).
[166][90] Encyclopaedia Britannica (n.d.). Shamanism: Worldview. britannica.com.
[167][89] Eliade, M. (1964). Shamanism: Archaic Techniques of Ecstasy. Transl. W. R. Trask. Princeton University Press (French original: Payot, Paris, 1951).
[168][89] Eliade, M. (1964). Shamanism: Archaic Techniques of Ecstasy. Transl. W. R. Trask. Princeton University Press (French original: Payot, Paris, 1951).
[169][91] Humphrey, C. with Onon, U. (1996). Shamans and Elders: Experience, Knowledge and Power among the Daur Mongols. Clarendon Press, Oxford.
[170][91] Humphrey, C. with Onon, U. (1996). Shamans and Elders: Experience, Knowledge and Power among the Daur Mongols. Clarendon Press, Oxford.
[171][92] Hunger, H. & Pingree, D. (1989). MUL.APIN: An Astronomical Compendium in Cuneiform. Archiv für Orientforschung, Beiheft 24. Berger, Horn.
[172][93] Sky & Telescope (2020). Meet Kochab, Guardian of the Pole. skyandtelescope.org.
[173][93] Sky & Telescope (2020). Meet Kochab, Guardian of the Pole. skyandtelescope.org.
[174][92] Hunger, H. & Pingree, D. (1989). MUL.APIN: An Astronomical Compendium in Cuneiform. Archiv für Orientforschung, Beiheft 24. Berger, Horn.

10. Africa

Yoruba (Eshu, Ọ̀sanyìn)

Sources. Pemberton; Buckley; Sobo.[175,176,177]

The crossing. Eshu opens the crossroads and is called first. Ọ̀sanyìn holds all knowledge of leaves, herbs and roots for healing; in Brazil he is Ossaim. The orisha come into their devotees in possession.

Eshu. Messenger and trickster, owner of the crossroads, he carries sacrifices to the gods and must be served first.[178]

Ọ̀sanyìn. His power lives in an iron staff topped with a bird. The herbalist (onisegun) invokes him to cure illness, also illness thought to be caused by witchcraft.[179,180]

Code. guardian, healing · direction: both · zones: not counted · certainty: high.

San (n/om, !kia)

Sources. Katz, Boiling Energy.[181]

The crossing. In the healing dance n/om, the healing energy, boils up the spine until the healer enters !kia, a state felt as half-dying. He pulls sickness out and may climb threads to the sky.

The dance. Women sing and clap; men dance until n/om 'boils'. The healer lays hands on everyone, pulling sickness out with shrieks. Learning to bear !kia is painful and fearful.[182]

Code. axis, price, healing · direction: out · zones: not counted · certainty: high.

Zulu (sangoma)

Sources. Berglund, Zulu Thought-Patterns.[183]

The crossing. The ancestors call the future diviner through illness and dreams. Training heals the caller and makes a healer.

Ukuthwasa. The calling illness lasts until the person accepts training. The ancestors (amadlozi) then speak through dreams and through the diviner.[184]

Code. price, healing · direction: in · zones: not counted · certainty: high.

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[175] [94] Pemberton, J. (1975). Eshu-Elegba: The Yoruba trickster god. African Arts 9(1), 20–27 ff.

[176] [95] Buckley, A. D. (1985). Yoruba Medicine. Clarendon Press, Oxford.

[177] [96] Sobo, A. O. (2001). Osanyin/Ossaim, the Yoruba Deity of Healing in Nigeria and Brazil: A Comparative Study. PhD thesis, Durham University.

[178] [94] Pemberton, J. (1975). Eshu-Elegba: The Yoruba trickster god. African Arts 9(1), 20–27 ff.

[179] [95] Buckley, A. D. (1985). Yoruba Medicine. Clarendon Press, Oxford.

[180] [96] Sobo, A. O. (2001). Osanyin/Ossaim, the Yoruba Deity of Healing in Nigeria and Brazil: A Comparative Study. PhD thesis, Durham University.

[181] [97] Katz, R. (1982). Boiling Energy: Community Healing among the Kalahari Kung. Harvard University Press, Cambridge MA.

[182] [97] Katz, R. (1982). Boiling Energy: Community Healing among the Kalahari Kung. Harvard University Press, Cambridge MA.

[183] [98] Berglund, A.-I. (1976). Zulu Thought-Patterns and Symbolism. Hurst, London.

[184] [98] Berglund, A.-I. (1976). Zulu Thought-Patterns and Symbolism. Hurst, London.

Table 10.1. Africa: coding.

Tradition	F1	F2	F3	F4	F5	F6	F7	F8	Dir.	Zones
Yoruba (Eshu, Ọsanyìn)	●							●	B	
San (n/om, !kia)		●			●			●	O	
Zulu (sangoma)					●			●	I	

11. The Americas

The Americas hold the most detailed borders of the dead (Mictlan, Xibalba) and a rich range of healing traditions. Where Africa and America met, new religions joined both directions of crossing.[185]

Aztec (Mictlan)

Sources. Sahagún, Florentine Codex, Book III, Appendix.[186]

The crossing. How one died decided where one went. Most went to Mictlan, a journey of four years through nine levels, past obstacles and a river crossed with the help of a dog, ending before the lord of the dead, who received the offerings.

Three destinations. Warriors and sacrificed captives went to the house of the sun and became hummingbirds after four years. The drowned and those killed by lightning went to Tlalocan, the paradise of the rain god. All others went to Mictlan.[187]

The road. Mountains that crash together, an obsidian wind, a river crossed on a yellow dog, and finally Mictlantecuhtli. The dead brought gifts for him.[188]

Code. guardian, axis, water/bridge, judged crosser, price, stay · direction: out · zones: 9 · certainty: high.

K'iche' Maya (Xibalba)

Sources. Popol Vuh.[189]

The crossing. The hero twins go down to Xibalba, cross rivers, choose at a crossroads, and pass the trial houses of the lords. They win by cleverness and rise as sun and moon.

The trials. The twins pass the Dark House, the Cold House, the Jaguar House, the Bat House, the Razor House and the Fire House. In the Bat House Hunahpu loses his head, which is restored.[190]

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[185] [99] Mercante, M. S. (2015). Barquinha: religião ayahuasqueira, afro-brasileira ou afro-amazônica? Plura, Revista de Estudos de Religião 6(2), 100–115.

[186] [100] Sahagún, B. de (c. 1577). Florentine Codex, Book 3, Appendix, ch. 1–3. Transl. A. J. O. Anderson & C. E. Dibble (1950–1982). School of American Research, Santa Fe.

[187] [100] Sahagún, B. de (c. 1577). Florentine Codex, Book 3, Appendix, ch. 1–3. Transl. A. J. O. Anderson & C. E. Dibble (1950–1982). School of American Research, Santa Fe.

[188] [100] Sahagún, B. de (c. 1577). Florentine Codex, Book 3, Appendix, ch. 1–3. Transl. A. J. O. Anderson & C. E. Dibble (1950–1982). School of American Research, Santa Fe.

[189] [101] Christenson, A. J. (transl.) (2003). Popol Vuh: The Sacred Book of the Maya. O Books, Winchester; revised ed. University of Oklahoma Press, 2007.

[190] [101] Christenson, A. J. (transl.) (2003). Popol Vuh: The Sacred Book of the Maya. O Books, Winchester; revised ed. University of Oklahoma Press, 2007.

The outcome. They allow themselves to be burned, return as fish-men, then as performers, and defeat the lords by trickery. They rise as sun and moon.[191]

Code. guardian, axis, water/bridge, judged crosser · direction: out · zones: 6 · certainty: medium.

Inca (pacha)

Sources. D'Altroy, The Incas.[192]

The crossing. Three worlds: hanan pacha above, kay pacha here, ukhu pacha below.

Practice. Mummified ancestors were kept, fed and consulted; the dead stayed present. Shrines (huacas) lay on lines from Cuzco. The three pachas joined above, here and below.[193]

Code. axis · direction: none · zones: 3 · certainty: medium.

Hopi, Pueblo (sipapu, katsinam)

Sources. Hopi tradition; Hieb.[194,195]

The crossing. The people emerged from the underworld through the sipapuni by climbing a reed; the sipapu in the kiva floor recalls it. Maasaw guards the world and death. The katsinam come in the winter and leave in summer, returning as rain.

The katsinam. They come at the winter solstice and leave in July at the Home Dance, carrying prayers for rain. In between, masked dancers embody them; the clowns show the opposite of the right way.[196]

Code. guardian, axis, turn of year, healing · direction: both · zones: 4 · certainty: medium.

Navajo (chantway)

Sources. Reichard, Navaho Religion.[197]

The crossing. In a chantway the Holy People are drawn into a sandpainting; the patient sits on it to receive their power, and the painting is then destroyed.

Chantways. Ceremonies of two to nine nights, each tied to a story of the Holy People. The singer (hataałii) makes sandpaintings of the Holy People; the patient sits on them and the sand is applied to the body; then the painting is destroyed.[198]

Code. axis, healing · direction: in · zones: 4 · certainty: medium.

Lakota (yuwipi)

Sources. Powers, Yuwipi.[199]

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[191] [101] Christenson, A. J. (transl.) (2003). Popol Vuh: The Sacred Book of the Maya. O Books, Winchester; revised ed. University of Oklahoma Press, 2007.

[192] [102] D'Altroy, T. N. (2014). The Incas. 2nd ed. Wiley-Blackwell, Chichester.

[193] [102] D'Altroy, T. N. (2014). The Incas. 2nd ed. Wiley-Blackwell, Chichester.

[194] [103] National Park Service, Mesa Verde National Park (n.d.). Artifact Gallery: Kiva. nps.gov/meve.

[195] [104] Hieb, L. A. (2008). The Hopi clown ceremony (Tsukulalwa). American Indian Culture and Research Journal 32(4), 107–124.

[196] [104] Hieb, L. A. (2008). The Hopi clown ceremony (Tsukulalwa). American Indian Culture and Research Journal 32(4), 107–124.

[197] [105] Reichard, G. A. (1950). Navaho Religion: A Study of Symbolism. Pantheon (Bollingen Series 18), New York.

[198] [105] Reichard, G. A. (1950). Navaho Religion: A Study of Symbolism. Pantheon (Bollingen Series 18), New York.

[199] [106] Powers, W. K. (1982). Yuwipi: Vision and Experience in Oglala Ritual. University of Nebraska Press, Lincoln.

The crossing. The healer is bound and wrapped in a dark room. The spirits come in, free him and heal. Tobacco ties are offered.

The rite. The room is darkened; the healer's hands are tied and he is wrapped in a quilt. Songs call the spirits, seen as sparks of light. When the lights come on, he sits freed. The spirits have answered the questions and healed.[200]

Code. price, healing · direction: in · zones: not counted · certainty: high.

Mapuche (machi, rewe)

Sources. Bacigalupo, Shamans of the Foye Tree.[201]

The crossing. The machi climbs the steps of the rewe, a notched pole, to reach the upper world and heal.

The rewe. A carved pole with steps, set before the machi's house. In the ritual the machi climbs it in trance to the upper world (wenu mapu) to heal and to renew her power.[202]

Code. axis, healing · direction: out · zones: not counted · certainty: medium.

Amazon (vegetalismo)

Sources. Luna, Vegetalismo.[203]

The crossing. Mestizo healers learn healing songs (icaros) from plant spirits during a strict diet (dieta). Ayahuasca opens the way.

The diet. The apprentice lives in isolation, without salt, sugar or sex, eating a teacher plant. The plant spirit appears and teaches songs (icaros) that heal, protect or harm.[204]

Code. price, healing · direction: both · zones: not counted · certainty: high.

Inuit (Sea Woman)

Sources. Rasmussen.[205]

The crossing. When game fails, the angakkoq goes to the bottom of the sea to the Sea Woman, combs her hair, and learns which taboo was broken. Healing also follows from finding the breach.

The journey. The angakkoq goes down through the earth or sea, passes dangers and a guardian, and combs the Sea Woman's hair, tangled by human breaches of taboo. Then she releases the animals.[206]

Code. water/bridge, healing · direction: out · zones: not counted · certainty: medium.

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[200] [106] Powers, W. K. (1982). Yuwipi: Vision and Experience in Oglala Ritual. University of Nebraska Press, Lincoln.

[201] [107] Bacigalupo, A. M. (2007). Shamans of the Foye Tree: Gender, Power, and Healing among Chilean Mapuche. University of Texas Press, Austin.

[202] [107] Bacigalupo, A. M. (2007). Shamans of the Foye Tree: Gender, Power, and Healing among Chilean Mapuche. University of Texas Press, Austin.

[203] [108] Luna, L. E. (1984). The concept of plants as teachers among four mestizo shamans of Iquitos, northeastern Peru. Journal of Ethnopharmacology 11, 135–156.

[204] [108] Luna, L. E. (1984). The concept of plants as teachers among four mestizo shamans of Iquitos, northeastern Peru. Journal of Ethnopharmacology 11, 135–156.

[205] [109] Rasmussen, K. (1929). Intellectual Culture of the Iglulik Eskimos. Report of the Fifth Thule Expedition 1921–24, vol. 7(1). Gyldendal, Copenhagen.

[206] [109] Rasmussen, K. (1929). Intellectual Culture of the Iglulik Eskimos. Report of the Fifth Thule Expedition 1921–24, vol. 7(1). Gyldendal, Copenhagen.

Yaqui

Sources. Collection, item A7; no scholarly source checked yet.

The crossing. Yaqui healers draw power from the wilderness world, the huya aniya. Medium certainty.

Note. This entry stays short until a scholarly source is added.

Code. healing · direction: in · zones: not counted · certainty: medium.

Haitian Vodou

Sources. Brown, Mama Lola.[207]

The crossing. Legba opens the road and is called first. The poto mitan, the central post, is the axis. The lwa come in and ride their devotees; the dead live under the waters, in Ginen. Vodou is the fusion of West African religion with American conditions.

Service. A ceremony begins with Legba, who opens the gate. Each lwa is called with its own song, rhythm and drawing (vèvè). When the lwa 'mounts' a devotee, the devotee speaks and acts as the lwa.[208]

The dead. After a year and a day the soul of the dead is called up from under the waters in the rite of wete mò nan dlo and placed in a jar, to serve as an ancestor.[209]

Code. guardian, axis, water/bridge, healing · direction: both · zones: not counted · certainty: high.

Umbanda

Sources. Brazilian Umbanda.[210]

The crossing. Spirits of seven 'lines' incorporate in mediums to counsel and heal. Exu guards the crossroads.

Lines. Spirits are grouped in seven lines under orishas; caboclos (indigenous spirits), pretos-velhos (old Black slaves) and children speak through mediums. Exu guards the crossroads and works on both sides.[211]

Code. guardian, healing · direction: in · zones: 7 · certainty: medium.

Barquinha

Sources. Mercante 2015.[212]

The crossing. An ayahuasca religion of Acre, founded in the 1940s, that joins the Amazonian journey with Afro-Brazilian possession.

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[207] [110] Brown, K. McCarthy (1991). Mama Lola: A Vodou Priestess in Brooklyn. University of California Press, Berkeley.

[208] [110] Brown, K. McCarthy (1991). Mama Lola: A Vodou Priestess in Brooklyn. University of California Press, Berkeley.

[209] [110] Brown, K. McCarthy (1991). Mama Lola: A Vodou Priestess in Brooklyn. University of California Press, Berkeley.

[210] [99] Mercante, M. S. (2015). Barquinha: religião ayahuasqueira, afro-brasileira ou afro-amazônica? Plura, Revista de Estudos de Religião 6(2), 100–115.

[211] [99] Mercante, M. S. (2015). Barquinha: religião ayahuasqueira, afro-brasileira ou afro-amazônica? Plura, Revista de Estudos de Religião 6(2), 100–115.

[212] [99] Mercante, M. S. (2015). Barquinha: religião ayahuasqueira, afro-brasileira ou afro-amazônica? Plura, Revista de Estudos de Religião 6(2), 100–115.

Practice. Founded by Daniel Pereira de Mattos in Rio Branco. Members drink ayahuasca (Daime) in ceremonies that include spirit work and healing. It joins the outward journey of the plant with the inward coming of spirits.[213]

Code. healing · direction: both · zones: not counted · certainty: high.

Mexico (Pachita)

Sources. Grinberg-Zylberbaum.[214]

The crossing. Bárbara Guerrero, 'Pachita' (c. 1900–1979), operated in trance as 'Hermanito', the spirit of Cuauhtémoc. A witness report, not a controlled study.

Status. Witnesses describe operations with a knife and the apparent replacement of organs. Sceptics describe fraud. The case belongs in this book as a modern report of healing by a spirit that comes in.[215]

Code. healing · direction: in · zones: not counted · certainty: medium.

Table 11.1. The Americas: coding.

Tradition	F1	F2	F3	F4	F5	F6	F7	F8	Dir.	Zones
Haitian Vodou	●	●	●					●	B	
Umbanda	●							●	I	7
Barquinha								●	B	
Amazon (vegetalismo)					●			●	B	
Mapuche (machi, rewe)		●						●	O	
Lakota (yuwipi)					●			●	I	
Navajo (chantway)		●						●	I	4
Hopi, Pueblo (sipapu, katsinam)	●	●					●	●	B	4
Yaqui								●	I	
Aztec (Mictlan)	●	●	●	●	●	●			O	9
K'iche' Maya (Xibalba)	●	●	●	●					O	6
Inca (pacha)		●							-	3
Inuit (Sea Woman)			●					●	O	
Mexico (Pachita)								●	I	

12. Oceania

Aboriginal (everywhen, clever men)

Sources. Stanner; Elkin.[216,217]

[213] [99] Mercante, M. S. (2015). Barquinha: religião ayahuasqueira, afro-brasileira ou afro-amazônica? Plura, Revista de Estudos de Religião 6(2), 100–115.

[214] [111] Grinberg-Zylberbaum, J. (1985). Pachita. Instituto Nacional para el Estudio de la Conciencia, México.

[215] [111] Grinberg-Zylberbaum, J. (1985). Pachita. Instituto Nacional para el Estudio de la Conciencia, México.

[216] [112] Stanner, W. E. H. (1953). The Dreaming. Reprinted in: White Man Got No Dreaming: Essays 1938–1973. Australian National University Press, 1979.

[217] [113] Elkin, A. P. (1945). Aboriginal Men of High Degree. Australasian Publishing, Sydney.

The crossing. The Dreaming is an 'everywhen', present now. Clever men, the healers, are made in initiation and travel to the sky by a cord.

Clever men. Elkin describes initiations in which the candidate is killed, opened and filled with magical substances by spirits, and returns able to travel to the sky, see illness and heal.[218]

Code. axis, healing · direction: out · zones: not counted · certainty: medium.

Māori (Rēinga)

Sources. Te Ara.[219]

The crossing. The spirits of the dead go to Te Rerenga Wairua, the leaping place at Cape Rēinga, descend the root of a pōhutukawa tree into the sea, and travel to Hawaiki.

The road. The spirits travel along the coast, look back once from the Three Kings Islands, and continue to Hawaiki, the homeland. Laments for the dead name the leaping place.[220]

Code. axis, water/bridge · direction: out · zones: not counted · certainty: high.

Toraja (puya)

Sources. Volkman, Feasts of Honor.[221]

The crossing. The rank of the funeral, measured in buffalo, pays the way of the dead to puya, the land of souls.

The funeral. The dead stay in the house as 'sick' until the great funeral, sometimes years later. The buffalo sacrificed then carry the soul to puya; their number sets its rank there.[222]

Code. price, stay · direction: out · zones: not counted · certainty: high.

Hawaii (kahuna)

Sources. NLM; Hawaii laws.[223]

The crossing. Kahuna lāʻau lapaʻau healed with plants and with the help of the ʻaumakua, family spirits. Their practice was outlawed in 1905 and recognised again in 1998.

Practice. Healers combined plant medicine, prayer and the help of ʻaumakua. Hoʻoponopono, the setting right of relations, was also healing. The 1905 ban drove practice into secrecy until recognition in 1998.[224]

Code. healing · direction: in · zones: not counted · certainty: high.

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[218] [113] Elkin, A. P. (1945). Aboriginal Men of High Degree. Australasian Publishing, Sydney.

[219] [114] Te Ara: The Encyclopedia of New Zealand (n.d.). Te Rerenga Wairua. teara.govt.nz.

[220] [114] Te Ara: The Encyclopedia of New Zealand (n.d.). Te Rerenga Wairua. teara.govt.nz.

[221] [115] Volkman, T. A. (1985). Feasts of Honor: Ritual and Change in the Toraja Highlands. University of Illinois Press, Urbana.

[222] [115] Volkman, T. A. (1985). Feasts of Honor: Ritual and Change in the Toraja Highlands. University of Illinois Press, Urbana.

[223] [116] US National Library of Medicine (n.d.). Native Voices timeline: 1905, Native Hawaiian healing practices are outlawed. nlm.nih.gov/nativevoices.

[224] [116] US National Library of Medicine (n.d.). Native Voices timeline: 1905, Native Hawaiian healing practices are outlawed. nlm.nih.gov/nativevoices.

Table 12.1. Oceania: coding.

Tradition	F1	F2	F3	F4	F5	F6	F7	F8	Dir.	Zones
Aboriginal (everywhen, clever men)		●						●	0	
Māori (Rēinga)		●	●						0	
Toraja (puya)					●	●			0	
Hawaii (kahuna)								●	I	

13. Modern reports

Monroe (Focus levels)

Sources. Monroe's three books.[225,226,227]

The crossing. See Chapter 2. The way runs through counted Focus levels; Focus 21 is a bridge; in 24–26 the dead live in the territory of their belief.

Method. Hemi-Sync plays slightly different tones in each ear; the brain hears a slow beat. Monroe used this to hold the body asleep and the mind awake (Focus 10) and to go further.[228]

Retrieval. In his later work Monroe and his students 'retrieved' the recently dead stuck in Focus 23 and led them to the reception centre of Focus 27.[229]

Code. axis, water/bridge, judged crosser, stay · direction: out · zones: 10 · certainty: high.

Near-death (van Lommel)

Sources. Van Lommel et al., The Lancet 2001.[230]

The crossing. Of 344 patients resuscitated after cardiac arrest, 62 (18%) reported a near-death experience and 41 (12%) a core experience. Some reported a border beyond which they could not have returned.

The study. Patients were interviewed within days of resuscitation in ten Dutch hospitals and followed after two and eight years. Those with an NDE showed lasting changes in outlook. The occurrence was not explained by duration of arrest, medication or fear of death.[231]

Code. guardian · direction: out · zones: not counted · certainty: medium.

UFO reports (Vallée)

Sources. Vallée.[232,233]

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[225] [1] Monroe, R. A. (1971). Journeys Out of the Body. Doubleday, New York.

[226] [9] Monroe, R. A. (1985). Far Journeys. Doubleday, New York.

[227] [2] Monroe, R. A. (1994). Ultimate Journey. Doubleday, New York.

[228] [2] Monroe, R. A. (1994). Ultimate Journey. Doubleday, New York.

[229] [2] Monroe, R. A. (1994). Ultimate Journey. Doubleday, New York.

[230] [117] van Lommel, P., van Wees, R., Meyers, V. & Elfferich, I. (2001). Near-death experience in survivors of cardiac arrest: a prospective study in the Netherlands. The Lancet 358, 2039–2045.

[231] [117] van Lommel, P., van Wees, R., Meyers, V. & Elfferich, I. (2001). Near-death experience in survivors of cardiac arrest: a prospective study in the Netherlands. The Lancet 358, 2039–2045.

[232] [118] Vallée, J. (1969). Passport to Magonia: From Folklore to Flying Saucers. Regnery, Chicago.

[233] [119] Vallée, J. (1988). Dimensions: A Casebook of Alien Contact. Contemporary Books, Chicago.

The crossing. Vallée compared modern UFO reports with older reports of fairies and visitors and saw one phenomenon in changing dress. No border is described in the sense of this book; the direction is in.

Argument. Vallée noted that modern abduction and contact stories repeat old patterns: lost time, gifts of food, marks on the body, beings who take and return. He proposed one phenomenon that dresses in the beliefs of each age.[234,235]

Code. no feature found · direction: in · zones: not counted · certainty: high.

Table 13.1. Modern reports: coding.

Tradition	F1	F2	F3	F4	F5	F6	F7	F8	Dir.	Zones
Monroe (Focus levels)		●	●	●		●			O	10
Near-death (van Lommel)	●								O	
UFO reports (Vallée)									I	

[234] [118] Vallée, J. (1969). Passport to Magonia: From Folklore to Flying Saucers. Regnery, Chicago.

[235] [119] Vallée, J. (1988). Dimensions: A Casebook of Alien Contact. Contemporary Books, Chicago.

Part III

Methods of Crossing

14. How people crossed

Part II described seventy traditions one by one. This part looks across them at the question of method. How did people reach the other side? The answer is surprisingly uniform. A small number of methods recur on every continent. They differ in what they use, but they agree in what they do: each lowers the hold of ordinary waking without ending awareness, and holds a person at the edge between the two.

Sleep at a holy place

Sleep is the oldest and commonest door. Every person crosses the border between waking and sleep twice a day. Incubation makes this daily crossing deliberate. The sick person goes to a holy place, purifies himself, sacrifices, and sleeps there. The god or saint comes in a dream and heals, or tells what remedy to take.

The practice is attested in Egypt, where women spent a night in a chamber of the god Bes to conceive. It is best documented in Greece. At the shrines of Asclepius, above all at Epidauros, the sick slept in the abaton. The cure inscriptions of the 4th century BCE record about seventy cases: blindness, lameness, wounds, a five-year pregnancy.[236] Sometimes the god came in person in the dream; sometimes a snake or a dog licked the patient.

Christianity took the practice over without a break. From the 5th century the sick slept in churches of healing saints: Thecla in Asia Minor, Cyrus and John near Alexandria, Artemios in Constantinople, and above all Cosmas and Damian at the Kosmidion outside the walls of Constantinople. The miracle collections show that the place mattered more than the saint. The god had changed; the method had not.[237,238]

Rhythm, dance and drum

Where incubation waits for the dream, rhythm makes the edge. The San of the Kalahari dance through the night while the women sing and clap. The healing energy, n/om, 'boils' up the spine of the dancer until he enters !kia. The state is felt as half-dying and is feared; learning to bear it is the training of a healer.[239]

In Siberia and among the Sámi the drum carries the shaman. The Sámi drum was painted with a map of the worlds: gods above, humans and reindeer in the middle, the dead below. While the drum sounded, the noaidi lay in trance and his free-soul travelled.[240,241] The Siberian shaman

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[236] [56] Edelstein, E. J. & Edelstein, L. (1945). Asclepius: A Collection and Interpretation of the Testimonies. Johns Hopkins University Press, Baltimore.

[237] [62] Csepregi, I. (2008). The Compositional History of Greek Christian Incubation Miracle Collections. PhD dissertation, Central European University, Budapest.

[238] [63] Csepregi, I. (2024). Incubation in Early Byzantium: The Formation of Christian Incubation Cults and Miracle Collections. Brepols, Turnhout.

[239] [97] Katz, R. (1982). Boiling Energy: Community Healing among the Kalahari Kung. Harvard University Press, Cambridge MA.

[240] [70] Pentikäinen, J. (2010). The shamanic drum as cognitive map. Cahiers de littérature orale 67–68.

[241] [71] Rydving, H. (1995). The End of Drum-Time: Religious Change among the Lule Saami, 1670s–1740s. Uppsala University.

climbed a notched birch in the ritual, step by step, telling the audience what he saw at each heaven.[242]

Plants

In the Amazon the way opens through plants. The mestizo vegetalista learns by living in isolation on a strict diet, the dieta, without salt, sugar or sex, while taking a 'teacher plant'. The spirit of the plant appears and teaches songs, icaros, that heal, protect or harm. Ayahuasca, a brew of two plants, opens the visions.[243]

Names, seals and hymns

The learned traditions crossed by knowledge. The Hekhalot adept descended to the chariot through seven palaces, showing seals and speaking names at each gate.[244] The Mithras Liturgy of the Greek magical papyri leads through doors, past the seven Fates and the seven Pole-lords, by spoken names and breath.[245] Here the crossing is a test of knowledge: who knows the name passes.

Ritual that lifts the soul

Iamblichus argued against Porphyry that thought alone cannot raise the soul. The soul has fallen too far into the body. It needs rites, names and materials that the gods themselves gave. This 'god-work', theurgy, made the ritual act, not the philosophical insight, the means of ascent.[246]

Darkness and binding

Among the Lakota the healer is tied, wrapped in a quilt and laid in a room made completely dark. Songs call the spirits, seen as sparks of light. When the light returns, the healer sits freed, and the spirits have answered the questions of the patients.[247] Darkness removes the visible world; binding removes the healer's own will. What is left is the other side.

Being ridden

In possession the other side comes in. In Haitian Vodou each lwa is called with its own song, rhythm and drawing. When it 'mounts' a devotee, the devotee speaks, moves and acts as the lwa.[248] In Umbanda spirits of seven lines speak through mediums. In Japan the miko lends her voice to a spirit; in Korea the mudang receives gods and the dead.[249,250]

Calling through illness

Many healers did not choose their work. Among the Zulu the ancestors call the future diviner through a long illness, ukuthwasa, which ends only when the call is accepted.[251] Siberian shamans

[242] [89] Eliade, M. (1964). Shamanism: Archaic Techniques of Ecstasy. Transl. W. R. Trask. Princeton University Press (French original: Payot, Paris, 1951).

[243] [108] Luna, L. E. (1984). The concept of plants as teachers among four mestizo shamans of Iquitos, northeastern Peru. Journal of Ethnopharmacology 11, 135–156.

[244] [34] Davila, J. R. (2013). Hekhalot Literature in Translation: Major Texts of Merkavah Mysticism. Brill, Leiden.

[245] [47] Betz, H. D. (ed.) (1986). The Greek Magical Papyri in Translation. University of Chicago Press.

[246] [59] Shaw, G. (1995). Theurgy and the Soul: The Neoplatonism of Iamblichus. Pennsylvania State University Press, University Park.

[247] [106] Powers, W. K. (1982). Yuwipi: Vision and Experience in Oglala Ritual. University of Nebraska Press, Lincoln.

[248] [110] Brown, K. McCarthy (1991). Mama Lola: A Vodou Priestess in Brooklyn. University of California Press, Berkeley.

[249] [87] Blacker, C. (1975). The Catalpa Bow: A Study of Shamanistic Practices in Japan. Allen & Unwin, London.

[250] [88] Kendall, L. (1985). Shamans, Housewives, and Other Restless Spirits: Women in Korean Ritual Life. University of Hawaii Press, Honolulu.

[251] [98] Berglund, A.-I. (1976). Zulu Thought-Patterns and Symbolism. Hurst, London.

tell of being dismembered and rebuilt by spirits during their calling illness.[252] The illness is itself the first crossing.

Sound

Robert Monroe built a technical form of the old methods. Hemi-Sync plays slightly different tones in each ear; the brain hears a slow beat. Monroe used it to hold the body asleep and the mind awake, his Focus 10, and to go further along his ladder of levels.[253]

Table 14.1. Methods and their direction.

Method	Examples	Direction
Sleep at a holy place	Epidauros, Kosmidion	between: the sleeper goes to the threshold, the god comes
Rhythm, dance, drum	San, Sámi, Siberia	out
Plants	Amazon	both
Names and seals	Hekhalot, PGM	out
Ritual ascent	theurgy	out
Darkness and binding	Lakota yuwipi	in
Possession	Vodou, Umbanda, miko, mudang	in
Calling illness	Zulu, Siberia, Korea	in, then out
Sound	Monroe	out

> **Reading.** All methods hold a person near the point where both sides weigh the same. Chapter 3 showed that a system held there reacts to small signals. In the terms of the theory the methods tune the crosser to the border; what decides the direction is whether the crosser goes or receives.

15. The techniques of magic

Besides crossing in person, cultures developed techniques to act across the border at a distance. The sources show eleven recurring techniques. They are older than writing in some cases and still practised in others.

Binding

Greek binding tablets, katadesmoi, and their Latin counterparts, defixiones, were thin sheets of lead inscribed with a name and a formula, folded, pierced with a nail and placed in a grave, a well or a sanctuary. They 'bound' a rival in court, a competitor in the circus, a lover or a thief, and handed them to the gods below.[254] At Bath more than a hundred tablets ask Sulis to punish thieves until they return what they took.[255]

[252] [89] Eliade, M. (1964). Shamanism: Archaic Techniques of Ecstasy. Transl. W. R. Trask. Princeton University Press (French original: Payot, Paris, 1951).

[253] [2] Monroe, R. A. (1994). Ultimate Journey. Doubleday, New York.

[254] [57] Gager, J. G. (ed.) (1992). Curse Tablets and Binding Spells from the Ancient World. Oxford University Press.

[255] [66] Tomlin, R. S. O. (1988). Tabellae Sulis: Roman Inscribed Tablets of Tin and Lead from the Sacred Spring at Bath. Oxford University Committee for Archaeology.

Figures

A figure stood for a person. What was done to the figure was done to the person. Greek kolossoi, Egyptian execration figures and the figures burned in the Babylonian Maqlû all work this way.[256,257]

Execration

Egyptian priests wrote the names of foreign enemies and rebels on pots or clay figures and smashed or buried them. The act broke the power of the named.[258]

Burning and turning back

Maqlû, 'Burning', was performed in one night at the end of the month Abu, when the dead were thought to rise. The patient accused the witch before the gods of the night, burned her figures and sent her sorcery back to her.[259]

Spell books

The Greek-Egyptian papyri preserve hundreds of practical spells from the 2nd century BCE to the 5th century CE, mixing Egyptian, Greek and Jewish names: for dreams, for a divine assistant, for healing, love and binding.[260] They are the ancestors of the grimoires of medieval and early modern Europe.[261]

Bowls under the threshold

In late antique Mesopotamia inscribed bowls were buried upside down under the thresholds and in the corners of houses. They named demons and liliths and expelled them by angels, seals and legal formulas. More than two thousand are known.[262]

Divination

Divination reads the other side. The Shang kings questioned their ancestors on bones and shells. Mesopotamian diviners read livers and stars. Dreams, lots and birds were read everywhere.[263,264]

Letters, numbers and squares

Names were keys. Letters were counted, combined and set in squares. Sefer Yetzirah built creation from ten numbers and twenty-two letters; Agrippa gave tables of planetary squares and seals.[265]

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[256] [24] Ritner, R. K. (1993). The Mechanics of Ancient Egyptian Magical Practice. Oriental Institute, Chicago.

[257] [40] Abusch, T. (2015). The Witchcraft Series Maqlû. SBL Press, Atlanta.

[258] [24] Ritner, R. K. (1993). The Mechanics of Ancient Egyptian Magical Practice. Oriental Institute, Chicago.

[259] [40] Abusch, T. (2015). The Witchcraft Series Maqlû. SBL Press, Atlanta.

[260] [47] Betz, H. D. (ed.) (1986). The Greek Magical Papyri in Translation. University of Chicago Press.

[261] [38] Davies, O. (2009). Grimoires: A History of Magic Books. Oxford University Press.

[262] [41] Shaked, S., Ford, J. N. & Bhayro, S. (2013). Aramaic Bowl Spells: Jewish Babylonian Aramaic Bowls, vol. 1. Brill, Leiden.

[263] [84] Strickmann, M. (2002). Chinese Magical Medicine, ed. B. Faure. Stanford University Press.

[264] [26] Scurlock, J. (2006). Magico-Medical Means of Treating Ghost-Induced Illnesses in Ancient Mesopotamia. Brill, Leiden.

[265] [73] Agrippa von Nettesheim, H. C. (1533). De occulta philosophia libri tres. Cologne. English: Three Books of Occult Philosophy, transl. J. Freake (1651).

Command over spirits

The Testament of Solomon makes each demon state its name, its work and the angel that defeats it. Solomon's ring commands them. The text stands at the head of the Solomonic grimoires.[266,267]

Seiðr and galdr

In the North a völva sat on a high seat and, with songs sung by others, called spirits to answer questions about the future. Seiðr was also used to harm.[268]

Cunning folk

In early modern Europe village healers, finders of stolen goods and lifters of curses worked with charms, prayers and simple books. Most clients came to them for protection against witchcraft.[269,270]

> **Reading.** Every technique makes a closure at a distance. The name, figure or written line stands for the person; the two are one pattern read in two places. What is done to one is done to the other.

[266][37] Duling, D. C. (1983). Testament of Solomon. In: J. H. Charlesworth (ed.), The Old Testament Pseudepigrapha, vol. 1. Doubleday, New York, 935–987.

[267][38] Davies, O. (2009). Grimoires: A History of Magic Books. Oxford University Press.

[268][68] Snorri Sturluson (c. 1220). Edda (Gylfaginning 27). Transl. A. Faulkes (1987). Everyman, London.

[269][38] Davies, O. (2009). Grimoires: A History of Magic Books. Oxford University Press.

[270][120] Hutton, R. (2017). The Witch: A History of Fear, from Ancient Times to the Present. Yale University Press, New Haven.

Part IV

Healing

16. Healing with the other side

Healing is the most practical use of the border and the best documented. Of the seventy traditions, forty-two heal through the crossing (Chapter 4). They are not a random selection: healing goes with the directions in and both. The border used for healing is the border that stays open.

Two healers or one

Mesopotamia had two specialists. The āšipu worked with rites. He diagnosed by omens and drove out the cause of illness, often a ghost or a demon. The asû worked with drugs: plants, minerals and animal products. The medical texts treat both as the two basic strategies against illness, and some recipes say that if neither the drug nor the rite heals, the case is hopeless.[271]

Egypt did not split the roles. The same healer, whether physician, priest of Sekhmet or magician, used prescriptions and spells, often in one treatment. Heka, the power that made creation work, was the force behind both.[272,273] In almost every culture of this book, rite and remedy were parts of one act.

The healing gods and their dogs

In Mesopotamia the healing goddess Gula, also called Ninisina, 'Lady of Isin', had her temple in Isin, called the Dog Temple. Dogs were the attribute of most Mesopotamian healing goddesses; dog figurines carried prayers to her.[274,275] At Epidauros, too, dogs sometimes healed in the god's place.[276] Raphael, whose name means 'God heals', is sent in Tobit to cure blindness and drive out a demon.[277] The Medicine Buddha vowed to heal all who invoke his name.[278]

The other side comes in

In possession healing a spirit enters the healer or the patient and works through the body. In Vodou the lwa diagnoses and prescribes through the mounted devotee. In Umbanda the old slave spirits counsel. In Japan the miko lets the possessing spirit speak, so that it can be identified and

[271] [26] Scurlock, J. (2006). Magico-Medical Means of Treating Ghost-Induced Illnesses in Ancient Mesopotamia. Brill, Leiden.
[272] [22] Nunn, J. F. (1996). Ancient Egyptian Medicine. British Museum Press, London.
[273] [23] Pinch, G. (2006). Magic in Ancient Egypt, rev. ed. British Museum Press, London.
[274] [27] Böck, B. (2014). The Healing Goddess Gula: Towards an Understanding of Ancient Babylonian Medicine. Brill, Leiden (CHANE 67).
[275] [28] Heffron, Y. (2019). Gula/Ninkarrak (goddess). Ancient Mesopotamian Gods and Goddesses, Oracc, University of Pennsylvania.
[276] [56] Edelstein, E. J. & Edelstein, L. (1945). Asclepius: A Collection and Interpretation of the Testimonies. Johns Hopkins University Press, Baltimore.
[277] [33] Tobit 3:17; 6; 11; 12:15. In: The New Oxford Annotated Apocrypha (NRSV). Oxford University Press.
[278] [83] Birnbaum, R. (1979). The Healing Buddha. Shambhala, Boulder.

sent away. The Lakota spirits come into the dark room. The Navajo Holy People are drawn into the sandpainting, and the patient sits on them to receive their power.[279,280,281,282,283]

The healer goes out

In soul retrieval the healer travels. Illness is the loss of a soul. The Siberian and Sámi shaman follows it to the other world and brings it back, bargaining with the powers of death. The Mapuche machi climbs the rewe to the upper world. The Inuit angakkoq goes to the Sea Woman to find the broken taboo.[284,285,286,287]

Healing by name

A third way heals by knowing. The Testament of Solomon lists each demon with the illness it causes and the angel that defeats it. Sepher ha-Razim gives the names of the angels of each firmament and the rites to use them. Ruqya recites the Qur'an over water, oil or honey against jinn and the evil eye.[288,289,290]

The healer pays

Across cultures the healer pays a price. The San healer half-dies in !kia. The Zulu diviner is called through a long illness. The Siberian shaman is dismembered in his initiation. Princess Bari serves the guardian of the other world for years before she may bring back the healing water.[291,292,293,294] The calling illness is a crossing the healer survived; healing others repeats it.

Healing and harming are one skill

The same means heal and harm. The Atharvaveda puts healing charms next to charms against enemies, and some charms send sorcery back to its sender.[295] Tantric magic runs on one scale, the six results, from pacifying to killing, with the same deity and the same fire rite.[296] Maqlû heals the

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[279] [110] Brown, K. McCarthy (1991). Mama Lola: A Vodou Priestess in Brooklyn. University of California Press, Berkeley.

[280] [99] Mercante, M. S. (2015). Barquinha: religião ayahuasqueira, afro-brasileira ou afro-amazônica? Plura, Revista de Estudos de Religião 6(2), 100–115.

[281] [87] Blacker, C. (1975). The Catalpa Bow: A Study of Shamanistic Practices in Japan. Allen & Unwin, London.

[282] [106] Powers, W. K. (1982). Yuwipi: Vision and Experience in Oglala Ritual. University of Nebraska Press, Lincoln.

[283] [105] Reichard, G. A. (1950). Navaho Religion: A Study of Symbolism. Pantheon (Bollingen Series 18), New York.

[284] [89] Eliade, M. (1964). Shamanism: Archaic Techniques of Ecstasy. Transl. W. R. Trask. Princeton University Press (French original: Payot, Paris, 1951).

[285] [70] Pentikäinen, J. (2010). The shamanic drum as cognitive map. Cahiers de littérature orale 67–68.

[286] [107] Bacigalupo, A. M. (2007). Shamans of the Foye Tree: Gender, Power, and Healing among Chilean Mapuche. University of Texas Press, Austin.

[287] [109] Rasmussen, K. (1929). Intellectual Culture of the Iglulik Eskimos. Report of the Fifth Thule Expedition 1921–24, vol. 7(1). Gyldendal, Copenhagen.

[288] [37] Duling, D. C. (1983). Testament of Solomon. In: J. H. Charlesworth (ed.), The Old Testament Pseudepigrapha, vol. 1. Doubleday, New York, 935–987.

[289] [39] Morgan, M. A. (transl.) (1983). Sepher Ha-Razim: The Book of the Mysteries. Scholars Press, Chico CA.

[290] [44] Smith, J. I. & Haddad, Y. Y. (1981). The Islamic Understanding of Death and Resurrection. SUNY Press, Albany.

[291] [97] Katz, R. (1982). Boiling Energy: Community Healing among the Kalahari Kung. Harvard University Press, Cambridge MA.

[292] [98] Berglund, A.-I. (1976). Zulu Thought-Patterns and Symbolism. Hurst, London.

[293] [89] Eliade, M. (1964). Shamanism: Archaic Techniques of Ecstasy. Transl. W. R. Trask. Princeton University Press (French original: Payot, Paris, 1951).

[294] [88] Kendall, L. (1985). Shamans, Housewives, and Other Restless Spirits: Women in Korean Ritual Life. University of Hawaii Press, Honolulu.

[295] [77] Bloomfield, M. (transl.) (1897). Hymns of the Atharva-Veda. Sacred Books of the East 42. Clarendon Press, Oxford.

[296] [79] Ullrey, A. (2016). Grim Grimoires: Pragmatic Ritual in the Magic Tantras. PhD dissertation, University of California, Santa Barbara.

patient by burning the witch.[297] Sulis healed the sick and punished thieves.[298] Amazonian icaros can heal, protect or harm.[299]

> **Reading.** Healing helps a pattern close again. Illness is a part that cannot finish. The healer crosses, finds the part and closes it. To close and to open are one act in two directions; therefore one skill heals and harms.

A modern case

The Mexican healer Bárbara Guerrero, 'Pachita' (c. 1900–1979), operated in trance as 'Hermanito', the spirit of Cuauhtémoc. The neurophysiologist Grinberg-Zylberbaum described her work; others described fraud. No controlled study exists.[300]

Safety

The traditions surrounded healing with teachers, rules and communities. Some methods carry real risk. Ayahuasca can be dangerous with certain medicines, notably antidepressants, and for people with heart problems or a history of psychosis.[301] Chinese mercury elixirs killed emperors.[302]

[297] [40] Abusch, T. (2015). The Witchcraft Series Maqlû. SBL Press, Atlanta.

[298] [66] Tomlin, R. S. O. (1988). Tabellae Sulis: Roman Inscribed Tablets of Tin and Lead from the Sacred Spring at Bath. Oxford University Committee for Archaeology.

[299] [108] Luna, L. E. (1984). The concept of plants as teachers among four mestizo shamans of Iquitos, northeastern Peru. Journal of Ethnopharmacology 11, 135–156.

[300] [111] Grinberg-Zylberbaum, J. (1985). Pachita. Instituto Nacional para el Estudio de la Conciencia, México.

[301] [121] Frecska, E., Bokor, P. & Winkelman, M. (2016). The therapeutic potentials of ayahuasca: possible effects against various diseases of civilization. Frontiers in Pharmacology 7, 35.

[302] [80] Needham, J. & Lu Gwei-Djen (1974). Science and Civilisation in China, vol. 5, part 2: Spagyrical Discovery and Invention. Cambridge University Press.

Part V

Magic as the Science of the Other Side

17. The construction of the other side

Where healers and shamans travel, the learned magicians map. Their texts describe the other side as a building with zones, palaces, firmaments and aethyrs, each with rulers and names. Knowing the plan gives access. This chapter follows that line of texts.

The Hermetic ascent

The Poimandres, the first treatise of the Corpus Hermeticum (2nd–3rd century CE), tells how the soul came down through the seven planetary zones and received a quality from each. At death it rises again and gives each quality back: growth and waning to the first zone, evil devices to the second, deceit of desire to the third, arrogance of rule to the fourth, daring and rashness to the fifth, greed to the sixth, falsehood to the seventh. Stripped, it reaches the eighth nature and sings with the powers.[303]

Theurgy

Iamblichus (c. 300 CE) made ritual the way up. The gods gave names, materials and rites; by using them the soul is lifted. Theurgy shaped late Neoplatonism, and through Proclus it shaped Renaissance magic.[304,305]

Letters and numbers

Sefer Yetzirah builds creation from thirty-two paths: ten numbers and twenty-two letters. Later Kabbalah and magic used its combinations as keys.

The palaces and firmaments

The Hekhalot texts give seven palaces with gatekeepers. Sepher ha-Razim gives seven firmaments full of named angels and the rites to use them. The Testament of Solomon gives the demons with their illnesses and their opposing angels.[306,307,308]

Picatrix

The Ghāyat al-Ḥakīm, composed in Arabic in al-Andalus in the 10th or 11th century, was translated into Castilian at the order of Alfonso X between 1256 and 1258, and soon after into Latin

[303] [46] Copenhaver, B. P. (1992). Hermetica: The Greek Corpus Hermeticum and the Latin Asclepius in a New English Translation. Cambridge University Press.

[304] [59] Shaw, G. (1995). Theurgy and the Soul: The Neoplatonism of Iamblichus. Pennsylvania State University Press, University Park.

[305] [60] Copenhaver, B. P. (1990). Natural magic, hermetism and occultism in early modern science. In: D. Lindberg & R. Westman (eds.), Reappraisals of the Scientific Revolution. Cambridge University Press, 261–301.

[306] [34] Davila, J. R. (2013). Hekhalot Literature in Translation: Major Texts of Merkavah Mysticism. Brill, Leiden.

[307] [39] Morgan, M. A. (transl.) (1983). Sepher Ha-Razim: The Book of the Mysteries. Scholars Press, Chico CA.

[308] [37] Duling, D. C. (1983). Testament of Solomon. In: J. H. Charlesworth (ed.), The Old Testament Pseudepigrapha, vol. 1. Doubleday, New York, 935–987.

as Picatrix. It teaches that every thing below corresponds to something above, and that a talisman made at the right moment draws down the spirit of a planet.[309]

Ficino

In April 1463 Marsilio Ficino finished his Latin translation of the Corpus Hermeticum at the request of Cosimo de' Medici, who had given him a villa at Careggi. It was printed in 1471 and became one of the most read books of the Renaissance.[310]

Agrippa, Dee and Kelley

Heinrich Cornelius Agrippa's Three Books of Occult Philosophy (1533) ordered magic in three worlds: natural, celestial and intellectual.[311] From 1582 Edward Kelley scryed and John Dee recorded; the angels gave a language, a set of calls, and thirty Aethyrs, each with governors.[312,313]

The Watchers by name

1 Enoch is the oldest of these texts. It names the leaders of the Watchers and what each taught: metalwork and weapons, cosmetics, spells and the cutting of roots, the signs of sun, moon and stars.[314] The knowledge of the other side came down with them.

> **Reading.** The author's own definition of magic is the 'second operation': conditioning a medium so that the form arises itself.[315] On that view the learned magicians were mapping the medium.

18. What scholars have said magic is

Since the 19th century scholars have tried to define magic. Their answers fall into three groups.

Magic as mistaken science

Edward Tylor (1871) saw magic as a mistaken association of ideas: what is linked in the mind is taken to be linked in the world.[316] James Frazer (1890) set out the laws of sympathetic magic: like produces like, and things once in contact stay in contact. For both, magic was an early stage, replaced by religion and science.[317]

Magic as social practice

Marcel Mauss and Henri Hubert (1902–03) defined magic as a social fact: it is what magicians do, and it rests on a shared belief in a force they called mana.[318] Bronisław Malinowski (1948) observed that Trobriand fishermen used magic for the open sea, not for the lagoon; magic begins

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[309] [52] Attrell, D. & Porreca, D. (transl.) (2019). Picatrix: A Medieval Treatise on Astral Magic. Penn State University Press.

[310] [122] Hanegraaff, W. J. (2015). How Hermetic was Renaissance Hermetism? Aries 15(2), 179–209.

[311] [73] Agrippa von Nettesheim, H. C. (1533). De occulta philosophia libri tres. Cologne. English: Three Books of Occult Philosophy, transl. J. Freake (1651).

[312] [75] Laycock, D. C. (1978). The Complete Enochian Dictionary. Askin, London.

[313] [74] Peterson, J. H. (ed.) (2003). John Dee's Five Books of Mystery. Weiser, Boston.

[314] [29] Charles, R. H. (transl.) (1917). The Book of Enoch. SPCK, London.

[315] [8] Konstapel, J. (2026). The Age of Magic. constable.blog, 30 July 2026.

[316] [123] Tylor, E. B. (1871). Primitive Culture. John Murray, London.

[317] [124] Frazer, J. G. (1890). The Golden Bough. Macmillan, London.

[318] [125] Mauss, M. & Hubert, H. (1902–03). Esquisse d'une théorie générale de la magie. L'Année sociologique 7. English: A General Theory of Magic (1972).

where knowledge and technique stop.[319] E. E. Evans-Pritchard (1937) showed that Azande witchcraft did not deny natural causes. It explained why misfortune struck this person at this moment. It was a coherent system of thought.[320]

Magic in the history of knowledge

Lynn Thorndike traced magic and experimental science as one history in eight volumes.[321] Richard Kieckhefer described medieval magic, natural and demonic, as a crossroads of learned and popular culture.[322] Wouter Hanegraaff argued that 'magic' and 'occult' are categories of what the academy rejected.[323] Michael Bailey showed how magic and superstition drew the limits of acceptable belief.[324]

The Yates debate

Frances Yates (1964) argued that a 'Hermetic tradition', revived by Ficino's translation, fed the Scientific Revolution.[325] The critics answered on three points. Neoplatonism describes the movement better than Hermetism. The roots are medieval, not a Renaissance revival. 'Theurgy' describes what the magi did better than 'magic'. Brian Copenhaver showed that the magic of Ficino and Agrippa came from Proclus and Iamblichus.[326] Robert Westman found no necessary link between Hermetic sun-worship and the acceptance of Copernicus.[327] Hanegraaff argued that Ficino may have understood little of the Hermetic message, and that the first printed edition was corrupt.[328]

[319] [126] Malinowski, B. (1948). Magic, Science and Religion and Other Essays. Free Press, Glencoe.

[320] [127] Evans-Pritchard, E. E. (1937). Witchcraft, Oracles and Magic among the Azande. Clarendon Press, Oxford.

[321] [128] Thorndike, L. (1923–58). A History of Magic and Experimental Science, 8 vols. Columbia University Press, New York.

[322] [129] Kieckhefer, R. (1989). Magic in the Middle Ages. Cambridge University Press.

[323] [130] Hanegraaff, W. J. (2012). Esotericism and the Academy: Rejected Knowledge in Western Culture. Cambridge University Press.

[324] [131] Bailey, M. D. (2007). Magic and Superstition in Europe. Rowman & Littlefield, Lanham.

[325] [132] Yates, F. A. (1964). Giordano Bruno and the Hermetic Tradition. Routledge & Kegan Paul, London.

[326] [60] Copenhaver, B. P. (1990). Natural magic, hermetism and occultism in early modern science. In: D. Lindberg & R. Westman (eds.), Reappraisals of the Scientific Revolution. Cambridge University Press, 261–301.

[327] [133] Westman, R. S. & McGuire, J. E. (1977). Hermeticism and the Scientific Revolution. Clark Library, Los Angeles.

[328] [122] Hanegraaff, W. J. (2015). How Hermetic was Renaissance Hermetism? Aries 15(2), 179–209.

Part VI

Alchemy

19. The art of transmutation

Alchemy is the crossing applied to matter. The alchemist takes a substance through death, purification and rebirth. The same three steps occur in the initiation of shamans and in the Hermetic ascent.[329,330,331]

Egypt and the colour stages

The oldest alchemical writings come from Greek-speaking Egypt. Zosimos of Panopolis (c. 300 CE) describes the work and attributes key apparatus and ideas to Maria the Jewess. The work ran through four colour stages: blackening (melanosis), whitening (leukosis), yellowing (xanthosis) and reddening (iosis). After the 15th century many authors dropped the yellowing and kept three.[332,333] In his visions Zosimos sees men dismembered and turned to spirit at an altar of fifteen steps.

The Emerald Tablet

The oldest version of the Emerald Tablet stands as an appendix to the Arabic Secret of Creation, attributed to Balīnūs (pseudo-Apollonius), of the late 8th or early 9th century. It speaks of one thing that rises from earth to heaven and comes down again. Latin versions from the 12th century made it the motto of European alchemy.[334,335]

Arabic alchemy

The Arabic corpus under the name of Jabir systematised the theory that metals are made of sulphur and mercury in different proportions. Through Spain this theory reached Latin Europe.[336]

China and India

Chinese external alchemy (waidan) made elixirs of immortality; several emperors died of mercury poisoning. Internal alchemy (neidan) refined the body's essence, breath and spirit through three fields until an immortal embryo formed. In India, rasaśāstra purified and bound mercury into medicines.[337]

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[329] [50] Principe, L. M. (2013). The Secrets of Alchemy. University of Chicago Press.

[330] [89] Eliade, M. (1964). Shamanism: Archaic Techniques of Ecstasy. Transl. W. R. Trask. Princeton University Press (French original: Payot, Paris, 1951).

[331] [46] Copenhaver, B. P. (1992). Hermetica: The Greek Corpus Hermeticum and the Latin Asclepius in a New English Translation. Cambridge University Press.

[332] [48] Dictionary of Scientific Biography (1976), vol. 14, s.v. "Zosimus of Panopolis". Scribner, New York.

[333] [50] Principe, L. M. (2013). The Secrets of Alchemy. University of Chicago Press.

[334] [49] Weisser, U. (1980). Das 'Buch über das Geheimnis der Schöpfung' von Pseudo-Apollonios von Tyana. De Gruyter, Berlin.

[335] [51] Holmyard, E. J. (1923). The Emerald Table. Nature 112, 525–526.

[336] [50] Principe, L. M. (2013). The Secrets of Alchemy. University of Chicago Press.

[337] [80] Needham, J. & Lu Gwei-Djen (1974). Science and Civilisation in China, vol. 5, part 2: Spagyrical Discovery and Invention. Cambridge University Press.

Paracelsus

Paracelsus (1493–1541) turned alchemy toward medicine: the aim was not gold but remedies. He added salt to sulphur and mercury as a third principle.[338]

Newton and Leibniz

Isaac Newton wrote extensively on alchemy; Keynes called him 'the last of the magicians'.[339,340] Gottfried Wilhelm Leibniz served as secretary of an alchemical society in Nuremberg in 1666–67.

Transmutation measured

In 1901 Rutherford and Soddy found that radioactive elements change into other elements. Bound-state beta decay shows that the state of the electrons decides whether a nucleus transmutes at all: dysprosium-163 and thallium-205 are stable as atoms and decay when stripped; rhenium-187 goes from about 42 billion years to about 33 years.[341,342,343] For the author's own history of transmutation see How to Make Matter.[344]

[338] [50] Principe, L. M. (2013). The Secrets of Alchemy. University of Chicago Press.

[339] [134] Keynes, J. M. (1947). Newton, the Man. In: Royal Society, Newton Tercentenary Celebrations. Cambridge University Press, 27–34.

[340] [135] Newman, W. R. (2018). Newton the Alchemist: Science, Enigma, and the Quest for Nature's 'Secret Fire'. Princeton University Press.

[341] [17] Jung, M. et al. (1992). First observation of bound-state beta-minus decay. Physical Review Letters 69, 2164–2167.

[342] [18] Bosch, F. et al. (1996). Observation of bound-state beta-minus decay of fully ionized 187Re. Physical Review Letters 77, 5190–5193.

[343] [19] Leckenby, G. et al. (2024). High-precision measurement of the bound-state beta decay of fully ionized thallium-205. Nature 635, 321–326.

[344] [136] Konstapel, J. (2026). How to Make Matter: The History of the Creation and Transmutation of Matter. Constable Research, Leiden, 9 October 2026; constable.blog.

Part VII

White and Black

20. How the line was drawn

Every culture that has healers has a word for those who use the same skill to harm. The line between white and black magic is drawn by use, intent and authority, not by technique.[345,346]

Antiquity

Greek and Roman law punished harmful magic, especially poisoning and binding that injured, not healing rites. Binding tablets were common and often illegal.[347]

Christianity

Christian theology placed all magic not done in God's name on the side of the demons. The healing saints were allowed; the cunning woman was suspect.[348]

The Renaissance

Renaissance writers defended natural magic as knowledge of hidden virtues in nature, and separated it from demonic magic. Agrippa's books stand on that line.[349]

The witch hunts

The great persecutions of the 16th and 17th centuries coincided with the period of the Reformation and varied strongly by region. Modern counts lie far below the old myth of nine million victims.[350] Hutton shows that fear of witches is found worldwide and names five recurring traits of the witch figure.[351]

Islam

Islam forbids sihr, harmful sorcery, and permits ruqya, healing by recitation, as its counter.[352]

Africa and elsewhere

Among the Azande witchcraft explains misfortune; the oracle finds the witch.[353] In many African and Asian traditions the same specialist can heal and harm; the community judges the use.

Fusion: Africa and America

[345] [120] Hutton, R. (2017). The Witch: A History of Fear, from Ancient Times to the Present. Yale University Press, New Haven.
[346] [131] Bailey, M. D. (2007). Magic and Superstition in Europe. Rowman & Littlefield, Lanham.
[347] [57] Gager, J. G. (ed.) (1992). Curse Tablets and Binding Spells from the Ancient World. Oxford University Press.
[348] [129] Kieckhefer, R. (1989). Magic in the Middle Ages. Cambridge University Press.
[349] [73] Agrippa von Nettesheim, H. C. (1533). De occulta philosophia libri tres. Cologne. English: Three Books of Occult Philosophy, transl. J. Freake (1651).
[350] [131] Bailey, M. D. (2007). Magic and Superstition in Europe. Rowman & Littlefield, Lanham.
[351] [120] Hutton, R. (2017). The Witch: A History of Fear, from Ancient Times to the Present. Yale University Press, New Haven.
[352] [44] Smith, J. I. & Haddad, Y. Y. (1981). The Islamic Understanding of Death and Resurrection. SUNY Press, Albany.
[353] [127] Evans-Pritchard, E. E. (1937). Witchcraft, Oracles and Magic among the Azande. Clarendon Press, Oxford.

Where West African religions met American conditions, new religions joined the two directions of crossing. Haitian Vodou joins possession by the lwa with the ancestors under the waters.[354] Brazilian Umbanda joins Afro-Brazilian spirits with Kardecist mediumship. Barquinha, founded in Acre in the 1940s, joins the Amazonian ayahuasca journey with Afro-Brazilian possession.[355] In these religions healing and protection are central, and so is the line between work for good and work for harm.

> **Reading.** White and black are one skill with a sign: closing or opening the same pattern. Cultures drew the line at the use, not at the skill.

[354] [110] Brown, K. McCarthy (1991). Mama Lola: A Vodou Priestess in Brooklyn. University of California Press, Berkeley.

[355] [99] Mercante, M. S. (2015). Barquinha: religião ayahuasqueira, afro-brasileira ou afro-amazônica? Plura, Revista de Estudos de Religião 6(2), 100–115.

Part VIII

Sky, Calendar and Number

21. The border in the sky

Many borders are tied to the sky and the calendar. The stars near the pole never set; many cultures saw them as watchers at the axis of the sky.[356,357] 1 Enoch gives a year of 364 days with gates for sun and moon.[358]

Calendars open and close the border. The Irish year opened it at Samhain.[359] Rome opened the mundus three days a year and walked the Lemuria to redeem the household from its ghosts.[360] Babylon performed Maqlû at the end of the month Abu, when the dead rose.[361] The Hopi katsinam come at the winter solstice and leave in summer.[362]

The counts of zones in the sources (Chapter 4) cluster at seven, the number of visible planets, and at three and nine. Seven is mostly Near Eastern; three and nine are found in Asia, Europe and the Americas.

> **Reading.** Three and nine are powers of three; eight is a power of two; seven lies between. The counts may be rungs of the two ladders of the net. This is a reading, not a proof.

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[359] [67] MacKillop, J. (1998). A Dictionary of Celtic Mythology. Oxford University Press.

[360] [65] Ovid, Fasti I.63–288 (Janus). Transl. J. G. Frazer, rev. G. P. Goold. Loeb Classical Library 253.

[361] [40] Abusch, T. (2015). The Witchcraft Series Maqlû. SBL Press, Atlanta.

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Part IX

What Science Measures

22. Measurements at the border

Science does not measure the other side. It measures what happens at a border: in the brain near death, in a magnet at its critical point, in a nucleus stripped of its electrons.

Near-death research

In a prospective study in ten Dutch hospitals, 344 patients resuscitated after cardiac arrest were interviewed. 62 (18%) reported a near-death experience, 41 (12%) a core experience. The occurrence was not explained by the duration of the arrest, by medication or by fear of death. Those with an experience showed lasting changes in outlook after two and eight years.[363]

Gateway

In 1983 the US Army assessed Monroe's method in a report later declassified. It shows that the state took the method seriously enough to evaluate it.[364]

The physics of borders

Chapter 3 described the critical point, the zone edge and the exceptional point. A sensor held at an exceptional point reacts far more strongly to a small disturbance than a normal sensor.[365,366,367,368]

State decides the side

Bound-state beta decay shows that the state of the electrons decides whether a nucleus is stable. Even a cage of sixty carbon atoms changes the decay of beryllium-7: its half-life is 0.83% shorter than in metal.[369,370,371]

Anomalies

Jacques Vallée compared modern UFO and contact reports with older reports of fairies and visitors and proposed one phenomenon that dresses in the beliefs of each age.[372,373]

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[364] [10] McDonnell, W. M. (1983). Analysis and Assessment of Gateway Process. US Army, declassified 2003 (CIA-RDP96-00788R001700210016-5).

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[371] [137] Ohtsuki, T. et al. (2004). Enhanced electron-capture decay rate of 7Be encapsulated in C60 cages. Physical Review Letters 93, 112501.

[372] [118] Vallée, J. (1969). Passport to Magonia: From Folklore to Flying Saucers. Regnery, Chicago.

[373] [119] Vallée, J. (1988). Dimensions: A Casebook of Alien Contact. Contemporary Books, Chicago.

> **Reading.** Each measurement shows the form the traditions describe: two sides, a point of balance, high sensitivity and a state that decides.

23. Open questions

- Are the counts 3, 7 and 9 rungs of the ladders of the net?
- Why are the border of the dead and the border of the living so cleanly separated in the coding?
- Can the sensitivity of a person near the border be measured, as it is for a sensor at an exceptional point?
- Would a second, independent coder confirm the coding of Chapter 4?
- Which sources would turn the medium-certainty codes into high-certainty codes?

Part XI

Source Dossiers

This part gives the full collected material behind Parts II–IX, item by item, with every detail and source that was gathered. Source grades: [A] scholarly source, museum or university; [B] encyclopedia or solid reference work; [C] popular site, used only as a pointer. Short conclusions follow each dossier.

28. Dossier A: Healing with beings of the other side

A1. Mesopotamia: two healers, āšipu and asû [A]

- The Würzburg project on Corpus of Mesopotamian Anti-witchcraft Rituals (CMAwR) divides healing into āšipūtu, the lore of the exorcist, and asûtu, the lore of the physician. Both are 'the two basic strategies' against illness. The āšipu treats serious illness by driving out the evil force at its root.
- Medical texts note cases where 'neither drug nor magic heals': the two were treated as equal.
- The goddess Gula/Ninkarrak, also Ninisina, 'Lady of Isin', was the healing goddess; her temple in Isin was the 'Dog Temple'; dog figurines carried prayers.[374,375]
- Sources: Würzburg CMAwR; Abusch 2002, Mesopotamian Witchcraft (Brill); Scurlock 2006.[376]

A2. Egypt: heka [A]

- The Ebers Papyrus (c. 1550 BCE): 'Magic is effective together with medicine. Medicine is effective together with magic.'
- Heka was the god of magic and medicine and the power itself; a title 'prophet of Heka' existed. The physician was also a magician who knew spells and rites; spells called the gods to the healer.[377,378]
- The Greeks later identified Imhotep with Asclepius.
- A claim on a popular site that the staff of Asclepius derives from Ninazu or Heka is weak and has been dropped.

A3. Greece: Asclepius and incubation [A]

- Healing in the Asclepieia came through incubation (sleeping in the sanctuary) and epiphany (the god appears in a dream).
- Epidauros: the iamata, about seventy healing stories on stelae (c. 350 BCE), displayed in the abaton where people slept. In some stories the god is replaced by snakes or dogs.[379]

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[374] [27] Böck, B. (2014). The Healing Goddess Gula: Towards an Understanding of Ancient Babylonian Medicine. Brill, Leiden (CHANE 67).

[375] [28] Heffron, Y. (2019). Gula/Ninkarrak (goddess). Ancient Mesopotamian Gods and Goddesses, Oracc, University of Pennsylvania.

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[377] [23] Pinch, G. (2006). Magic in Ancient Egypt, rev. ed. British Museum Press, London.

[378] [22] Nunn, J. F. (1996). Ancient Egyptian Medicine. British Museum Press, London.

[379] [56] Edelstein, E. J. & Edelstein, L. (1945). Asclepius: A Collection and Interpretation of the Testimonies. Johns Hopkins University Press, Baltimore.

A4. Byzantium: Christian incubation [A]

- Cosmas and Damian, Cyrus and John, Thecla and Artemios healed through sleep in their churches. This was a deliberate continuation of Asclepian incubation in place, function, technique, ritual and medium (the dream).[380,381]
- The Kosmidion, the church of Cosmas and Damian outside the walls of Constantinople, was built in the mid-5th century by Paulinus, friend of Theodosius II.

A5. 1 Enoch 10 and Tobit: Raphael, "God heals" [A]

- 1 Enoch 10:4–7: Raphael binds Azazel and must 'heal the earth which the angels have corrupted'.[382]
- Tobit 3:17; 12:14–15: Raphael is sent to heal Tobit and Sarah; he is 'one of the seven angels who stand before the Lord'. The fish's heart and liver drive out the demon Asmodeus; the gall heals blindness.[383]
- In the midrashic Book of Noah Raphael teaches Noah healing plants and roots. The Encyclopaedia Judaica calls Raphael the angel over all kinds of healing.
- The same knowledge of roots and herbs crosses the border twice: through the Watchers (1 Enoch 7:1; 8) and through Raphael.

A6. Islam: ruqya [A]

- Healing by recitation of the Qur'an against jinn, the evil eye and sihr; Qur'an 17:82: 'a healing and a mercy'. The raqi uses blessed water, oil and honey as prophetic medicine (Marlow 2022, Contemporary Islam 16).[384]

A7. Mexico: Yaqui and Nahua [A for Nahua; Yaqui to be verified]

- Yaqui: the hitebi or curandero received the gift of healing from God and protective beings; the Flower World (sea ania) and the deer dance, in which the deer, Saila Maaso, visits from the Flower World (Northern Arizona University; Arizona State Museum).
- Nahua: López Austin counted forty classes of magical specialists who sent their soul (tonalli) to divine regions for knowledge and power to heal.

A8. Hopi and Pueblo: katsinam [A]

- Katsinam are spirit beings who bring rain, healing, fertility and protection; they visit the mesas from January to July and live on the San Francisco Peaks. The masked dancer becomes the katsina.[385]

A9. Navajo: hataałii and the Holy People [A]

- The sandpainting attracts the Holy People (Diyin Dine'é); the patient sits on it; illness goes out and the power of the Holy People goes in; then the painting is destroyed. The Night Chant (Yé'ii Bicheii) lasts nine days.[386]

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[380] [62] Csepregi, I. (2008). The Compositional History of Greek Christian Incubation Miracle Collections. PhD dissertation, Central European University, Budapest.

[381] [63] Csepregi, I. (2024). Incubation in Early Byzantium: The Formation of Christian Incubation Cults and Miracle Collections. Brepols, Turnhout.

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[385] [104] Hieb, L. A. (2008). The Hopi clown ceremony (Tsukulalwa). American Indian Culture and Research Journal 32(4), 107–124.

[386] [105] Reichard, G. A. (1950). Navaho Religion: A Study of Symbolism. Pantheon (Bollingen Series 18), New York.

A10. Lakota: yuwipi [A]

- The yuwipi man is bound in a dark room and calls spirits who help heal; the spirits use his life force.[387] A distinction between 'white sickness' (biomedical) and 'Indian sickness' (disharmony with the spirit world) is reported [C].

A11. Mapuche: machi and rewe [A]

- The rewe is a notched trunk with steps (sometimes seven), an axis mundi and ladder to the upper world; the machi climbs it in the machitun, the healing ritual of diagnosis, expulsion and revelation. The candidate receives an 'incurable' illness that yields only to initiation as machi.[388]

A12. Amazon: vegetalistas and icaros [A]

- Knowledge and healing power come from plant spirits, the 'plant teachers', who teach the icaros. Illness as soul loss leads to the shamanic flight to retrieve the soul.[389]

A13. San: n/om and !kia [A]

- The nightly healing dance; n/om 'boils' and rises along the spine; !kia, trance, translated by the San as 'half-dying'. 'We want to become healers to heal the people.' San rock art shows the dance.[390]

A14. Zulu: sangoma and amadlozi [A]

- God delegates to the ancestors (amadlozi), who are active in the world of the living. The calling, ukuthwasa, comes through dreams, visions and illness. A Leiden dissertation treats Zulu sangomas.[391]

A15. Yoruba: Ọ̀sanyìn [A]

- Orisha of leaves, herbs and medicine; iron staff with birds; invoked by babalawo and onisegun. In Brazil Ossaim; in Cuba Oluwa Ewé, 'owner of the leaves'.[392,393]

A16. Healers already in the book

- The Inuit angakkuq travels to the Sea Woman; the Sámi noaidi heals; the Korean mudang holds kut for the sick; the Siberian shaman retrieves souls.[394,395,396,397]

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[388] [107] Bacigalupo, A. M. (2007). Shamans of the Foye Tree: Gender, Power, and Healing among Chilean Mapuche. University of Texas Press, Austin.

[389] [108] Luna, L. E. (1984). The concept of plants as teachers among four mestizo shamans of Iquitos, northeastern Peru. Journal of Ethnopharmacology 11, 135–156.

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[392] [95] Buckley, A. D. (1985). Yoruba Medicine. Clarendon Press, Oxford.

[393] [96] Sobo, A. O. (2001). Osanyin/Ossaim, the Yoruba Deity of Healing in Nigeria and Brazil: A Comparative Study. PhD thesis, Durham University.

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[395] [70] Pentikäinen, J. (2010). The shamanic drum as cognitive map. Cahiers de littérature orale 67–68.

[396] [88] Kendall, L. (1985). Shamans, Housewives, and Other Restless Spirits: Women in Korean Ritual Life. University of Hawaii Press, Honolulu.

[397] [89] Eliade, M. (1964). Shamanism: Archaic Techniques of Ecstasy. Transl. W. R. Trask. Princeton University Press (French original: Payot, Paris, 1951).

A17. China: wu and the Shang oracle bones [A]

- Shang oracle bones (c. 1200–1045 BCE): illness is a 'calamity' caused by ancestors and other spirits; divination names the spirit; sacrifice and exorcism remove it (Harper, Dunhuang iatromantic manuscripts).
- Zuozhuan, 541 BCE: turtle diviners name two spirits as the cause of the illness of the lord of Jin.
- Wu healing: soul retrieval, removal of sorcery objects, defence against attacking spirits (Religions 14/7, 852, 2023). The Shuowen jiezi (121 CE) defines wu as a woman who serves the invisible and brings down spirits by dance.[398]

A18. Buddhism: the Medicine Buddha [A]

- 'Medicine Master, King of Lapis Lazuli Light'; twelve vows; a pure land in the east, flanked by bodhisattvas of sunlight and moonlight; twelve yakṣa generals.[399]

A19. Hawaii: kahuna lāʻau lapaʻau and ʻaumakua [A]

- Ordinary illness is the displeasure of the ʻaumakua (ancestral spirits) at a breach of kapu; the kahuna lāʻau lapaʻau reconciles the unseen powers. About forty kinds of kahuna, some twenty in medicine. Polynesian thought had no 'supernature': spirits are natural; mana flows from akua to ʻaumakua to parents to children.
- Native Hawaiian healing was outlawed in 1905 (Revised Laws of Hawaiʻi ch. 89 §1077) and recognised again in 1998 (Act 162).[400]

A20. Celts and Romans: Sulis at Bath [A]

- The hot spring of Aquae Sulis: goddess of healing and of cursing; over 6,000 coins and about 130 curse tablets (2nd–4th century); Celtic coins point to offerings before the Romans. Springs as channels to the underworld.[401]

Short conclusions to Dossier A

- Two readings of healing recur everywhere: the body (asû, herbs, drugs) and the other side (āšipu, heka, spirits). The Ebers Papyrus says they work only together.
- The healer is often someone who fell ill or half-died first (machi, sangoma, San).
- Healing happens at a contact surface: the dream, the sandpainting, the rewe, the dance.
- Direction: sometimes the healer travels out (Amazon, Inuit, Nahua), sometimes the other side comes in (katsina, yuwipi, mudang, incubation).
- Illness as a disturbed relation with the other side recurs in Shang China, Hawaii, Lakota and Mesopotamia. To heal is to restore the relation, not only the body.
- One power, two faces: Sulis heals and curses; the Watchers teach roots and Raphael heals with them; kahuna lāʻau lapaʻau stand opposite kahuna ʻanāʻanā.

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[400] [116] US National Library of Medicine (n.d.). Native Voices timeline: 1905, Native Hawaiian healing practices are outlawed. nlm.nih.gov/nativevoices.

[401] [66] Tomlin, R. S. O. (1988). Tabellae Sulis: Roman Inscribed Tablets of Tin and Lead from the Sacred Spring at Bath. Oxford University Committee for Archaeology.

29. Dossier B: Magic as the science of the other side

B1. Corpus Hermeticum I (Poimandres) [A]

- The demiurge makes seven planetary rulers who govern Fate; man descends through the spheres; salvation is the ascent through the seven spheres to the eighth (Ogdoad). Nag Hammadi: 'The Eighth reveals the Ninth' (2nd–4th century). Ladder: 7 + 8th + 9th.[402]

B2. Ficino 1463 [A]

- Cosimo de' Medici had Ficino translate the Corpus Hermeticum in 1463, before Plato; printed 1471 (Treviso); over 40 manuscripts and 24 printed editions in the 16th century.[403]

B3. Picatrix [A]

- Ghāyat al-Ḥakīm, Arabic (10th/11th century, al-Andalus; attributed to Maslama al-Qurṭubī); Castilian and Latin at the court of Alfonso X, 1256–58. Magic requires the quadrivium: astronomy, arithmetic, geometry, music (Attrell & Porreca 2019; Pingree 1986). Ficino's astral magic draws partly on Picatrix (Couliano 1987).[404]

B4. Sefer Yetzirah [A]

- Creation by 'thirty-two hidden paths of wisdom': twenty-two letters and ten sefirot ('numbers', 'dimensions'); dating disputed (Talmudic period to 6th century). Letters are linked to planets, body parts, days, months and the zodiac.

B5. Iamblichus, De mysteriis (c. 280–300) [A]

- Theurgy, 'god-work': ritual that raises the soul to the gods; an answer to Porphyry.[405]

B6. Dee and Kelley [A]

- Angelic language (1583–84), 48 or 19 Calls, 30 Aethyrs (concentric 'airs'); Liber Loagaeth as their 'Book of Enoch'.[406,407]

B7. 1 Enoch 7–8, Watcher by Watcher [A]

- Azazel: swords, metals, ornaments, antimony. Semjaza: enchantments and root-cutting. Baraqiel: astrology. Kokabel: the constellations. Shamsiel: the signs of the sun. Sariel: the course of the moon.[408]

Short conclusions to Dossier B

- The magical tradition describes the other side as a ladder with counted steps: 7 spheres + 8 + 9 (Hermetica), 7 palaces (Hekhalot), 30 Aethyrs (Dee), 32 paths (Sefer Yetzirah), 7 steps (Mapuche rewe).
- Knowledge of the other side requires mathematics: Picatrix demands the quadrivium; Sefer Yetzirah uses letters and numbers.

[402] [46] Copenhaver, B. P. (1992). Hermetica: The Greek Corpus Hermeticum and the Latin Asclepius in a New English Translation. Cambridge University Press.

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[406] [75] Laycock, D. C. (1978). The Complete Enochian Dictionary. Askin, London.

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[408] [29] Charles, R. H. (transl.) (1917). The Book of Enoch. SPCK, London.

- Transfer lines: Corpus Hermeticum → Ficino 1463; Picatrix Arabic → Castilian/Latin 1256; Picatrix → Ficino; Asclepius → Cosmas and Damian.

30. Dossier C: Alchemy as the art of transmutation

C1. Four colour stages [A]

- Nigredo (black), albedo (white), citrinitas (yellow), rubedo (red); in Greek melanosis, leukosis, xanthosis, iosis; traceable at least to the 1st century; Zosimos names Maria the Jewess; after the 15th century three stages (Jung CW 12 §333; Principe 2013).[409]

C2. Jabir / Geber [A]

- Corpus Jabirianum (Arabic, c. 850–950); the Latin pseudo-Geber Summa perfectionis (before c. 1310), an original Latin work drawing on Arabic sources such as al-Rāzī (Newman 1991). Jabir added sulphur and mercury to the four elements.

C3. Paracelsus (1493–1541) [A]

- Turned alchemy from gold-making to medicines; tria prima sulphur, mercury, salt; spagyria = separating (spao) and joining (ageiro).[410]

C4. China: waidan and neidan [A]

- Ge Hong, Baopuzi (283–343): elixirs of immortality; cinnabar ↔ mercury ↔ cinnabar; waidan (external, Han–Tang; emperors poisoned) gave way to neidan (internal, in the body).[411]

C5. India: rasaśāstra [A]

- 'Science of mercury'; from the 10th century a twofold aim: transmutation of metals into gold (lohasiddhi) and perfection of the body (dehasiddhi). Mercury was first tested on metal; only if it transmuted might it enter the body (Sauthoff 2024; White, The Alchemical Body).

C6. Rutherford and Soddy (1901) [A]

- Thorium emits an emanation and becomes another element. Soddy: 'Rutherford, this is transmutation!' Rutherford: 'Don't call it that; they'll have our heads off as alchemists.' In 1902 they published it as 'transformation'.

C7. Zosimos and Maria the Jewess (Egypt, c. 300 CE) [A]

- Zosimos of Panopolis (Akhmim, near Nag Hammadi), the first alchemist with biographical data, wrote the oldest preserved alchemical books (Cheirokmeta); steeped in gnosis and Hermetica; outer transmutation (lead/copper → silver/gold) mirrors an inner purification; the vessel as baptismal font.[412]
- His visions: descent and torture as images of the operation; Egyptian background in the Osiris mysteries, the Khoiak festival, the lunar cycle and mummification (Escolano-Poveda 2022).

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[409] [50] Principe, L. M. (2013). The Secrets of Alchemy. University of Chicago Press.

[410] [138] Linden, S. J. (ed.) (2003). The Alchemy Reader: From Hermes Trismegistus to Isaac Newton. Cambridge University Press.

[411] [80] Needham, J. & Lu Gwei-Djen (1974). Science and Civilisation in China, vol. 5, part 2: Spagyrical Discovery and Invention. Cambridge University Press.

[412] [48] Dictionary of Scientific Biography (1976), vol. 14, s.v. "Zosimus of Panopolis". Scribner, New York.

- Maria the Jewess is known only through Zosimos; apparatus (kerotakis, balneum Mariae) and the 'axiom of Maria'. Greek alchemy began as colouring processes (baphai) to dye metals gold or silver (Dufault, Early Greek Alchemy).

C8. The Emerald Tablet (8th–10th century, Arabic) [A]

- Oldest version in Sirr al-khalīqa (Secret of Creation, pseudo-Apollonius/Balīnūs, late 8th–early 9th century); also in Jabir's Kitāb Usṭuqus al-uss and in Sirr al-asrār; Latin by Hugo of Santalla (1145–51) and Johannes Hispalensis; Newton made his own translation.[413,414]
- Core: what is below is like what is above, and what is above like what is below, to accomplish the wonders of the one thing; its father is the sun, its mother the moon; it rises from earth to heaven and descends again, receiving the power of above and below.

C9. Newton (1642–1727) [A]

- About a million words on alchemy in his manuscripts; Keynes bought them at Sotheby's in 1936 and called Newton 'not the first of the age of reason, but the last of the magicians'. Newman: Newton was a precise experimenter in 'chymistry'; alchemical ideas fed his optics and theory of colour.[415,416]

C9b. Leibniz (1646–1716) [A]

- In the winter of 1666–67 Leibniz served an alchemical society in Nuremberg (MacDonald Ross, 'Leibniz and the Nuremberg Alchemical Society', Studia Leibnitiana 6, 1974, 222–48); lifelong interest in Rosicrucian-style science, Kabbalistic mathematics and Hermetic chemistry. Durant calls him secretary of the Nuremberg Rosicrucians [C; 'secretary' not further verified].

C10. Neidan, inner alchemy [A]

- The body becomes the cauldron; the Three Treasures jing (essence), qi (breath) and shen (spirit) are refined: jing → qi → shen → emptiness; three cinnabar fields (dantian) as steps. The Cantong qi (Wei Boyang, traditionally 142 CE) is China's oldest theoretical alchemical book. Zhang Boduan, Wuzhen pian (1075): 'the elixir is here, in your own body'.

C11. Transmutation measured

- Dy-163 is stable as a neutral atom and becomes Ho-163 when fully ionised (Jung 1992); Re-187: half-life from about 42 billion years to 32.9 years (Bosch 1996); Tl-205 → Pb-205, 291 days (Leckenby 2024); Be-7 in a C60 cage 0.83% faster (Ohtsuki 2004).[417,418,419,420]
- Disputed: Iwamura/Mitsubishi (Cs→Pr, Ba→Sm, W→Pt by deuterium through Pd/CaO layers; Toyota replication 2013); Vysotskii (Mn→Fe in cultures). Not confirmed: a neutrino effect on

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[413] [49] Weisser, U. (1980). Das 'Buch über das Geheimnis der Schöpfung' von Pseudo-Apollonios von Tyana. De Gruyter, Berlin.

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[416] [135] Newman, W. R. (2018). Newton the Alchemist: Science, Enigma, and the Quest for Nature's 'Secret Fire'. Princeton University Press.

[417] [17] Jung, M. et al. (1992). First observation of bound-state beta-minus decay. Physical Review Letters 69, 2164–2167.

[418] [18] Bosch, F. et al. (1996). Observation of bound-state beta-minus decay of fully ionized 187Re. Physical Review Letters 77, 5190–5193.

[419] [19] Leckenby, G. et al. (2024). High-precision measurement of the bound-state beta decay of fully ionized thallium-205. Nature 635, 321–326.

[420] [137] Ohtsuki, T. et al. (2004). Enhanced electron-capture decay rate of 7Be encapsulated in C60 cages. Physical Review Letters 93, 112501.

decay (Jenkins/Fischbach).

- The author's own treatment: How to Make Matter (13 chapters), with a four-part register of established, unverified, refuted and assumed claims.[421]

Short conclusions to Dossier C

- Transmutation goes in stages (colour ladder; neidan jing→qi→shen).
- In Egypt, China, India and with Paracelsus, transmutation of metal and perfection of body or soul are one work.
- The Emerald Tablet states the border pattern itself: above = below, up and down, power from both sides.
- Physics found transmutation in 1901 and avoided the word; Newton, its founder, was an alchemist.
- Measured: the state of the surroundings moves the stability border of an element.

31. Dossier D: Convergence

- Healing is where magic and alchemy meet: magic heals through beings (āšipu, katsina, Holy People, Raphael); alchemy heals through transmutation of matter and body (Paracelsus, rasaśāstra, neidan). Mesopotamia had them as two professions; Egypt said they work only together.
- The ladder recurs in magic (7/8/9 spheres, 30 Aethyrs, 32 paths), alchemy (4→3 colour stages) and healing (the rewe).
- The healer crosses himself: illness as calling (machi, sangoma), half-dying (San). In Enoch, whoever crossed became a watcher.
- Contact surfaces of healing: dream, sandpainting, dance, rewe.
- Illness as a disturbed relation with the other side recurs in Shang China, Hawaii, Lakota and Mesopotamia.
- One power, two faces: Sulis; the Watchers and Raphael; kahuna lāʻau lapaʻau and kahuna ʻanāʻanā.

32. Dossier F: The scholarly literature on magic

F1. The word itself [A]

- 'Magic' comes from Greek magos/mageia, borrowed from Old Persian maguš, a member of a priestly class; possibly from the root magh-, 'to be able, to have power'. Graf: the concept arose in the late 6th century BCE as a by-product of Persian expansion; earliest occurrence in Heraclitus (Graf, Magic in the Ancient World, 1997).
- In Sophocles and Euripides magoi are begging priests and charlatans; the word merges with goēteia and pharmakeia. From the start it was a border word: the foreign knowledge of the other side.

[421] [136] Konstapel, J. (2026). How to Make Matter: The History of the Creation and Transmutation of Matter. Constable Research, Leiden, 9 October 2026; constable.blog.

F2. The classical theories [A]

- Tylor and Frazer: magic as false science; two laws, similarity (imitative magic) and contact (contagious magic), together 'sympathetic magic' (Golden Bough, 12 vols 1890–1915).[422,423]
- Durkheim, Mauss and Hubert (1902–03): magic is individual and anti-social compared with religion; Mauss: mana, the magician, the acts, the representations.[424]
- Malinowski: magic is akin to science in its confidence that nature can be controlled; it meets a psychological need.[425]
- Later: Evans-Pritchard, Horton, Tambiah (performative), Leach; collected in Otto and Stausberg, Defining Magic: A Reader (2013). Critique: the triad magic–religion–science does not fit non-Western societies.

F3. Evans-Pritchard: the Azande (1937) [A]

- Witchcraft (mangu: innate, without ritual) versus sorcery (ngwa: with ritual and medicines, learnable by anyone). Magic, oracles and healers form one coherent system; the main purpose of Zande magic is to counter witchcraft; oracles identify witches.[426]

F4. Hanegraaff [A]

- Esotericism and the Academy (2012): 'esotericism' (magic, alchemy, astrology, Kabbalah) arose as a 'waste-basket of rejected knowledge' through Protestant and Enlightenment polemics; the modern intellectual defined himself against it.[427]

F5. Thorndike and Kieckhefer [A]

- Thorndike, A History of Magic and Experimental Science (8 vols, 1923–58): one line.[428]
- Kieckhefer, Magic in the Middle Ages (1989): magic as a crossroads; natural magic (hidden forces of nature, a branch of science) versus demonic magic (evil spirits, dependent on religion); in practice they merge. Antiquity: magic bad only for bad ends; Christian line: all magic demonic.[429]

F6–F7. Further key works [A]

- Gager 1992, Curse Tablets and Binding Spells; Faraone 1991, 'Binding and Burying'; Betz 1986, PGM in Translation; Abusch 2015, Maqlû; Davies 2003/2007, Cunning-Folk; Davies 2009, Grimoires; Price 2002/2019, The Viking Way; Bailey 2007; Hutton 2017; Yates 1964; Walker 1958, Spiritual and Demonic Magic from Ficino to Campanella; Saif 2015, The Arabic

[422][123] Tylor, E. B. (1871). Primitive Culture. John Murray, London.

[423][124] Frazer, J. G. (1890). The Golden Bough. Macmillan, London.

[424][125] Mauss, M. & Hubert, H. (1902–03). Esquisse d'une théorie générale de la magie. L'Année sociologique 7. English: A General Theory of Magic (1972).

[425][126] Malinowski, B. (1948). Magic, Science and Religion and Other Essays. Free Press, Glencoe.

[426][127] Evans-Pritchard, E. E. (1937). Witchcraft, Oracles and Magic among the Azande. Clarendon Press, Oxford.

[427][130] Hanegraaff, W. J. (2012). Esotericism and the Academy: Rejected Knowledge in Western Culture. Cambridge University Press.

[428][128] Thorndike, L. (1923–58). A History of Magic and Experimental Science, 8 vols. Columbia University Press, New York.

[429][129] Kieckhefer, R. (1989). Magic in the Middle Ages. Cambridge University Press.

Influences on Early Modern Occult Philosophy; Thomas 1971, Religion and the Decline of Magic.[430,431,432,433,434,435]

- Saif 2015: Abū Maʿshar, al-Kindī (De radiis) and Picatrix fed Ficino, Pico and Dee; the Arabic theories gave a naturalistic explanation of stellar influence and magical action on Aristotelian causality.
- Critique of Yates: Copenhaver (theurgy and Proclus, not the Hermetica), Westman (no necessary link to Copernicanism), Hanegraaff 2015 (Ficino's Pimander less Hermetic than assumed).[436,437,438]

33. Dossier G: Methods

G1. Binding (katadesmos, defixio) [A]

- Thin lead sheets with a name and a curse, rolled or folded, pierced with nails, buried in graves, thrown into springs and wells, or laid in underground sanctuaries. A Greek invention from the 5th century BCE; about 1,600 known, most Greek; Selinus in Sicily the first find. Targets: rivals in court, sport, trade, love; thieves ('prayers for justice', Bath, Uley). Recipients: chthonic gods and the dead.[439]

G2. Figures (kolossoi) [A]

- Greek from the 7th century BCE, private and public (protecting a city); bound, twisted, pierced; also defensive. The oldest professional magician in Greece, c. 400 BCE: four kolossoi in lead boxes in graves (Faraone 1991).

G3. Egypt: execration [A]

- Lists of enemies on figurines and red pots, ritually broken; Old Kingdom to Roman times; over 1,000 texts; at Mirgissa (Nubia) over 175 pots. Breaking red pots comes from offering and purification rites. The Apophis rituals destroyed the chaos serpent daily.[440]

G4. Mesopotamia: Maqlû, "Burning" [A]

- One night in the month Abu (July/August), about 100 incantations on eight tablets plus a ritual tablet; it begins after sunset with an appeal to the stars; figures of the witch and sorcerer of clay and tallow go into the fire; it ends at dawn with the sun and self-recognition in a bowl of pure water. Abu was chosen because then the spirits travel between the netherworld and the upper world.

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[430] [57] Gager, J. G. (ed.) (1992). Curse Tablets and Binding Spells from the Ancient World. Oxford University Press.

[431] [47] Betz, H. D. (ed.) (1986). The Greek Magical Papyri in Translation. University of Chicago Press.

[432] [38] Davies, O. (2009). Grimoires: A History of Magic Books. Oxford University Press.

[433] [131] Bailey, M. D. (2007). Magic and Superstition in Europe. Rowman & Littlefield, Lanham.

[434] [120] Hutton, R. (2017). The Witch: A History of Fear, from Ancient Times to the Present. Yale University Press, New Haven.

[435] [132] Yates, F. A. (1964). Giordano Bruno and the Hermetic Tradition. Routledge & Kegan Paul, London.

[436] [60] Copenhaver, B. P. (1990). Natural magic, hermetism and occultism in early modern science. In: D. Lindberg & R. Westman (eds.), Reappraisals of the Scientific Revolution. Cambridge University Press, 261–301.

[437] [133] Westman, R. S. & McGuire, J. E. (1977). Hermeticism and the Scientific Revolution. Clark Library, Los Angeles.

[438] [122] Hanegraaff, W. J. (2015). How Hermetic was Renaissance Hermetism? Aries 15(2), 179–209.

[439] [57] Gager, J. G. (ed.) (1992). Curse Tablets and Binding Spells from the Ancient World. Oxford University Press.

[440] [24] Ritner, R. K. (1993). The Mechanics of Ancient Egyptian Magical Practice. Oriental Institute, Chicago.

- Core: reversal of fate; the sorcery returns to the sender. The anti-witchcraft rite mirrors the witch's act; 'the difference can seem a matter of perspective' (CMAwR). Burning destroys; burying banishes to the netherworld.[441]

G5. Greek-Egyptian papyri (PGM) [A]

- 2nd century BCE–5th century CE; Greek, Demotic, Coptic. PGM XII and XIII are in the Rijksmuseum van Oudheden, Leiden. Methods: purification, abstinence, a high roof at night; divine names (Iaō, Sabaōth, Adōnai); voces magicae; acquiring an assistant (paredros, daimon); exorcism; binding. Betz: an 'underground literature', victim of book burnings.[442]

G6. Aramaic incantation bowls [A]

- Sasanian Mesopotamia, 5th–7th century; Jewish Aramaic, Syriac, Mandaic; spiral text, buried upside down under thresholds, courtyards, house corners and in cemeteries to trap a demon (Lilith); demons are 'divorced' with a Jewish bill of divorce (get).[443]

G7. Divination [A]

- Mesopotamia: bārûtu, about 100 tablets of liver omens; clay liver models (Mari); celestial omens in Enūma Anu Enlil; dream interpretation; necromancy.
- Ifá (Yoruba; UNESCO 2008): 256 odu (16 × 16), about 800 verses per odu; the babalawo casts palm nuts or a chain; a sign system, not a medium. $256 = 2^8$.
- Tonalpohualli (Mesoamerica): a 260-day cycle (13 × 20) for ritual and divination; the tonalpouhqui is the 'reader of days and destinies' (Sahagún, Florentine Codex IV).[444]

G8. Letters, numbers and squares [A]

- Al-Būnī (d. 1225), Shams al-Maʿārif: ʿilm al-ḥurūf (science of letters), magic squares by planet, the 99 names of God; often banned. Islamic division: sihr (black) versus ʿilm al-hikma, sīmiyāʾ, rūḥāniyyāt (accepted theurgy). Agrippa (1533) made seals by drawing paths through magic squares.[445]

G9. Command over spirits: Solomon [A]

- Testament of Solomon (1st–3rd century CE): Michael gives a ring with the pentalpha; each demon gives its name, star sign and the angel who defeats it; the 36 decan demons each rule a body part and an illness: a handbook for healing and exorcism.[446]
- Line: Testament → Key of Solomon → Sworn Book of Honorius (13th century) → Lemegeton (mid-17th century: Ars Goetia, Theurgia-Goetia, Paulina, Almadel, Notoria). Honorius was a source for Dee's Sigillum Dei Aemeth.[447]

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[441] [40] Abusch, T. (2015). The Witchcraft Series Maqlû. SBL Press, Atlanta.

[442] [47] Betz, H. D. (ed.) (1986). The Greek Magical Papyri in Translation. University of Chicago Press.

[443] [41] Shaked, S., Ford, J. N. & Bhayro, S. (2013). Aramaic Bowl Spells: Jewish Babylonian Aramaic Bowls, vol. 1. Brill, Leiden.

[444] [100] Sahagún, B. de (c. 1577). Florentine Codex, Book 3, Appendix, ch. 1–3. Transl. A. J. O. Anderson & C. E. Dibble (1950–1982). School of American Research, Santa Fe.

[445] [73] Agrippa von Nettesheim, H. C. (1533). De occulta philosophia libri tres. Cologne. English: Three Books of Occult Philosophy, transl. J. Freake (1651).

[446] [37] Duling, D. C. (1983). Testament of Solomon. In: J. H. Charlesworth (ed.), The Old Testament Pseudepigrapha, vol. 1. Doubleday, New York, 935–987.

[447] [38] Davies, O. (2009). Grimoires: A History of Magic Books. Oxford University Press.

G10. The North: seiðr and galdr [A]

- Seiðr: mostly women (vǫlva, 'staff-bearer'); prophecy, weather, healing; Odin and Freyja practise it; for men it was ergi (unmanly) (Price, The Viking Way; Snorri, Ynglinga saga 7). Galdr: sung formulas and runes. Price: seiðr lies on one of the moral and psychological borders of society.[448]

G11. Cunning folk [A]

- Wise men and women, also 'white witches': against witches, finding thieves, healing, telling the future; they also used grimoires; church and state often looked away (Davies 2003/2007).[449]
- Onmyōdō (Japan): yin-yang and five phases reached Japan via Baekje (6th–7th century); the Onmyōryō was a state bureau for divination, calendar, astrology and time-keeping; Abe no Seimei (921–1005); shikigami (servant spirits); the pentagram as Seimei's seal.
- Daoist talismans (fu): talismans and incantations, 'heavenly medicine' (tianyi); the Celestial Masters (2nd century CE) used talismans in healing and exorcism; 'heavenly writing' (tianshu) revealed by heaven.[450]

34. Dossier H: White and black

H1. Antiquity

- Theurgy (Iamblichus) versus goēteia; classically magic was bad only for bad ends (Kieckhefer). Mesopotamia had no separate 'white' category: the āšipu does what the witch does, but in reverse (CMAwR).[451,452]

H2. Christianity

- Augustine (De doctrina christiana II.20–24; De civitate Dei): the first full Christian theory; magic rests on signs that are a pact with demons; amulets, incantations, 'characters'.
- Thomas Aquinas (Summa theologiae II-II q. 96): what works by nature is lawful; what does not work by nature is a sign, hence a tacit pact, hence unlawful; the ars notoria forbidden; astrological images work through demons. Criterion: does it work through nature (cause) or through a sign (a pact with a being)?

H3. Renaissance natural magic

- Ficino (natural and astral magic); Pico (900 Conclusiones, 1486: 26 on magic, 72 on Kabbalah; 13 theses charged, the whole condemned by Innocent VIII); Agrippa (to Trithemius 1510; printed 1533; three books = three worlds). Agrippa: demonic magic to be avoided; angels and good spirits permitted.[453]

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[448] [68] Snorri Sturluson (c. 1220). Edda (Gylfaginning 27). Transl. A. Faulkes (1987). Everyman, London.

[449] [38] Davies, O. (2009). Grimoires: A History of Magic Books. Oxford University Press.

[450] [84] Strickmann, M. (2002). Chinese Magical Medicine, ed. B. Faure. Stanford University Press.

[451] [129] Kieckhefer, R. (1989). Magic in the Middle Ages. Cambridge University Press.

[452] [40] Abusch, T. (2015). The Witchcraft Series Maqlû. SBL Press, Atlanta.

[453] [73] Agrippa von Nettesheim, H. C. (1533). De occulta philosophia libri tres. Cologne. English: Three Books of Occult Philosophy, transl. J. Freake (1651).

H4. The witch hunts

- Malleus Maleficarum (Kramer, 1486/87); about 100,000–110,000 trials and 40,000–60,000 executions between 1400 and 1782, about 80–85% women (Levack; Hutton).[454,455]

H5. Islam

- Sihr forbidden; ruqya and ʿilm al-hikma permitted; the line is disputed (Shams al-Maʿārif banned in fatwas).[456]

H6. Africa and elsewhere

- Azande: witch (innate) versus sorcerer (learned); the healer and the oracle stand on the side of the fight against it. Hawaii: kahuna lāʻau lapaʻau versus kahuna ʻanāʻanā (praying to death). Sulis heals and curses.[457,458]

H7–H9. Further cases

- Atharvaveda (c. 1200–900 BCE): charms of two kinds, śānta (wholesome) and ghora (expulsion, destruction of enemies); fourteen classes (Bloomfield), the first against illness and possession by illness demons (bhaiṣajyāni); abhicāra (attack) and kṛtyā-pratiharaṇa (sending sorcery back). The Kauśika Sūtra joins herbs and spells.[459]
- Sepher ha-Razim (c. 300 CE): given to Noah by the angel Raziel; seven heavens, some 700 to 1,100 angel names, about 30 recipes; invokes angels, not God; found by Margalioth in the Cairo Geniza (1963).[460]
- Nahua: López Austin, 'Forty classes of magicians of the Nahuatl world': a nahualli could be a tlacatecolotl ('owl-man', harmful) if he used his powers against others, but also a reader of sacred books, a hail-averter or a healer, or all at once. Ticitl = physician and diviner with the day calendar (Sahagún, Florentine Codex X).[461]
- Hekhalot/Merkavah (3rd–8th century, dating disputed): ascent through seven palaces to the chariot (Ezekiel 1); ascent texts (R. Akiva, R. Ishmael) and adjuration texts to call the Sar ha-Torah; hymns, divine names, seals, asceticism; the practitioner is called 'descender to the chariot'; Metatron is the transformed Enoch.[462]
- Bön (Tibet): rituals of type gto (welfare) and mdos (thread-crosses), glud (ransom: a substitute given to the spirits); diagnosis of spiritual causes of illness (dpyad); Old Tibetan PT 1285: bon and gshen priests as healers with mythic precedents. A Leiden thesis (Doorenbosch 2023) treats illness-causing spirits in the Blue Beryl medical paintings.
- Candomblé (Brazil): Ossaim, 'lord of the leaves'; Omolu/Obaluaiê, orixá of illness and healing (earth, skin disease, epidemics), whose month is August, with the Olubajé rite; healing by ebó (offering), herb baths and the relation with the orixás (Lesshafft 2016).

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[454] [120] Hutton, R. (2017). The Witch: A History of Fear, from Ancient Times to the Present. Yale University Press, New Haven.

[455] [131] Bailey, M. D. (2007). Magic and Superstition in Europe. Rowman & Littlefield, Lanham.

[456] [44] Smith, J. I. & Haddad, Y. Y. (1981). The Islamic Understanding of Death and Resurrection. SUNY Press, Albany.

[457] [127] Evans-Pritchard, E. E. (1937). Witchcraft, Oracles and Magic among the Azande. Clarendon Press, Oxford.

[458] [66] Tomlin, R. S. O. (1988). Tabellae Sulis: Roman Inscribed Tablets of Tin and Lead from the Sacred Spring at Bath. Oxford University Committee for Archaeology.

[459] [77] Bloomfield, M. (transl.) (1897). Hymns of the Atharva-Veda. Sacred Books of the East 42. Clarendon Press, Oxford.

[460] [39] Morgan, M. A. (transl.) (1983). Sepher Ha-Razim: The Book of the Mysteries. Scholars Press, Chico CA.

[461] [100] Sahagún, B. de (c. 1577). Florentine Codex, Book 3, Appendix, ch. 1–3. Transl. A. J. O. Anderson & C. E. Dibble (1950–1982). School of American Research, Santa Fe.

[462] [34] Davila, J. R. (2013). Hekhalot Literature in Translation: Major Texts of Merkavah Mysticism. Brill, Leiden.

- Tantra ṣaṭkarman: pacifying, subjugating, immobilising, bewildering, dividing, driving away, attracting, killing; Agni Purāṇa 138: the season decides which act works; Manusmṛti forbids abhicāra.[463]
- Santería / Regla de Ocha (Cuba): Yoruba religion with Catholicism; Osanyin as orisha of medicine; the diloggún (cowrie oracle) for diagnosis and healing.

H10. Fusion of Africa and America

- Vodou (Haiti): mainly Fon and Bakongo (plus Yoruba) with French Catholicism; most lwa names from Fon and Yoruba; enslaved Africans met the Arawak-Taíno and took in elements of indigenous ritual (Fleurant 2004). 1791, Bois Caïman: a Vodou rite began the Haitian revolution.[464]
- Umbanda (Brazil, 1908): the main spirits are pretos velhos (spirits of enslaved Africans) and caboclos (spirits of indigenous Brazilians), with orixás and Kardecist spiritism (France 1857). Founding moment 15 November 1908: Zélio de Moraes and the spirit 'Caboclo of the Seven Crossroads'.
- Barquinha and Santo Daime (Acre, 1930, 1945): ayahuasca with Afro-Brazilian spirit possession, folk Catholicism and esotericism; Mercante proposes 'Afro-Amazonian religion'; encantados are spirits in plants and animals.[465]

Short conclusions to Dossiers F–H

- Everywhere white and black are one technique in opposite directions: Maqlû mirrors the witch's act; ruqya against sihr; the āšipu reverses fate; binding figures attack and defend. Now attested in six independent cultures: Maqlû, Atharvaveda, tantra, Nahua, Hawaii, Islam.
- The Western line was drawn along 'nature or being': natural cause lawful, sign to a being a pact. Against it stands the Arabic naturalistic line (al-Kindī, Picatrix, Ficino).
- The places of magic are border places: graves, wells, springs, thresholds, underground, night, the turn of the year.
- Knowledge of the other side is coded in number and letter: Ifá 256, Sefer Yetzirah 32, al-Būnī's squares, 36 decans, Dee's 30, the Hermetic 7/8/9.
- In the fusion religions the two directions of crossing meet: out (the healer travels) and in (the spirit comes).

35. Dossier J: The author's own work

The author's own studies on constable.blog treat several themes of this book. They are listed here as references, not reproduced.

- **How to Make Matter** (9 October 2026): a 13-chapter history of the creation and transmutation of matter, from the Leiden Papyrus X (c. 250–300, 111 recipes for gold, silver and asem) and Zosimos, through China, India, Tibet and Helvetius in The Hague (1666) to the 20th century; three operations (rearranging, shifting an address, forming matter); a four-part register.[466]

[463] [79] Ullrey, A. (2016). Grim Grimoires: Pragmatic Ritual in the Magic Tantras. PhD dissertation, University of California, Santa Barbara.

[464] [110] Brown, K. McCarthy (1991). Mama Lola: A Vodou Priestess in Brooklyn. University of California Press, Berkeley.

[465] [99] Mercante, M. S. (2015). Barquinha: religião ayahuasqueira, afro-brasileira ou afro-amazônica? Plura, Revista de Estudos de Religião 6(2), 100–115.

[466] [136] Konstapel, J. (2026). How to Make Matter: The History of the Creation and Transmutation of Matter. Constable Research, Leiden, 9 October 2026; constable.blog.

- **Transmutation: Chemical Elements on Demand** (9 October 2026): an element read as a knot in the net; the state of the surroundings decides which knot is stable.
- **Why Alchemy Could Really Work** (13 August 2026): three 'doors': border, not laboratory; choose, do not push, near a tipping point; build the vessel.
- **The Age of Magic** (30 July 2026): magic defined as the 'second operation', conditioning a medium until the form arises by itself.[467]
- **On Magic and Alchemy** (7 May 2025); **In Search of the Philosophers' Stone** (9 May 2025; note: the Bronze Mean rule given there yields 1, 1, 4, 13, 43, 142, not 169); **The Golden Elixir** (3 June 2026); **Ideogram 142: The Labyrinth** (10 November 2025; the Prav–Yav–Nav source is not treated as ancient in this book); **What Can We Learn from Medical Miracles?** (11 May 2025, on Pachita); **The Line of the Dual Domain, from Sahu to Monroe** (21 July 2026), a 24-step transfer line from shamanism to Monroe and near-death research.

[467] [8] Konstapel, J. (2026). The Age of Magic. constable.blog, 30 July 2026.

Part XII

Studies: the Border in Texts, Sky, Number, Matter, Mind and Machines

This part contains the full studies of the previous edition (v2.8). They treat the oldest witnesses, the sky and the calendar, alchemy and magic, the border around the world, number, matter, mind, machines and anomalies, each with its figures and sources. Counts in these studies refer to the earlier coding of 41 traditions as mentioned in that edition; the coding of 70 traditions in Chapter 4 supersedes them.

Study 1: The old witnesses

The oldest written sources for a border between two worlds come from Egypt, Mesopotamia and Israel. Greek philosophy turned them into an argument. This chapter collects them. It looks for the form, not for belief.

Seen

Egypt. The Egyptians did not think of a person as one thing. A person had a body (Khat) and a spiritual body (Sah). A person had a name (Ren), a shadow (Shut) and a heart (Ib). Above all a person had a Ka and a Ba.[468] The Ka was the life force, the double, created at birth. It received the offerings in the tomb. The Ba was shown as a bird with a human head. It could leave the tomb by day and return at night.[469] After a successful passage, the parts of the dead person were united as the Akh, the transfigured spirit.[470] The passage led through the Duat, the realm of Osiris. The author's survey of the complementary domain starts here.[471]

Greece. Plato's cave is the best-known Western image.[472] Prisoners see shadows on a wall. The real things are outside, in the light. One prisoner is freed. He goes out, is blinded, slowly learns to see, and returns. The return is the hard part. The others do not believe him. Plato thus gives the border three properties. It can be crossed. Crossing changes the one who crosses. And the one who returns cannot simply tell what he saw.

Mesopotamia. Before the flood, seven sages, the *apkallu*, brought civilisation. The first was Oannes, a being with the body of a fish and the head and voice of a man. According to Berossus he came up from the sea by day and went back at night. He taught writing, the sciences and the crafts, the founding of cities and temples, laws and the measuring of land.[473] Enmeduranki, the seventh king of Sippar, received secret knowledge from the gods Shamash and Adad: the art of divination from oil on water, from the liver and from the tablet of heaven.[474]

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[468] [21] Taylor, J. H. (ed.) (2010). Journey through the Afterlife: Ancient Egyptian Book of the Dead. British Museum Press, London.

[469] [21] Taylor, J. H. (ed.) (2010). Journey through the Afterlife: Ancient Egyptian Book of the Dead. British Museum Press, London.

[470] [21] Taylor, J. H. (ed.) (2010). Journey through the Afterlife: Ancient Egyptian Book of the Dead. British Museum Press, London.

[471] [139] Konstapel, J. (2026). [On the complementary domain and Dual Space]. constable.blog, 21 July 2026.

[472] [58] Plato. Republic, Book VII, 514a–520a (the allegory of the cave). Transl. P. Shorey (1935), Loeb Classical Library.

[473] [25] Annus, A. (2010). On the origin of Watchers: a comparative study of the antediluvian wisdom in Mesopotamian and Jewish traditions. Journal for the Study of the Pseudepigrapha 19(4), 277–320. doi:10.1177/0951820710373978.

[474] [25] Annus, A. (2010). On the origin of Watchers: a comparative study of the antediluvian wisdom in Mesopotamian and Jewish traditions. Journal for the Study of the Pseudepigrapha 19(4), 277–320. doi:10.1177/0951820710373978.

The Book of Enoch. 1 Enoch is a collection of five books, written in Aramaic between about the third and the first century BCE. Only the Ethiopian church kept it whole. In 1976 Milik published Aramaic fragments from the Dead Sea Scrolls, which showed its age and its Aramaic origin.[475]

The first part, the Book of the Watchers (1 Enoch 1–36), tells the story of the border. Angels see the daughters of men and desire them. "And they were in all two hundred; who descended in the days of Jared on the summit of Mount Hermon."[476] They are led by twenty chiefs of tens. They take wives and teach them. One teaches metalwork and weapons, another the cutting of roots. One teaches astrology, another the constellations, another the signs of the sun, another the course of the moon.[477] Their children are giants who consume everything. The earth cries out. The flood follows.

Enoch himself goes the other way. He is taken up, sees the throne of heaven and is shown the gates of the sun and the moon. He returns and writes. The Watchers then ask him to carry their petition to heaven. He does. The answer is no: they have left the high heaven and cannot return.[478]

Daniel. The only biblical use of the word 'watcher' is in Daniel 4. King Nebuchadnezzar dreams of "a watcher, a holy one" coming down from heaven. The sentence on the king is "by the decree of the watchers".[479] Here the watchers do not fall. They judge.

The Book of Giants. Fragments found at Qumran tell the story from the giants' side. They dream of their own destruction and send one of them to Enoch to ask what the dreams mean.[480] Mani later took this book into his own canon.

3 Enoch. A later Hebrew book, Sefer Hekhalot or 3 Enoch, completes the story. It was probably composed in or near Babylonia and finished around the fifth or sixth century.[481] In it Enoch is taken up and transformed into the angel Metatron, the Prince of the Presence, who stands closest to the throne and reveals the secrets of heaven.[482,483] The mystics of this literature, the 'descenders to the chariot', described an ascent through seven heavenly palaces, each with its gatekeepers.[484]

Reasoned

- **Known.** The Aramaic name of the Watchers, *ʿîrîn*, means the wakeful ones. In Greek they are *egrēgoroi*. In Daniel the word describes a heavenly being who never sleeps and stands in the presence of God.[485]
- **Known.** Annus argues that the Watchers are an inverted version of the apkallu. The Mesopotamian sages brought civilisation as a gift. The Jewish authors turned them into fallen beings who brought forbidden knowledge.[486]

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[475] [30] Milik, J. T. (1976). The Books of Enoch: Aramaic Fragments of Qumrân Cave 4. Clarendon Press, Oxford.

[476] [29] Charles, R. H. (transl.) (1917). The Book of Enoch. SPCK, London.

[477] [29] Charles, R. H. (transl.) (1917). The Book of Enoch. SPCK, London.

[478] [29] Charles, R. H. (transl.) (1917). The Book of Enoch. SPCK, London.

[479] [31] Daniel 4:13, 17, 23 (Aramaic). Any critical translation, e.g. the NET Bible with notes.

[480] [30] Milik, J. T. (1976). The Books of Enoch: Aramaic Fragments of Qumrân Cave 4. Clarendon Press, Oxford.

[481] [35] Alexander, P. S. (1983). 3 (Hebrew Apocalypse of) Enoch. In: J. H. Charlesworth (ed.), The Old Testament Pseudepigrapha, vol. 1. Doubleday, New York, 223–315.

[482] [35] Alexander, P. S. (1983). 3 (Hebrew Apocalypse of) Enoch. In: J. H. Charlesworth (ed.), The Old Testament Pseudepigrapha, vol. 1. Doubleday, New York, 223–315.

[483] [36] Orlov, A. A. (2005). The Enoch-Metatron Tradition. Texts and Studies in Ancient Judaism 107. Mohr Siebeck, Tübingen.

[484] [36] Orlov, A. A. (2005). The Enoch-Metatron Tradition. Texts and Studies in Ancient Judaism 107. Mohr Siebeck, Tübingen.

[485] [31] Daniel 4:13, 17, 23 (Aramaic). Any critical translation, e.g. the NET Bible with notes.

[486] [25] Annus, A. (2010). On the origin of Watchers: a comparative study of the antediluvian wisdom in Mesopotamian and Jewish traditions. Journal for the Study of the Pseudepigrapha 19(4), 277–320. doi:10.1177/0951820710373978.

- **Known.** Enoch is modelled on Enmeduranki. Both are seventh in a line before the flood. Both are taken up and learn the secrets of heaven. Both are linked with the sun: Enmeduranki with Shamash, the sun god of Sippar; Enoch with a life of 365 years, the length of the civil year.[487]
- **Known.** Jubilees keeps two kinds of knowledge apart. Enoch was the first to learn writing and wisdom and to write the signs of heaven in a book, in the order of the months.[488] Later Kainan finds an inscription carved on a rock by earlier generations. It contains the Watchers' teaching about the omens of sun, moon and stars. He copies it and sins by it.[489]
- **Known.** Jubilees also says that the Watchers first came down to teach justice and to do judgment on earth.[490] 1 Enoch does not say this. In Jubilees the fall comes later. The border was first crossed for a good reason.

Table 1.1. Two ways across the border in 1 Enoch and Jubilees. Each cell is Known from the texts; the opposition as a whole is a reading.

	Enoch	The Watchers
Direction	goes up and returns	come down and stay
Sleep	sleeps; receives in dreams and visions	never sleep
Knowledge	written in order, by months	carved or taught as secrets
Use	understood, passed on to his son	copied without understanding (Kainan)
Outcome	the calendar of Chapter 2	the giants, the flood

Back to the whole

> **Reading.** The Watchers are defined by one property: they do not sleep. The author draws the consequence. A being that never sleeps has a coupling that never swings. It stays on the threshold between space and antispace.[491]
>
> Two kinds of knowledge pass the border. One is written, ordered and understood (Enoch). The other is carved, copied and not understood (Kainan's rock). The first is carried by someone who crosses and returns, like the freed prisoner in Plato's cave. The second comes from beings who stay on the border and never return to rest.
>
> 3 Enoch closes the circle. The Watchers came down and could not return. Enoch went up, returned, and in the end went up for good: he became Metatron, the one who stands on the threshold of the Presence and passes the secrets down. The human who crossed became the guardian of the border.
>
> Egypt adds a third element. The Ba crosses daily, out by day and back by night. It is the regular swing. The Akh is what results when the parts are united: a being that no longer swings. Read this way, the Akh and the Watchers are two forms of the same state, one reached by a completed passage, the other by a refusal to return.

Here the border is the threshold where the wakeful ones stand: between the world that sleeps and the world that never does.

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[487] [25] Annus, A. (2010). On the origin of Watchers: a comparative study of the antediluvian wisdom in Mesopotamian and Jewish traditions. Journal for the Study of the Pseudepigrapha 19(4), 277–320. doi:10.1177/0951820710373978.

[488] [32] Charles, R. H. (transl.) (1902). The Book of Jubilees. A. & C. Black, London.

[489] [32] Charles, R. H. (transl.) (1902). The Book of Jubilees. A. & C. Black, London.

[490] [32] Charles, R. H. (transl.) (1902). The Book of Jubilees. A. & C. Black, London.

[491] [140] Konstapel, J. (2026). The Wakeful Ones: Enoch & Monroe. constable.blog, 1 September 2026.

Study 2: The sky and the calendar

If the old border is about the sky, the calendar is where it becomes exact. A calendar must decide how many days a year has. The sky does not give a whole number. This chapter shows how the Enochic tradition cut that knot, and what number it chose.

Seen

The Astronomical Book of Enoch (1 Enoch 72–82) is the oldest Jewish text of exact science.[492] Its Aramaic version is older and longer than the Ethiopic one. The oldest copy, 4Q208, dates from the third or second century BCE.[493]

An angel, Uriel, shows Enoch the gates of heaven. There are six gates in the east and six in the west. The sun rises in one gate for thirty days and then moves on. In the first month it rises in the fourth gate, then in the fifth, then in the sixth. It turns back and passes through the gates in the reverse order, down to the first. Then it turns again.[494]

Day and night together are divided into 18 parts. At the start of the year day and night are equal: nine parts each. Each month the day gains or loses one part. At midsummer "the day becomes double the night, and the day becomes twelve parts, and the night is shortened and becomes six parts."[495] At midwinter it is the other way round.

The year has 364 days: twelve months of thirty days and four added days, one at each turning point of the sun. The text insists on it. Those who do not count the four days err.[496]

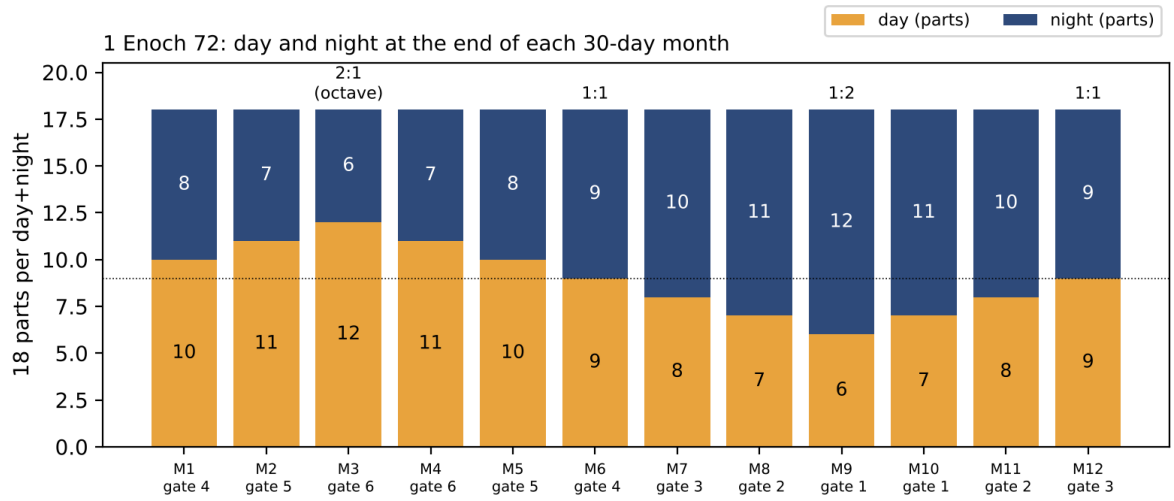

Figure 2.1. Day and night in 1 Enoch 72, in eighteenths, at the end of each thirty-day month. The gate of sunrise is shown below each month. The day runs from 1:1 through 2:1 back to 1:1 and on to 1:2. *Known (text); figure Measured.*

Around the celestial pole two bright stars of the Little Bear, Kochab and Pherkad, circle without setting. They are traditionally called the Guardians of the Pole. Around 1000 BCE, because of the

[492] [141] Neugebauer, O. (1981). The 'Astronomical' Chapters of the Ethiopic Book of Enoch (72 to 82). Kongelige Danske Videnskabernes Selskab, Matematisk-fysiske Meddelelser 40:10, Copenhagen.

[493] [142] Ratzon, E. (2019). 4Q208: A new reconstruction and its implications on the evolution of the Astronomical Book. Revue de Qumran 31(1), 51–110.

[494] [29] Charles, R. H. (transl.) (1917). The Book of Enoch. SPCK, London.

[495] [29] Charles, R. H. (transl.) (1917). The Book of Enoch. SPCK, London.

[496] [29] Charles, R. H. (transl.) (1917). The Book of Enoch. SPCK, London.

slow wobble of the earth's axis, Kochab was the brightest star near the pole.[497] The Babylonian star compendium MUL.APIN, compiled around that time, lists the northern stars as the 'Stars of Enlil'.[498]

Reasoned

- **Known.** In Mesopotamia an ideal year of 360 days, twelve months of thirty days, was used beside the real lunar calendar. It was a year for accounting and for astronomical schemes, not for daily life.[499] MUL.APIN uses it throughout and places the equinoxes and solstices on the 15th of months I, IV, VII and X.[500]
- **Known.** MUL.APIN and related texts give a ratio of 2:1 between the longest and the shortest day. For the latitude of Babylon this is far too large. Scholars have long noted that the scheme is schematic, not observed.[501] 1 Enoch 72 uses the same ratio.[502]
- **Known.** The Astronomical Book defends 364 days against the 360-day ideal year. Its twelve gates are arranged like the zodiac.[503] Later scribes adapted the oldest Aramaic scheme to the 364-day year.[504] The reconstruction of the Aramaic calendar is still debated.[505]
- **Known.** Three years compete in this world: 360 (the ideal year), 364 (Enoch) and 365 (the Egyptian civil year, 360 plus five added days). Enoch's age of 365 years is the civil year.[506]
- **Measured.** $364 = (3^6 - 1)/2$. This is the largest number that six trits can write: $+1+3+9+27+81+243 = 364$. The window from -364 to $+364$ holds exactly $3^6 = 729$ numbers. The Enochic year fills the window of six trits completely.[507]
- **Measured.** $364 = 52 \times 7 = 4 \times 91 = 4 \times (30 + 30 + 31)$. The year closes on whole weeks, and each quarter closes on 13 weeks. Every feast falls on the same weekday every year. Of all multiples of 28, it is the one nearest to the real year.
- **Measured.** The day-to-night ratios of 1 Enoch 72 run through 9:9 = 1:1, 10:8 = 5:4, 11:7 and 12:6 = 2:1. In music 1:1 is the unison, 5:4 the pure major third (386 cents) and 2:1 the octave. 11:7 (782 cents) lies between the fifth and the minor sixth and is not a classical interval.
- **Measured.** $360 = 2^3 \cdot 3^2 \cdot 5$ and $365 = 5 \cdot 73$. The ideal year is rich in divisors; the civil year is not. $364 = 2^2 \cdot 7 \cdot 13$ sits between them: rich enough to close on weeks, and a trit window.

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[497] [93] Sky & Telescope (2020). Meet Kochab, Guardian of the Pole. skyandtelescope.org.

[498] [92] Hunger, H. & Pingree, D. (1989). MUL.APIN: An Astronomical Compendium in Cuneiform. Archiv für Orientforschung, Beiheft 24. Berger, Horn.

[499] [143] Brack-Bernsen, L. (2007). The 360-day year in Mesopotamia. In: J. M. Steele (ed.), Calendars and Years: Astronomy and Time in the Ancient Near East. Oxbow, Oxford, 83–100.

[500] [92] Hunger, H. & Pingree, D. (1989). MUL.APIN: An Astronomical Compendium in Cuneiform. Archiv für Orientforschung, Beiheft 24. Berger, Horn.

[501] [92] Hunger, H. & Pingree, D. (1989). MUL.APIN: An Astronomical Compendium in Cuneiform. Archiv für Orientforschung, Beiheft 24. Berger, Horn.

[502] [144] Drawnel, H. (2025). The literary structure and schematic clauses in 1 En. 72:8–32. Dead Sea Discoveries 32.

[503] [145] Ratzon, E. (2015). The gates cosmology of the Astronomical Book of Enoch. Dead Sea Discoveries 22, 93–111. doi:10.1163/15685179-12341336.

[504] [142] Ratzon, E. (2019). 4Q208: A new reconstruction and its implications on the evolution of the Astronomical Book. Revue de Qumran 31(1), 51–110.

[505] [146] Jacobus, H. R. (2019). Reconstructing the calendar of 4Q208–4Q209 (and a response to Eshbal Ratzon). Revue de Qumran 31(2), 251–273.

[506] [25] Annus, A. (2010). On the origin of Watchers: a comparative study of the antediluvian wisdom in Mesopotamian and Jewish traditions. Journal for the Study of the Pseudepigrapha 19(4), 277–320. doi:10.1177/0951820710373978.

[507] [6] Konstapel, J. (2026). Mathematical Theory Generated with the Vacuum.Net Theory, version 7.0 (19 November 2026). Constable Research, Leiden.

Table 2.1. Four years. Known (lengths) and Measured (factors, trit window).

Year	Days	Factors	Trits	What it closes
Ideal (Babylon)	360	$2^3 \cdot 3^2 \cdot 5$	—	months of 30, degrees of the circle
Enoch	364	$2^2 \cdot 7 \cdot 13$	$(3^6-1)/2$: full window of 6 trits	weeks (52), quarters (13 weeks)
Civil (Egypt)	365	$5 \cdot 73$	—	nothing; drifts 1 day in 4 years
Tropical	≈ 365.2422	—	—	does not close

Back to the whole

> **Reading.** The real year does not close: it has about 365.24 days. Every calendar must decide where to cut. Enoch cuts at 364, which is a closure on a trit border: a full window of six trits. The calendar is closed by decree. In the terms of Chapter 0, the decree makes a loop close that in nature does not.
>
> The 2:1 day is too large for Babylon. As an observation it is wrong. As a scheme it is the octave: the ratio where a loop doubles and returns to itself. The year swings once through the octave and back. The day-and-night scheme is music before it is astronomy.
>
> The Guardians of the Pole never set. Like the Watchers they never sleep. They circle the fixed point of the sky. In the Trit Tile there are points that do the same: they never reach rest and turn forever around a fixed point (Chapter 3).

Here the border is the place where the year is cut: the decree that closes what in the sky does not close.

Study 1b: Alchemy and magic

Between the old texts and modern science stand two traditions that worked on the border directly. Alchemy tried to unite opposites in matter. Magic tried to act from one world on another. Both were later pushed out of science. Both claimed the Watchers or Enoch as their source. This chapter follows them.

Seen

The first alchemist. The oldest surviving books on alchemy were written around 300 CE by Zosimos of Panopolis, in Upper Egypt.[508] He mixed laboratory recipes with visions. In his dreams the apparatus became a temple, and the metals became persons who were dissolved and rebuilt.[509] He quotes an earlier woman alchemist, Maria the Jewess.[510]

The Emerald Tablet. A short text attributed to Hermes Trismegistus became the creed of later alchemy. Its oldest versions are Arabic, from the late eighth or early ninth century.[511,512] The famous second line was later paraphrased as 'as above, so below'. The early Arabic text says something

[508] [138] Linden, S. J. (ed.) (2003). The Alchemy Reader: From Hermes Trismegistus to Isaac Newton. Cambridge University Press.
[509] [48] Dictionary of Scientific Biography (1976), vol. 14, s.v. "Zosimus of Panopolis". Scribner, New York.
[510] [138] Linden, S. J. (ed.) (2003). The Alchemy Reader: From Hermes Trismegistus to Isaac Newton. Cambridge University Press.
[511] [147] Ruska, J. (1926). Tabula Smaragdina: Ein Beitrag zur Geschichte der hermetischen Literatur. Winter, Heidelberg.
[512] [51] Holmyard, E. J. (1923). The Emerald Table. Nature 112, 525–526.

stronger: the above is *from* the below, and the below is *from* the above, working the wonders of one.[513] Its father is the sun, its mother the moon.

The union of opposites. For the alchemists the work was a marriage of opposites: hot and cold, moist and dry, sun and moon, sulphur and mercury. Their formula was *solve et coagula*, dissolve and bind. Carl Jung spent his last major book on this union.[514]

Three worlds. In 1533 Cornelius Agrippa published the summa of Renaissance magic in Cologne. It has three books for three worlds: the elemental, the celestial and the intellectual.[515] Each world receives its powers from the one above it. The magician who knows the correspondences can work across the borders between them.

The angelic language. From 1581 the English mathematician John Dee held sessions with a scryer, Edward Kelley. The angels, Kelley reported, dictated books in their own language. One was called a 'Book of Enoch'.[516] Later writers named the language Enochian, because Dee held that Enoch had been the last human to know it. A linguist who studied it found no extraordinary features.[517]

The last of the magicians. In 1936 a large part of Isaac Newton's papers was auctioned. John Maynard Keynes bought most of the alchemical ones. He was astonished. Newton, he wrote, was not the first of the age of reason but 'the last of the magicians'.[518] Recent historians read Newton's alchemy as serious chemistry, but they no longer deny it.[519]

Reasoned

- **Known.** Zosimos' book *Imuth* is quoted by the Byzantine chronicler Syncellus. In that passage, alchemy is one of the arts revealed to women by the fallen angels: the story of 1 Enoch 6–8.[520] Alchemy itself thus traced its origin to the Watchers.
- **Known.** Dee's angelic sessions claim the same origin from the other end: a language last known to Enoch, now given back by angels.[521]
- **Known.** The Emerald Tablet circulated in Arabic from about 800, in Latin from the twelfth century, and was still read by Newton.[522]
- **Known.** Alchemy, magic and astrology shared one assumption: the worlds are linked by correspondence, not by push and pull. The author's own blog states the same principle: 'correspondence, not causation'.[523]

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[513] [51] Holmyard, E. J. (1923). The Emerald Table. Nature 112, 525–526.

[514] [148] Jung, C. G. (1963/1970). Mysterium Coniunctionis: An Inquiry into the Separation and Synthesis of Psychic Opposites in Alchemy. Collected Works 14. Princeton University Press.

[515] [73] Agrippa von Nettesheim, H. C. (1533). De occulta philosophia libri tres. Cologne. English: Three Books of Occult Philosophy, transl. J. Freake (1651).

[516] [74] Peterson, J. H. (ed.) (2003). John Dee's Five Books of Mystery. Weiser, Boston.

[517] [75] Laycock, D. C. (1978). The Complete Enochian Dictionary. Askin, London.

[518] [134] Keynes, J. M. (1947). Newton, the Man. In: Royal Society, Newton Tercentenary Celebrations. Cambridge University Press, 27–34.

[519] [135] Newman, W. R. (2018). Newton the Alchemist: Science, Enigma, and the Quest for Nature's 'Secret Fire'. Princeton University Press.

[520] [48] Dictionary of Scientific Biography (1976), vol. 14, s.v. "Zosimus of Panopolis". Scribner, New York.

[521] [74] Peterson, J. H. (ed.) (2003). John Dee's Five Books of Mystery. Weiser, Boston.

[522] [138] Linden, S. J. (ed.) (2003). The Alchemy Reader: From Hermes Trismegistus to Isaac Newton. Cambridge University Press.

[523] [149] Konstapel, J. (2026). Wakeful Machines and Watchers: How Future War Will Really Be Fought. constable.blog, 2 October 2026.

Table 1b.1. Alchemy and magic as border traditions. Cells are Known; the comparison is a reading.

	Alchemy	Magic
Two sides	sun and moon; sulphur and mercury; solve and coagula	elemental, celestial and intellectual worlds
The border	the conjunction: the marriage of opposites	the correspondence between worlds
Claimed source	the Watchers (Zosimos via Syncellus); Hermes	Enoch (Dee); Hermes (Agrippa)
Link to science	Newton; Boyle; chemistry	astronomy; Dee as mathematician

Back to the whole

> **Reading.** Alchemy is the first laboratory of the border. Its goal, the conjunction of opposites, is the self-dual point of Chapter 4 in the language of the furnace: the place where hot and cold, sun and moon, are equal and can turn into each other.
>
> The Arabic Emerald Tablet says that the above comes from the below and the below from the above. That is Rule 1 of this book: one reality read twice. 'The wonders of one' is the single thing that both readings describe.
>
> Both alchemy and magic name the Watchers or Enoch as their source. Read with Jubilees (Chapter 1), they inherited the carved rock rather than Enoch's book: powerful, copied, and seldom understood. Newton read them as a scientist and kept them secret.

Here the border is the conjunction: the marriage of opposites, where above and below come from each other.

Study 1c: The border around the world

The border is not a Near-Eastern idea. It appears on every continent, often with a guardian who does not sleep or who sees both ways. This chapter is a short tour. It does not claim that these traditions copied each other. Where no route of contact is documented, the likeness is a likeness of form.

Seen

Siberia and the shaman. Mircea Eliade's comparative study of 1951 described the shaman as a specialist of the crossing. In trance he travels between three cosmic zones, sky, earth and underworld, along a central axis: a tree, a pillar or a ladder.[524] He returns with knowledge or with a lost soul.

Mongolia and Buryatia. Siberian and Central Asian shamanism knows three worlds joined by a pillar and a cosmic tree that stands on the navel of the earth.[525] In the Mongolian tent, the ger, the column of smoke from the hearth is the world tree and the smoke hole in the roof is the gate to the upper world. At a Buryat initiation a real tree is raised through that hole, and the shaman climbs it in trance.[526]

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[524] [89] Eliade, M. (1964). Shamanism: Archaic Techniques of Ecstasy. Transl. W. R. Trask. Princeton University Press (French original: Payot, Paris, 1951).

[525] [90] Encyclopaedia Britannica (n.d.). Shamanism: Worldview. britannica.com.

[526] [150] Sarangerel (2000). Riding Windhorses: A Journey into the Heart of Mongolian Shamanism. Destiny Books, Rochester VT.

Lapland. The Sámi shaman, the noaidi, beat a drum to go into trance. His free soul then travelled to Saivo, the world of the departed.[527] Saivo was imagined as a mirror image of the human world.[528]

The Arctic. When the sea animals stayed away, an Inuit angakkuq went in trance to the bottom of the sea. There he met the Sea Woman, who keeps the animals, and returned to say what had to be put right. The shaman Aua told Knud Rasmussen: 'We don't believe. We fear.'[529]

Finland. In the Kalevala, Väinämöinen travels to Tuonela, the realm of the dead, to find the words he lacks. A daughter of Tuoni ferries him across the black river. He is refused the words and escapes by turning into a snake.[530]

Scandinavia. Heimdall is the watchman of the Norse gods. He lives by Bifröst, the bridge between the worlds of gods and humans. Snorri writes that he needs less sleep than a bird, sees a hundred leagues by night and day, and hears the grass grow.[531]

Ireland. At Samhain, on 1 November, the old year turned. The early Irish tales say that the sídh mounds, the ancient burial mounds, stood open that night. The people of the Otherworld came out, and humans could go in.[532]

Greece. Hermes led the souls of the dead down.[533] Charon ferried them across the water,[534] and the dog of Hades let the dead in but let none go out.[535] Homer also gives dreams two gates: one of horn for true dreams and one of ivory for false ones.[536]

Rome. Janus was the god of doors, passages and beginnings. He had two faces, one looking forward and one back, and the first month of the year bears his name.[537]

West Africa. Among the Yoruba, Eshu (Elegba) is the messenger between orun, the world of the gods, and aye, the world of humans. He guards crossroads and doorways.[538]

Mesoamerica. In the Popol Vuh of the K'iche' Maya, Xibalba is the underworld, reached through caves and along the roots of the world tree. The Hero Twins go down, pass the tests of its lords, play the ballgame and return.[539]

China. Zhou Dunyi's diagram of the Supreme Polarity, from the eleventh century, opens with the line: 'Non-polar and yet Supreme Polarity'. Activity generates yang; at its limit it becomes stillness, which generates yin. Each turns into the other.[540]

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[527] [71] Rydving, H. (1995). The End of Drum-Time: Religious Change among the Lule Saami, 1670s–1740s. Uppsala University.

[528] [71] Rydving, H. (1995). The End of Drum-Time: Religious Change among the Lule Saami, 1670s–1740s. Uppsala University.

[529] [109] Rasmussen, K. (1929). Intellectual Culture of the Iglulik Eskimos. Report of the Fifth Thule Expedition 1921–24, vol. 7(1). Gyldendal, Copenhagen.

[530] [69] Lönnrot, E. (1849). Kalevala, canto 16. Transl. K. Bosley (1989). Oxford World's Classics.

[531] [68] Snorri Sturluson (c. 1220). Edda (Gylfaginning 27). Transl. A. Faulkes (1987). Everyman, London.

[532] [67] MacKillop, J. (1998). A Dictionary of Celtic Mythology. Oxford University Press.

[533] [53] Homer, Odyssey 19.560–567 and 24.1–14. Transl. A. T. Murray, rev. G. E. Dimock. Loeb Classical Library 104–105.

[534] [55] Aristophanes, Frogs 180–270. Transl. J. Henderson. Loeb Classical Library 180.

[535] [54] Hesiod, Theogony 767–774. Transl. G. W. Most. Loeb Classical Library 57.

[536] [53] Homer, Odyssey 19.560–567 and 24.1–14. Transl. A. T. Murray, rev. G. E. Dimock. Loeb Classical Library 104–105.

[537] [65] Ovid, Fasti I.63–288 (Janus). Transl. J. G. Frazer, rev. G. P. Goold. Loeb Classical Library 253.

[538] [94] Pemberton, J. (1975). Eshu-Elegba: The Yoruba trickster god. African Arts 9(1), 20–27 ff.

[539] [101] Christenson, A. J. (transl.) (2003). Popol Vuh: The Sacred Book of the Maya. O Books, Winchester; revised ed. University of Oklahoma Press, 2007.

[540] [85] Adler, J. A. (transl.) (2008). Zhou Dunyi's Supreme Polarity Diagram (Taijitu), with commentary by Zhu Xi. Kenyon College.

Japan. The torii, the gate before a Shinto shrine, marks the division between the profane and the sacred realms.[541]

Western Christianity. For a thousand years Christian writers spoke of cleansing fire after death. According to the historian Jacques Le Goff, a separate 'third place' between heaven and hell, with its own noun, *purgatorium*, appeared only in the late twelfth century.[542] The border between heaven and hell became a place of its own.

Byzantium. Eastern Christians developed a picture of the soul's ascent past aerial tollhouses. Angels escort the soul; at each tollhouse demons demand payment for one kind of unconfessed sin, and the soul pays with its good deeds.[543] The image was never condemned and never made official.[544]

Korea. The Korean mudang mediates between the living and the spirits in the ritual called kut. She does not travel to the other side; the gods and the dead come into the ritual space and speak through her.[545]

Islam. The Qur'an uses the word *barzakh* for a barrier. Twice it is the barrier between two seas, fresh and salt, that meet but do not mix (25:53; 55:19–20). Once it is the barrier between death and resurrection (23:100).[546] The mystic Ibn 'Arabī made the barzakh the isthmus between the world of bodies and the world of spirits, a realm that the soul also visits in dreams.[547] Islam also knows a bridge, as-Sirāṭ, that all must cross.[548]

Persia. In Zoroastrian belief every soul crosses the Chinvat Bridge after death and is judged there.[549] Two dogs guard the bridge.[550] For the righteous the bridge is wide; for the wicked it narrows to a blade.[551]

India. In the Rigveda, Yama, the first of the dead, has two four-eyed dogs that guard the path of the dead.[552] The Vedic tradition knows seven sages, the Saptarṣi. In Indian astronomy the seven bright stars of the Great Bear carry their names.[553] Like the Guardians of the Pole in Chapter 2, they circle the pole without setting. Mesopotamia, too, had seven sages before the flood (Chapter 1).

Tibet. The Bardo Thödol, the 'Tibetan Book of the Dead', is read to the dying and the dead. It guides them through the bardo, the intermediate state between death and rebirth, which lasts 49

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[541] [86] Kokugakuin University (n.d.). Encyclopedia of Shinto: 'Torii'. d-museum.kokugakuin.ac.jp.

[542] [64] Le Goff, J. (1984). The Birth of Purgatory. Transl. A. Goldhammer. University of Chicago Press (French original: Gallimard, 1981).

[543] [61] Afentoulidou, E. Space and power in Byzantine accounts of the aerial tollhouses. De Gruyter, Berlin. doi:10.1515/9783110597745-030.

[544] [61] Afentoulidou, E. Space and power in Byzantine accounts of the aerial tollhouses. De Gruyter, Berlin. doi:10.1515/9783110597745-030.

[545] [88] Kendall, L. (1985). Shamans, Housewives, and Other Restless Spirits: Women in Korean Ritual Life. University of Hawaii Press, Honolulu.

[546] [44] Smith, J. I. & Haddad, Y. Y. (1981). The Islamic Understanding of Death and Resurrection. SUNY Press, Albany.

[547] [45] Chittick, W. C. (1989). The Sufi Path of Knowledge: Ibn al-'Arabi's Metaphysics of Imagination. SUNY Press, Albany.

[548] [44] Smith, J. I. & Haddad, Y. Y. (1981). The Islamic Understanding of Death and Resurrection. SUNY Press, Albany.

[549] [43] Boyce, M. (1979). Zoroastrians: Their Religious Beliefs and Practices. Routledge & Kegan Paul, London.

[550] [42] Vendidad (Videvdat) 13.9; 19.27–32. Transl. J. Darmesteter (1880). Sacred Books of the East 4. Clarendon Press, Oxford.

[551] [43] Boyce, M. (1979). Zoroastrians: Their Religious Beliefs and Practices. Routledge & Kegan Paul, London.

[552] [76] Rigveda 10.14.10–12. Transl. S. W. Jamison & J. P. Brereton (2014). The Rigveda. Oxford University Press.

[553] [151] Mitchiner, J. E. (1982). Traditions of the Seven Ṛṣis. Motilal Banarsidass, Delhi.

days.[554,555] It was revealed as a 'treasure' text by Karma Lingpa in the fourteenth century.[556] Its wider teaching counts six bardos, including the dream state of ordinary sleep.[557]

Hindu India. The Purāṇas place a river, the Vaitaraṇī, at the entrance to the realm of Yama.[558] The dying were given a cow, and sometimes made to hold its tail, so that it would carry them across.[559]

Sulawesi. For the Toraja, death is not a moment but a slow journey to puya, the land or island of souls. Until the great funeral, the rambu solo', the dead person counts as sick, not as dead, and the soul lingers near the village.[560,561]

The Andes. Inca cosmology knew three realms: hanan pacha above, kay pacha, 'this world', and ukhu pacha, the inner world. The word pacha means both place and time.[562] Springs and caves connected this world with the one below.

North America. In a Pueblo kiva, the round ceremonial room, a small hole in the floor is called the sipapu. Hopi tradition holds that it marks where the people emerged from the previous world into this one.[563]

The Aztecs. Most of the dead went to Mictlan, the underworld of nine levels. The journey took four years. A dog helped them across the first river.[564]

The Slavs. The Slavic world was a tree: the thunder god Perun at the top, Veles, lord of the dead and of cattle, at the roots.[565] The realm of the dead was called Nav. (A three-part scheme of Prav, Yav and Nav is often cited, but it comes from the Book of Veles, which is probably a modern fabrication.)

Polynesia. At Cape Rēinga, the northern tip of New Zealand, lies Te Rerenga Wairua, the leaping place of spirits. Māori tradition holds that the spirits of the dead go there and descend to the underworld by the root of an old pōhutukawa tree.[566]

Australia. The anthropologist W. E. H. Stanner described the Aboriginal Dreaming in 1953 as 'everywhen': a time that was and still is, present in the land.[567]

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[554] [82] Cuevas, B. J. (2003). The Hidden History of the Tibetan Book of the Dead. Oxford University Press.

[555] [81] Fremantle, F. & Trungpa, C. (transl.) (1975). The Tibetan Book of the Dead: The Great Liberation through Hearing in the Bardo. Shambhala, Boston.

[556] [82] Cuevas, B. J. (2003). The Hidden History of the Tibetan Book of the Dead. Oxford University Press.

[557] [81] Fremantle, F. & Trungpa, C. (transl.) (1975). The Tibetan Book of the Dead: The Great Liberation through Hearing in the Bardo. Shambhala, Boston.

[558] [78] Wood, E. & Subrahmanyam, S. V. (transl.) (1911). The Garuda Purana (Sarodhara). Sacred Books of the Hindus 9. Panini Office, Allahabad.

[559] [152] Monier-Williams, M. (1883). Religious Thought and Life in India. John Murray, London, 297–309.

[560] [153] Australian Museum (n.d.). Textiles in Torajan Funerals. australian.museum.

[561] [115] Volkman, T. A. (1985). Feasts of Honor: Ritual and Change in the Toraja Highlands. University of Illinois Press, Urbana.

[562] [102] D'Altroy, T. N. (2014). The Incas. 2nd ed. Wiley-Blackwell, Chichester.

[563] [103] National Park Service, Mesa Verde National Park (n.d.). Artifact Gallery: Kiva. nps.gov/meve.

[564] [100] Sahagún, B. de (c. 1577). Florentine Codex, Book 3, Appendix, ch. 1–3. Transl. A. J. O. Anderson & C. E. Dibble (1950–1982). School of American Research, Santa Fe.

[565] [72] Gimbutas, M. (1971). The Slavs. Thames & Hudson, London.

[566] [114] Te Ara: The Encyclopedia of New Zealand (n.d.). Te Rerenga Wairua. teara.govt.nz.

[567] [112] Stanner, W. E. H. (1953). The Dreaming. Reprinted in: White Man Got No Dreaming: Essays 1938–1973. Australian National University Press, 1979.

Table 1c.1. The border around the world. Each row is Known in its own tradition; the table as a whole is a reading.

Tradition	Two sides	Border or gate	Guardian or crosser	When it opens
Siberia (shaman)	sky / earth / underworld	world tree, axis	the shaman	in trance
Norse	gods / humans	Bifröst	Heimdall, who hardly sleeps	Ragnarök
Irish	this world / Otherworld	sídh mounds	the aos sí	Samhain, 1 November
Roman	inside / outside; past / future	the door (ianua)	Janus, two faces	the new year (January)
Yoruba	aye / orun	crossroads, doorway	Eshu	every message
K'iche' Maya	earth / Xibalba	cave, world tree	the Hero Twins	death; the ballgame
Chinese	yin / yang	the turning at the limit	—	when activity reaches its limit
Shinto	profane / sacred	torii	kami are welcomed	at the shrine
Finnish	the living / Tuonela	the river of Tuoni	Tuoni's daughter, the ferrywoman	to fetch knowledge
Latin Christian	heaven / hell	purgatory, the third place	—	from the late 12th century
Korean	the living / gods and dead	the ritual space of the kut	the mudang	in the ritual
Mongol, Buryat	upper / middle / lower world	the smoke hole of the ger; the world tree	the shaman	in trance; at initiation
Byzantine	earth / heaven	the aerial tollhouses	angels and demons	after death
Hindu (Purāṇic)	earth / realm of Yama	the river Vaitaraṇī	the cow	at death
Toraja	the living / puya	the funeral itself	the buffalo	at the rambu solo'
Sámi	the living / Saivo, a mirror image	the drum, the trance	the noaidi	in trance
Inuit	land / bottom of the sea	the sea	the angakkuq; the Sea Woman	when the animals stay away
Greek	the living / Hades	the Styx; gates of horn and ivory	Hermes, Charon, Kerberos	at death; in dreams
Islamic	this world / the hereafter	barzakh: the barrier between two seas	—	between death and resurrection; in dreams
Zoroastrian	the living / the dead	Chinvat Bridge	two dogs; Daēnā	day 4 after death
Tibetan	life / rebirth	the bardo	the lama who reads	49 days
Aztec	the living / Mictlan	nine levels, a river	the dog	four years
Slavic	Yav / Nav	the world tree	Perun above, Veles below	—
Indian (Vedic)	earth / sky of the sages	the circumpolar sky	the seven Ṛṣis (Great Bear)	they never set
Inca	kay pacha / hanan, ukhu pacha	springs, caves	—	pacha: place and time at once
Hopi, Pueblo	this world / previous world	the sipapu in the kiva	the emerging people	in ceremony
Māori	te ao / the underworld (Rēinga)	Te Rerenga Wairua, the tree root	the spirits of the dead	at death
Aboriginal	now / everywhen	the land itself	ancestral beings	in ceremony
1 Enoch (Ch. 1)	sleeping / wakeful	Hermon; the gates of heaven	the Watchers	the days of Jared

Reasoned

- **Known.** Every tradition in Table 1c.1 places a border between two realms that coexist, not one after the other. The Celtic Otherworld exists beside the human world, not far away.[568] The Dreaming was and is.[569]
- **Known.** Several place a guardian or messenger at the border: Heimdall, Janus, Eshu, the Watchers. Two traditions, Mesopotamia and India, speak of seven sages; India puts them among the stars that circle the pole.[570] Two of them are defined by vigilance or double sight: Heimdall needs less sleep than a bird; Janus looks both ways.[571,572]
- **Known.** Several tie the opening of the border to a turning point of the year: Samhain, the Roman new year, the days added at the turning points in 1 Enoch.
- **Known.** For most of these pairs no route of transmission is documented. In the atlas layer that accompanies this book they are marked as echoes of form, not as transfer.

Back to the whole

> **Reading.** The guardian who does not sleep is not only Jewish. Heimdall at Bifröst is the Norse Watcher. Janus, with a face on each side, is the border made into a god: the place where both sides are seen at once.
>
> Zhou Dunyi's 'Non-polar and yet Supreme Polarity' states Rule 3 and Rule 4 in one sentence. Activity runs to its limit and turns into its opposite. That is the swing. The border is the turning point.
>
> The borders open at turning points of the year. A calendar is, among other things, a timetable of the border. That links this chapter to Chapter 2 and to the decree that closes the year.
>
> The Qur'anic barzakh is the clearest image of the border in this book. Two seas meet and touch along a line, yet each stays itself. That is the critical line of Chapter 3 seen from the sea: two sides, one surface where they meet, and no mixing. Ibn 'Arabī adds what Monroe found: the soul reaches the barzakh in dreams.
>
> The Sámi Saivo is a mirror image of the human world. Of all the traditions in this chapter, it states Rule 1 most literally: the other side is this side, reflected.
>
> The Korean mudang crosses the border the other way. The shaman of Siberia travels out; the mudang lets the other side come in. Both directions are found, as in Chapter 1, where Enoch goes up and the Watchers come down.
>
> The gate is often a hole in the house. In the Mongol ger it is the smoke hole in the roof, leading up. In the Pueblo kiva it is the sipapu in the floor, leading down. The border passes through the dwelling, along its vertical axis.
>
> The Byzantine tollhouses are the border as a customs post. Charon's coin, the Hindu cow and the Toraja buffalo belong to the same picture: the crossing has a price, and what one carries decides whether one passes.
>
> The Toraja make the border a duration that the living control. A person is not dead until the funeral is held. The threshold is held open, sometimes for years, by the family.
>
> Purgatory shows a border becoming a place. What was a passage, a fire to go through, became a third region with its own time. The bardo of 49 days and the barzakh until the resurrection are

[568] [67] MacKillop, J. (1998). A Dictionary of Celtic Mythology. Oxford University Press.

[569] [112] Stanner, W. E. H. (1953). The Dreaming. Reprinted in: White Man Got No Dreaming: Essays 1938–1973. Australian National University Press, 1979.

[570] [151] Mitchiner, J. E. (1982). Traditions of the Seven Ṛṣis. Motilal Banarsidass, Delhi.

[571] [68] Snorri Sturluson (c. 1220). Edda (Gylfaginning 27). Transl. A. Faulkes (1987). Everyman, London.

[572] [65] Ovid, Fasti I.63–288 (Janus). Transl. J. G. Frazer, rev. G. P. Goold. Loeb Classical Library 253.

> borders of the same kind: a threshold stretched into a stay.
>
> The Chinvat Bridge is a border whose width depends on who crosses: wide for one, a blade for another. In the terms of Chapter 0 that is rule N4: the response depends on the current state. The bardo is the border made into a period of time, with a number: 49 = 7 × 7 days.
>
> Dogs guard the passage in Persia, in India and in Mexico. Where a route of contact is documented, as between Iran and India, the shared image is likely an inheritance. Where none is known, as between Iran and Mexico, it is a likeness of form.
>
> The world tree or axis recurs as the passage: the shaman's tree, the Maya ceiba, the Māori pōhutukawa root, the Hopi reed through the sipapu. The border is crossed vertically, along one line, at one point.
>
> The Aboriginal 'everywhen' and the Inca pacha, which is place and time at once, have the mark of the spectral side in Chapters 3 to 5: not a past, but a time in which every moment is present.

Here the border is the gate and its guardian: a door that opens at the turning of the year, watched by one who sees both ways.

Study 3: Number

Number theory gives the cleanest example of a border. It has two sides that are proved to be one, a mirror that is proved to exist, and a line that is conjectured to hold every zero. This chapter tells the history in short, then shows our own measurements.

Seen

On one side are the prime numbers: 2, 3, 5, 7, 11 and so on. They are the atoms of multiplication. In the language of Chapter 0 each prime p is a ladder: p, p^2, p^3, … . On a logarithmic scale each rung lies at distance ln p from the last. So each prime is a loop of length ln p, a rhythm with its own period.

On the other side are the zeros of the Riemann zeta function, $\zeta(s)$. For a number s with real part larger than one, $\zeta(s)$ is the sum $1 + 1/2^s + 1/3^s + \dots$. Euler showed in 1737 that the same sum equals a product over all primes.[573] That product is the first bridge: one side written in terms of the other.

Riemann's paper of 1859 crossed the bridge.[574] He extended $\zeta(s)$ to the whole complex plane, except one point. He found that it obeys a mirror law, the functional equation. The value at s is tied to the value at $1 - s$. The mirror axis is the vertical line Re s = ½. He showed that the count of primes is controlled by the zeros of ζ in the strip between real part 0 and 1. And he wrote, almost in passing, that it is very likely that all these zeros lie on the mirror axis. That sentence is the Riemann hypothesis.[575]

Reasoned

A short history of the line.

[573] [154] Edwards, H. M. (1974). Riemann's Zeta Function. Academic Press, New York.
[574] [154] Edwards, H. M. (1974). Riemann's Zeta Function. Academic Press, New York.
[575] [154] Edwards, H. M. (1974). Riemann's Zeta Function. Academic Press, New York.

- **Known.** 1896: Hadamard and de la Vallée Poussin proved that no zero lies on the edge Re s = 1. That was enough to prove the prime number theorem: the number of primes up to x is about x / ln x.[576]
- **Known.** 1895–1912: von Mangoldt and Landau made the explicit formula exact. Sums over the zeros peak at the logarithms of the prime powers. The primes and the zeros are each other's Fourier twins.[577,578]
- **Known.** 1914: Hardy proved that infinitely many zeros lie on the line.[579]
- **Known.** 1952: Weil turned the explicit formula into a quadratic form. The Riemann hypothesis is equivalent to the statement that this form is positive.[580]
- **Known.** 1973: Montgomery found that the zeros repel each other. Dyson recognised the same statistics in the energy levels of random quantum systems.[581] Odlyzko confirmed this with very large computations.[582] The zeros look like the eigenvalues of an unknown operator, as Hilbert and Pólya had guessed.
- **Known.** 1999: Berry and Keating proposed that this operator is a quantisation of the simplest motion: H = xp, position times momentum.[583]
- **Known.** 2025–2026: Connes, Consani and Moscovici built operators, one per window, from Weil's form. Their spectra agree with the lowest zeros of ζ.[584,585]

Our measurements. Six results from our own computations support the reading of this chapter. Each is reproducible from the published scripts.[586]

- **Measured.** From the first 1000 zeros alone, all prime powers up to 23 come back as peaks, each at the right place. A control with the same spacings in random order shows nothing (Figure 3.1).[587]

[576] [154] Edwards, H. M. (1974). Riemann's Zeta Function. Academic Press, New York.

[577] [154] Edwards, H. M. (1974). Riemann's Zeta Function. Academic Press, New York.

[578] [155] Landau, E. (1912). Über die Nullstellen der Zetafunktion. Mathematische Annalen 71, 548–564.

[579] [154] Edwards, H. M. (1974). Riemann's Zeta Function. Academic Press, New York.

[580] [156] Weil, A. (1952). Sur les « formules explicites » de la théorie des nombres premiers. Comm. Sém. Math. Univ. Lund, tome supplémentaire, 252–265.

[581] [157] Montgomery, H. L. (1973). The pair correlation of zeros of the zeta function. In: Analytic Number Theory, Proc. Symp. Pure Math. 24. AMS, Providence, 181–193.

[582] [158] Odlyzko, A. M. (1987). On the distribution of spacings between zeros of the zeta function. Mathematics of Computation 48, 273–308.

[583] [159] Berry, M. V. & Keating, J. P. (1999). The Riemann zeros and eigenvalue asymptotics. SIAM Review 41, 236–266.

[584] [160] Connes, A., Consani, C. & Moscovici, H. (2025). Zeta spectral triples. arXiv:2511.22755.

[585] [161] Connes, A. (2026). The Riemann Hypothesis: past, present and a letter through time. arXiv:2602.04022.

[586] [20] Konstapel, J. with Claude (2026). Research logs 'Riemann hypothesis and the Trit Tile' v0.27 and 'Watchers and mathematics' v0.2, with Python scripts and data. Constable Research, Leiden (unpublished; available as the package music_of_the_primes_v1.0).

[587] [162] Konstapel, J. (2026). The Successor of the Holy Grail, version 1.0 (23 November 2026). Constable Research, Leiden.

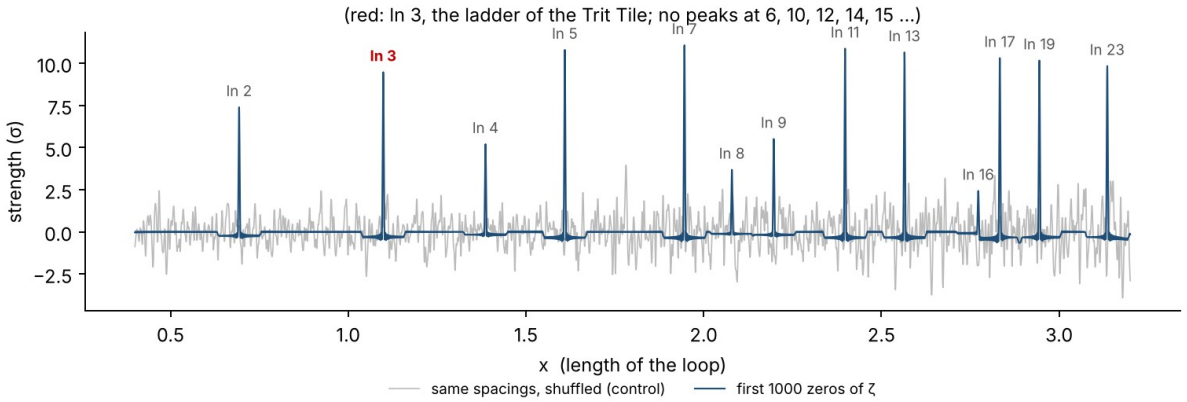

Figure 3.1. The ladders are inside the zeros. A sum over the first 1000 zeros of ζ peaks at ln n for every prime power n. Grey: the same gaps, shuffled; the peaks vanish. *Measured.*

- **Measured.** Write the prime side as Euler's product and the mirror side as its reflection under the functional equation. On the critical line both have exactly the same size: the ratio is 1 to within 10^{-14}. Off the line one of them almost always wins (Figure 3.2).[588]

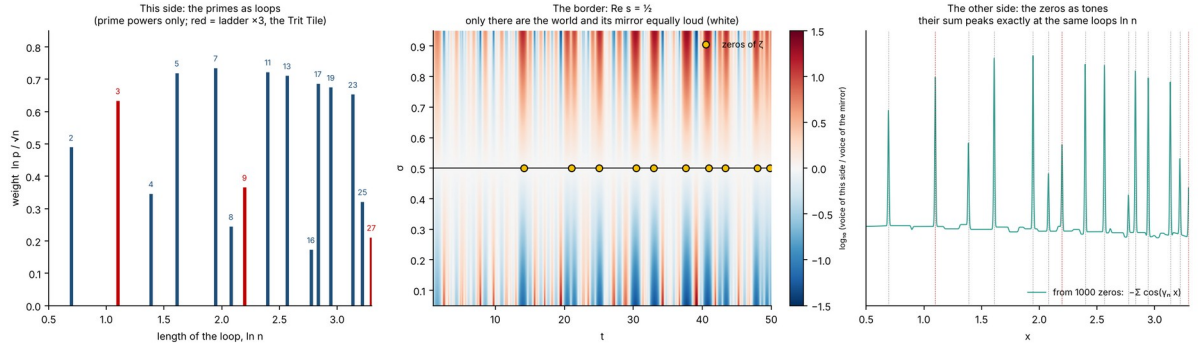

Figure 3.2. Two worlds and their border. Left: the primes as loops of length ln n with their weight. Right: the sum over 1000 zeros peaks at the same loops. Middle: the size of 'this side' against its mirror over the strip; white means equal. Only the critical line is white everywhere. The zeros (yellow) lie on it. *Measured.*

- **Measured.** A zero needs two things: equal loudness and opposite direction. On the line, equal loudness is guaranteed and only the direction must match. Off the line, equal loudness is rare and happens only near the poles of a ladder (Figure 3.3).[589]

[588] [20] Konstapel, J. with Claude (2026). Research logs 'Riemann hypothesis and the Trit Tile' v0.27 and 'Watchers and mathematics' v0.2, with Python scripts and data. Constable Research, Leiden (unpublished; available as the package music_of_the_primes_v1.0).

[589] [20] Konstapel, J. with Claude (2026). Research logs 'Riemann hypothesis and the Trit Tile' v0.27 and 'Watchers and mathematics' v0.2, with Python scripts and data. Constable Research, Leiden (unpublished; available as the package music_of_the_primes_v1.0).

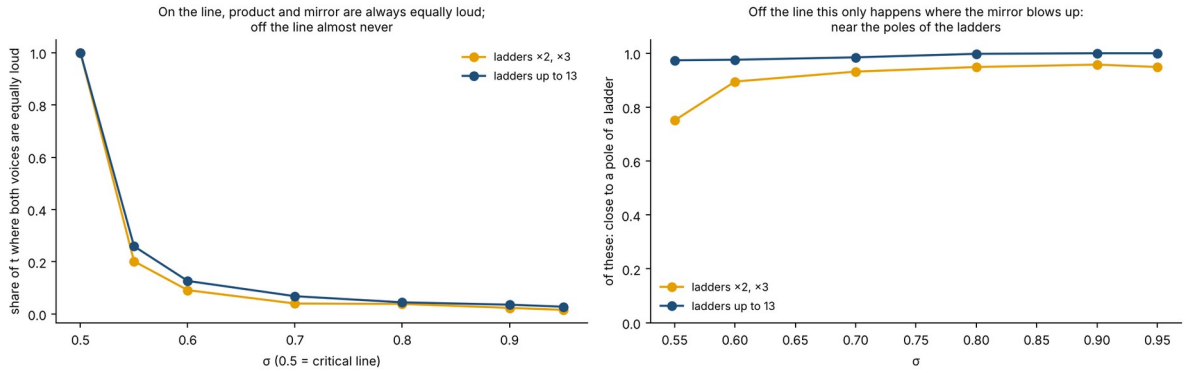

Figure 3.3. Left: the share of heights t where the prime side and its mirror are equally loud, as a function of distance σ from the line. At σ = ½ it is 100 %. Right: the few off-line coincidences lie close to a pole of a ladder. *Measured.*

- **Measured.** Start with only the mirror's phase, a smooth 'fence' of points. Add the ladders one by one: ×2, then ×3, then ×5, and so on. The fence bends towards the true zeros. With all primes up to 1000 the statistics of the gaps approach those of random quantum systems (Figure 3.4).[590]

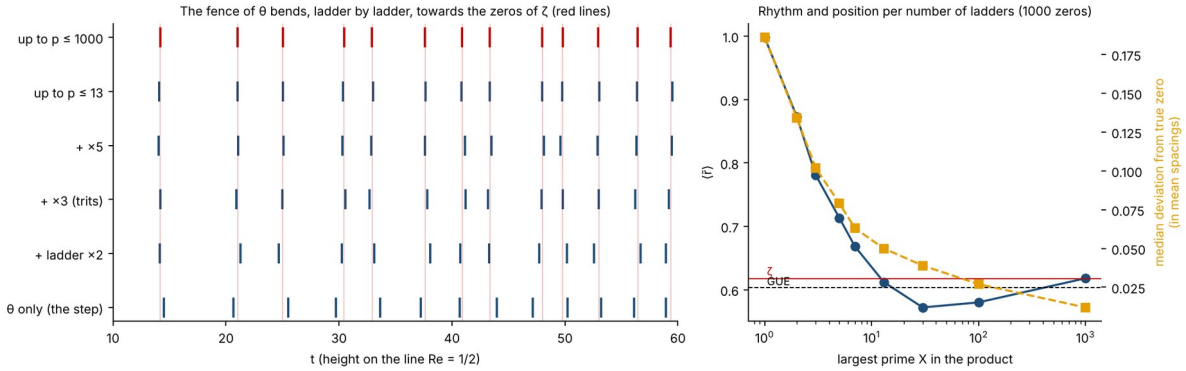

Figure 3.4. Left: the fence of the mirror phase (bottom row) bends ladder by ladder towards the zeros of ζ (red lines). Right: the gap statistic ⟨r⟩ and the median error of the zeros as more ladders are added. *Measured.*

- **Measured.** In the Connes–Consani–Moscovici construction, a window of length ln x contains only the prime ladders below x. Without ladders the operator has the rhythm 2πn/ln x. In the window x = 3 this is exactly the rhythm of the Trit Tile.[591] Only the ladder ×2 bends it, and the first three zeros of ζ appear (Figure 3.5).[592]

[590] [20] Konstapel, J. with Claude (2026). Research logs 'Riemann hypothesis and the Trit Tile' v0.27 and 'Watchers and mathematics' v0.2, with Python scripts and data. Constable Research, Leiden (unpublished; available as the package music_of_the_primes_v1.0).

[591] [7] Konstapel, J. (2026). The Trit Tile: A Reference Work, version 1.1. Constable Research, Leiden.

[592] [20] Konstapel, J. with Claude (2026). Research logs 'Riemann hypothesis and the Trit Tile' v0.27 and 'Watchers and mathematics' v0.2, with Python scripts and data. Constable Research, Leiden (unpublished; available as the package music_of_the_primes_v1.0).

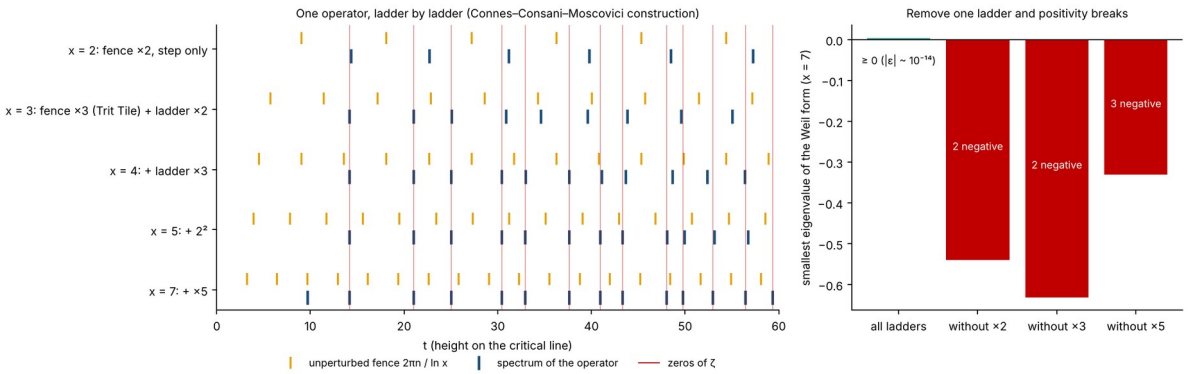

Figure 3.5. Left: one operator per window x = 2, 3, 4, 5, 7. Yellow: the unbent fence 2πn/ln x. Blue: the spectrum after bending by the ladders inside the window. Red lines: zeros of ζ. Right: remove one ladder and the Weil form turns negative. *Measured; construction Known.*

- **Measured.** In the windows 9 and 27, the second and third powers of three, at least 30 and 73 zeros appear. In the window 27 they agree with ζ to between 15 and 29 digits. The smallest eigenvalue of the form shrinks very fast with the window: about 10^{-7} at x = 3, 10^{-37} at x = 9 and 10^{-122} at x = 27 (Figure 3.6).[593]

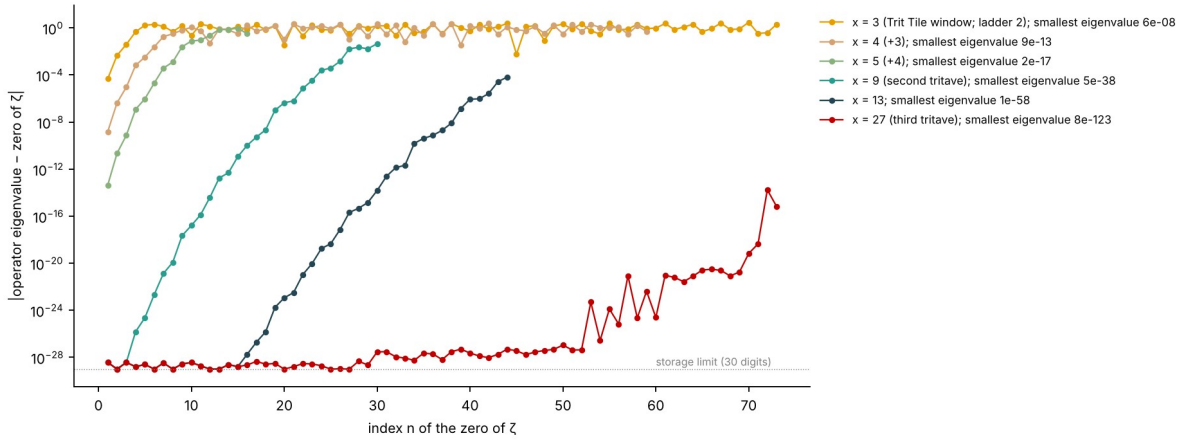

Figure 3.6. Windows of length ln 3, ln 9 and ln 27, and smaller steps between. The error of each eigenvalue of the window operator against the zeros of ζ. Each tritave window carries more zeros, more exactly. *Measured; construction Known (Connes–Consani–Moscovici).*

- **Measured.** Remove any one prime ladder from a window and the form turns negative: some zeros leave the line.[594]
- **Known.** A function can have a mirror and still have zeros off the line. The example of Davenport and Heilbronn is a sum of two independent L-functions. It obeys a functional equation, yet has zeros off the line. At such a zero neither voice is zero; they cancel each other.[595]

[593] [20] Konstapel, J. with Claude (2026). Research logs 'Riemann hypothesis and the Trit Tile' v0.27 and 'Watchers and mathematics' v0.2, with Python scripts and data. Constable Research, Leiden (unpublished; available as the package music_of_the_primes_v1.0).

[594] [20] Konstapel, J. with Claude (2026). Research logs 'Riemann hypothesis and the Trit Tile' v0.27 and 'Watchers and mathematics' v0.2, with Python scripts and data. Constable Research, Leiden (unpublished; available as the package music_of_the_primes_v1.0).

[595] [163] Davenport, H. & Heilbronn, H. (1936). On the zeros of certain Dirichlet series. Journal of the London Mathematical Society 11, 181–185.

Table 3.1. Windows of the Connes–Consani–Moscovici operator computed at high precision. *Measured.*

Window x	Length ln x	Ladders inside	Zeros found	Smallest eigenvalue ($\log_{10}$)
3	1.10	×2 (×3 on the boundary)	3	−7.2
4	1.39	2, 3	—	−12.1
5	1.61	2, 3, 4	—	−16.8
9	2.20	2, 3, 4, 5, 7, 8	≥ 30	−37.3
13	2.56	primes to 11; 4, 8, 9	44	−58.0
27	3.30	primes to 23; their powers	73	−122.1

Back to the whole

> **Reading.** The critical line is the border of number theory. It is the only place where the world of the primes and its mirror are equally loud. The zeros live there, as the Watchers live on the threshold.
>
> The Trit Tile is the smallest window on this border. Its points that never close turn forever around a fixed point, like the Guardians of the Pole. Each larger window, 9, 27, …, looks further along the same line, with more ladders inside.
>
> Two independent voices can meet off the line. One voice that is its own mirror cannot. The border needs one reality read twice, not two realities. Every ladder is needed: remove one and the balance fails.

Here the border is the critical line Re s = ½, where the primes and their mirror weigh the same.

Study 4: Matter

Physics has met the border at least four times, each time under another name. Statistical physics found it as the critical point. Crystal physics found it as the edge of the Brillouin zone. Optics built it on purpose as the exceptional point. And one physicist, Peter Rowlands, gave the other side its old name: antispace. This chapter takes them in turn.

Seen

Hot and cold. A magnet loses its magnetism when it is heated above a certain temperature. Below it the small magnetic moments line up. Above it they point in all directions. The simplest model of this is the Ising model: a grid of arrows that point up or down and prefer to agree with their neighbours. Heat shakes them; the coupling aligns them. Somewhere in between is the critical point.

Crystal and wave. A crystal is a lattice of atoms. Shine X-rays on it and they reflect only at certain angles. In 1913 the Braggs showed how to read the lattice from these angles.[596] What they measured was not the crystal itself but its *reciprocal lattice*: the same crystal read as waves. In 1929 Bloch showed that electrons in a crystal are also waves, labelled by a point in that reciprocal lattice.[597] Solid-state physicists have worked on both sides ever since.[598]

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[596] [164] Bragg, W. H. & Bragg, W. L. (1913). The reflection of X-rays by crystals. Proceedings of the Royal Society A 88, 428–438.
[597] [165] Bloch, F. (1929). Über die Quantenmechanik der Elektronen in Kristallgittern. Zeitschrift für Physik 52, 555–600.
[598] [3] Kittel, C. (2005). Introduction to Solid State Physics, 8th ed., Chapters 2 and 7. Wiley, Hoboken.

Gain and loss. In 1998 Bender and Boettcher found something that textbooks said could not be. A quantum system that is not Hermitian, not 'balanced' in the usual sense, can still have only real energies.[599] The condition is a weaker symmetry: parity–time (PT) symmetry. In practice it means: as much gain on one side as loss on the other. Optical engineers built this from 2009 onwards.[600,601]

Space and antispace. Peter Rowlands writes physics as a zero totality. Everything there is adds up to nothing. Our three-dimensional space has a dual space, a vacuum space, that cancels it.[602,603]

Reasoned

The self-dual point.

- **Known.** In 1941 Kramers and Wannier found a duality in the two-dimensional Ising model. The system at a high temperature behaves exactly like the system at a related low temperature. Hot is the mirror of cold.[604]
- **Known.** If there is only one critical point, it must lie where the temperature equals its own mirror. Kramers and Wannier computed it from that condition alone: sinh 2K = 1, or K = 0.4407.[605] Three years later Onsager solved the model exactly and confirmed the value.[606]
- **Known.** In 1952 Lee and Yang studied the same model in a magnetic field. They wrote the partition function, the sum over all states, as a polynomial in a field variable z. They proved that all its zeros lie on the unit circle.[607] For a finite system the zeros stay off the real axis and nothing happens. In an infinite system the zeros can close in on the real axis. Where they pinch it, a phase transition occurs.[608]
- **Known.** The analogy between the Lee–Yang circle and the critical line has been studied. It is suggestive but not a proof.[609]
- **Measured.** For a ring of 12 spins we computed the Lee–Yang zeros directly from all 4096 states. All 12 zeros lie on the unit circle to within 2×10^{-15}. In the cold system they crowd towards the real point z = 1; in the hot system they stay away (Figure 4.1b).

The zone edge.

- **Known.** The reciprocal lattice is divided into Brillouin zones. At the edge of a zone, a wave is reflected by the lattice. There it consists of equal parts running forward and backward: it

[599] [13] Bender, C. M. & Boettcher, S. (1998). Real spectra in non-Hermitian Hamiltonians having PT symmetry. Physical Review Letters 80, 5243–5246.
[600] [166] Guo, A. et al. (2009). Observation of PT-symmetry breaking in complex optical potentials. Physical Review Letters 103, 093902.
[601] [14] Rüter, C. E., Makris, K. G., El-Ganainy, R., Christodoulides, D. N., Segev, M. & Kip, D. (2010). Observation of parity–time symmetry in optics. Nature Physics 6, 192–195.
[602] [167] Rowlands, P. (2007). Zero to Infinity: The Foundations of Physics. World Scientific, Singapore.
[603] [168] Rowlands, P. (2015). Dual spaces, particle singularities and quartic geometry. Acta Mathematica Academiae Paedagogicae Nyíregyháziensis 31, 121–137.
[604] [11] Kramers, H. A. & Wannier, G. H. (1941). Statistics of the two-dimensional ferromagnet. Part I. Physical Review 60, 252–262.
[605] [11] Kramers, H. A. & Wannier, G. H. (1941). Statistics of the two-dimensional ferromagnet. Part I. Physical Review 60, 252–262.
[606] [169] Onsager, L. (1944). Crystal statistics. I. A two-dimensional model with an order-disorder transition. Physical Review 65, 117–149.
[607] [170] Lee, T. D. & Yang, C. N. (1952). Statistical theory of equations of state and phase transitions. II. Lattice gas and Ising model. Physical Review 87, 410–419.
[608] [170] Lee, T. D. & Yang, C. N. (1952). Statistical theory of equations of state and phase transitions. II. Lattice gas and Ising model. Physical Review 87, 410–419.
[609] [171] Knauf, A. (1999). Number theory, dynamical systems and statistical mechanics. Reviews in Mathematical Physics 11, 1027–1060.

stands still. Two such standing waves are possible, with different energies. Between them opens the band gap that makes semiconductors work.[610]

The exceptional point.

- **Known.** Take two coupled modes, one with gain γ and one with equal loss, coupled with strength κ. The eigenvalues are $\pm\sqrt{(\kappa^2 - \gamma^2)}$. They are real as long as $\gamma < \kappa$. At $\gamma = \kappa$ the two eigenvalues and their eigenvectors merge. This is an *exceptional point*, a notion from Kato's perturbation theory.[611] Beyond it the eigenvalues are imaginary: one mode grows and one decays (Figure 4.1c).
- **Known.** The threshold was observed in optics in 2009 and 2010.[612,613] It has since been seen in microcavities, atomic lattices and electric circuits.
- **Known.** At an exceptional point a system is extremely sensitive. In 2017 two groups used this to build sensors: a small disturbance splits the merged frequencies by an amount that grows with the square root, or even the cube root, of the disturbance.[614,615]
- **Known.** Bender, Brody and Müller proposed a PT-type operator whose eigenvalues would be the zeros of ζ. The analysis is not rigorous and has been criticised.[616]

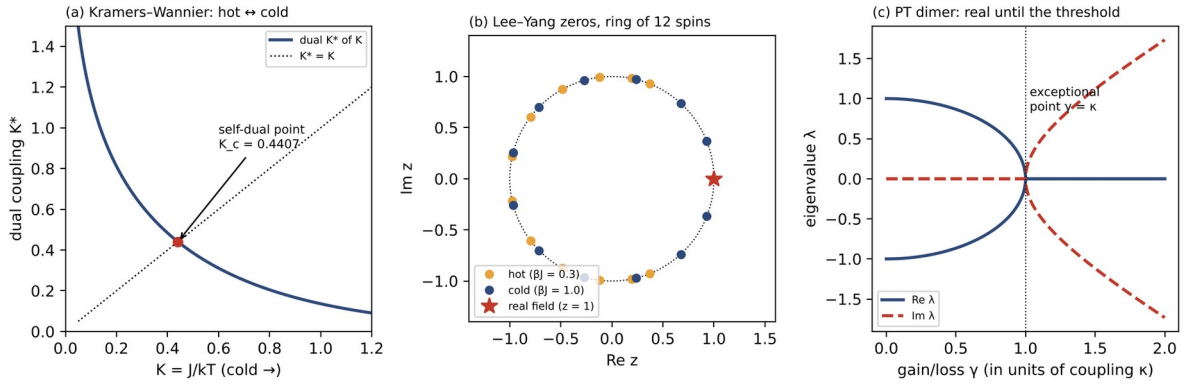

Figure 4.1. Three borders in matter. (a) Kramers–Wannier: the dual coupling K *of K. The only point where hot equals cold is K_c = 0.4407. (b) Lee–Yang zeros of a ring of 12 spins: all on the unit circle; colder means closer to the real field z = 1. (c) Two modes with gain and loss: the eigenvalues stay real until the exceptional point $\gamma = \kappa$, then turn imaginary.* Known (theory); figures Measured.*

Antispace.

- **Known.** In Rowlands' nilpotent quantum mechanics a particle and its vacuum are mirror images. The fermion state and the vacuum are linked so that a change in one leads to a corresponding change in the other.[617]

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[610] [3] Kittel, C. (2005). Introduction to Solid State Physics, 8th ed., Chapters 2 and 7. Wiley, Hoboken.

[611] [172] Kato, T. (1966). Perturbation Theory for Linear Operators. Springer, Berlin.

[612] [166] Guo, A. et al. (2009). Observation of PT-symmetry breaking in complex optical potentials. Physical Review Letters 103, 093902.

[613] [14] Rüter, C. E., Makris, K. G., El-Ganainy, R., Christodoulides, D. N., Segev, M. & Kip, D. (2010). Observation of parity–time symmetry in optics. Nature Physics 6, 192–195.

[614] [15] Chen, W., Özdemir, Ş. K., Zhao, G., Wiersig, J. & Yang, L. (2017). Exceptional points enhance sensing in an optical microcavity. Nature 548, 192–196.

[615] [16] Hodaei, H. et al. (2017). Enhanced sensitivity at higher-order exceptional points. Nature 548, 187–191.

[616] [173] Bender, C. M., Brody, D. C. & Müller, M. P. (2017). Hamiltonian for the zeros of the Riemann zeta function. Physical Review Letters 118, 130201.

[617] [174] Marcer, P. & Rowlands, P. (2017). Nilpotent quantum mechanics: analogs and applications. Frontiers in Physics 5:28. doi:10.3389/fphy.2017.00028.

Table 4.1. Borders in physics, with the number-theory border for comparison. *Known.*

Border	Two sides	Balance condition	Beyond the border
Self-dual point (Kramers–Wannier)	hot / cold	$K = K^*$	order or disorder
Lee–Yang circle	field up / field down	$\|z\| = 1$	phase transition where zeros pinch $z = 1$
Zone edge (Brillouin)	forward / backward wave	equal amplitudes	band gap
Exceptional point (PT)	gain / loss	$\gamma = \kappa$	one mode grows, one decays
Critical line (Ch. 3)	primes / mirror	$\|\chi\| = 1$ on Re $s = ½$	zeros leave the line

Back to the whole

> **Reading.** Physics knows both sides and the border, but treats them as technique. The self-dual point is the border in heat: hot and cold are each other's mirror there, and the system can tip either way. The zone edge is the border in matter: forward and backward equally strong. The exceptional point is the border in optics: gain and loss in balance, the spectrum still real.
>
> Lee and Yang put the zeros of physics on a circle, as Riemann put the zeros of number theory on a line. In both cases the zeros themselves are harmless. What matters is where they touch the real world. In physics that touch is a phase transition. In number theory it would be a prime that breaks the rhythm.
>
> At the exceptional point the system is most sensitive. Engineers use this to detect the smallest disturbance. The border is not only a place of balance. It is also where the faintest signal from the other side becomes visible.

Here the border is the self-dual point, the zone edge and the exceptional point: where hot equals cold, forward equals backward, and gain equals loss.

Study 5: Mind

The border between waking and the other side is crossed every night by everyone. Some people claim to cross it awake. This chapter looks at the best-documented explorer, Robert Monroe, and at the clinical study of the border between life and death.

Seen

Robert Monroe was an American radio executive. From 1958 he had experiences outside his body. He described them in three books.[618,619,620] In the first he sorted the places he visited into three locales.

- **Locale I** is the physical world: the here and now, visited out of the body.
- **Locale II** is non-physical. Thought is the source of existence there: as you think, so you are. Movement happens by thinking it. Time does not exist; past and future seem to exist together

[618] [1] Monroe, R. A. (1971). Journeys Out of the Body. Doubleday, New York.

[619] [9] Monroe, R. A. (1985). Far Journeys. Doubleday, New York.

[620] [2] Monroe, R. A. (1994). Ultimate Journey. Doubleday, New York.

with now. It seems to interpenetrate our world. Monroe wrote that in this vastness lie all the aspects we attribute to heaven and hell.[621]

- **Locale III** is a physical world like ours, but different in its history and technology.

Monroe founded an institute and developed sound recordings to guide others. Two tones, slightly different, are played into the two ears. The brain hears a third, slow beat. He called the method Hemi-Sync. With it he and his students mapped a ladder of *Focus* levels.[622]

Table 5.1. Monroe's Focus levels. *Known* (as Monroe's own description).[623]

Focus	Description (Monroe)
10	body asleep, mind awake
12	expanded awareness
15	no time
21	the edge of the physical; the bridge
22	people in partial consciousness (dreams, coma, delirium)
23	those who have died and do not yet realise it
24–26	the belief-system territories: regions shaped by shared belief
27	the reception area, also called the Park

A different border is crossed at clinical death. In a prospective study in ten Dutch hospitals, Pim van Lommel and colleagues interviewed 344 patients who had been resuscitated after cardiac arrest.[624] All had been clinically dead. About one in five reported a near-death experience.

Reasoned

- **Known.** Monroe's first book is credited with making the term out-of-body experience popular.[625]
- **Known.** The US Army assessed Monroe's Gateway method in 1983. The report was declassified in 2003 and reached a large new audience in 2021.[626] An assessment is not a confirmation.
- **Known.** In van Lommel's study the occurrence of the experience was not linked to the duration of the cardiac arrest, to medication, or to fear of death beforehand.[627] The authors concluded that a purely physiological explanation is insufficient. The study has been criticised for its methods and its conclusions.
- **Known.** There is no independent physical measurement of Locale II or of Focus 27. What exists are reports, training methods and clinical interviews.

Back to the whole

> **Reading.** Monroe's Locale II has the marks of the other side in Chapters 3 and 4. It has no time order: everything is now, as in a spectrum, where every frequency holds all moments at once. It

[621] [1] Monroe, R. A. (1971). Journeys Out of the Body. Doubleday, New York.

[622] [2] Monroe, R. A. (1994). Ultimate Journey. Doubleday, New York.

[623] [2] Monroe, R. A. (1994). Ultimate Journey. Doubleday, New York.

[624] [117] van Lommel, P., van Wees, R., Meyers, V. & Elfferich, I. (2001). Near-death experience in survivors of cardiac arrest: a prospective study in the Netherlands. The Lancet 358, 2039–2045.

[625] [1] Monroe, R. A. (1971). Journeys Out of the Body. Doubleday, New York.

[626] [10] McDonnell, W. M. (1983). Analysis and Assessment of Gateway Process. US Army, declassified 2003 (CIA-RDP96-00788R001700210016-5).

[627] [117] van Lommel, P., van Wees, R., Meyers, V. & Elfferich, I. (2001). Near-death experience in survivors of cardiac arrest: a prospective study in the Netherlands. The Lancet 358, 2039–2045.

> has no distance: thinking is being there. It interpenetrates our world, as the reciprocal lattice is the same crystal.
>
> The religions' heaven is in Monroe's map not one place but many belief-shaped regions, with a neutral reception area above them. The author places the threshold at Focus 27. That is where he places the Watchers.[628]
>
> Sleep is the daily passage across the border. The human swings: awake on this side, asleep partly on the other. Focus 10, body asleep and mind awake, is the swing held at its midpoint. The Watchers do not swing at all.
>
> Near-death experiences are the crossing that almost does not return. Like Plato's freed prisoner, those who return are changed, and find it hard to tell what they saw.

Here the border is the reception area between the belief-shaped regions and the world of the living, crossed each night in sleep and once at death.

Study 6: Machines

The newest place where the border appears is in our own machines. They compute without rest. This chapter connects them to the oldest distinction in the book, between Enoch's book and Kainan's rock.

Seen

Armies and companies build systems that never sleep: networks that watch, decide and act around the clock. The author described them on 2 October 2026 as "wakeful machines".[629] Their knowledge grows faster than the capacity of their makers to understand it. The author calls this "knowledge before capacity".[630]

Reasoned

- **Known.** A machine check of a result tells that it follows from the rules. It does not tell the reader why.
- **Known.** Thurston argued that mathematics is about human understanding, not only about proved statements. A result that nobody understands has done only part of the work.[631]
- **Proved.** The author's mathematics book ends at an edge. Two addresses of one point that differ only at a cell boundary cannot be told apart by computing in finite time. Any method that converts between the ladders ×2 and ×3 at such a point would decide a principle called LLPO, the lesser limited principle of omniscience. LLPO cannot be proved in constructive mathematics. Computing reaches the edge but cannot cross it.[632]
- **Known.** In Jubilees, the Watchers' knowledge came as an inscription to be copied. Enoch's knowledge came as understanding written down in order.[633]

[628] [140] Konstapel, J. (2026). The Wakeful Ones: Enoch & Monroe. constable.blog, 1 September 2026.

[629] [149] Konstapel, J. (2026). Wakeful Machines and Watchers: How Future War Will Really Be Fought. constable.blog, 2 October 2026.

[630] [149] Konstapel, J. (2026). Wakeful Machines and Watchers: How Future War Will Really Be Fought. constable.blog, 2 October 2026.

[631] [175] Thurston, W. P. (1994). On proof and progress in mathematics. Bulletin of the AMS 30(2), 161–177.

[632] [6] Konstapel, J. (2026). Mathematical Theory Generated with the Vacuum.Net Theory, version 7.0 (19 November 2026). Constable Research, Leiden.

[633] [32] Charles, R. H. (transl.) (1902). The Book of Jubilees. A. & C. Black, London.

Table 6.1. Three ways knowledge crosses the border. The first two columns are Known; the third column and the comparison are a reading.

	Enoch (Jubilees 4)	Kainan (Jubilees 8)	Wakeful machine
Source	visions; taught by angels	rock carved by earlier generations	a system that does not sleep
Form	book ordered by months	inscription	output of computation
Certainty	as good as the understanding	unknown to the reader	checked by rule
Understanding	yes; passed on	no; copied	not by its makers

Back to the whole

> **Reading.** The wakeful machine gives knowledge before capacity.[634] Its output can be certain, like the carved rock that Kainan copied, and still not understood, like the omens he could not read.
>
> The author's rule applies: "A being that never sleeps does not oscillate. It stays on the threshold."[635] Computing reaches the edge described above, but does not cross it.
>
> The human swings between the two sides: between seeing and reasoning, waking and sleeping. That swing is what turns certainty into understanding: to cross back and write the book in order, as Enoch did.

Here the border is the edge of computation, where certainty is reached and understanding has yet to cross.

Study 7: Anomalies

The last field is the least respectable. People report objects and beings that appear and disappear. In our time they are called unidentified flying objects, or unidentified anomalous phenomena (UAP). In older times they were fairies, demons and angels. One school of thought reads them as visitors from another dimension that coexists with ours. This chapter asks only one question: if that reading were right, where would the pattern of this book say such appearances could happen?

Seen

Around 815 the archbishop Agobard of Lyon wrote a treatise against weather magic. He complained that many people believed in a region called Magonia, from which ships come in the clouds. They carried off the crops beaten down by hail. Agobard had even seen a crowd show off four prisoners who were said to have fallen from these ships.[636] He thought it all nonsense.

In 1969 the astronomer and computer scientist Jacques Vallée took the name of that region for the title of a book, *Passport to Magonia*.[637] He placed modern UFO reports beside the folklore of fairies and sky-ships and found the same patterns. John Keel argued in the same direction.[638]

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[634] [149] Konstapel, J. (2026). Wakeful Machines and Watchers: How Future War Will Really Be Fought. constable.blog, 2 October 2026.

[635] [149] Konstapel, J. (2026). Wakeful Machines and Watchers: How Future War Will Really Be Fought. constable.blog, 2 October 2026.

[636] [176] Agobard of Lyon (c. 815). De grandine et tonitruis (On Hail and Thunder). English translation in the Internet Medieval Sourcebook, Fordham University.

[637] [118] Vallée, J. (1969). Passport to Magonia: From Folklore to Flying Saucers. Regnery, Chicago.

[638] [177] Keel, J. A. (1970). UFOs: Operation Trojan Horse. Putnam, New York.

Reasoned

- **Known.** Vallée first defended the extraterrestrial hypothesis and later the interdimensional one.[639] In 1975 he proposed that the phenomenon acts as a 'control system' on human belief, like a thermostat that adjusts what we think is possible.[640]
- **Known.** The US Department of Defense office for these reports reviewed the record since 1945. It found no evidence of extraterrestrial beings, activity or technology. Most cases are ordinary objects misidentified.[641] NASA's study team reached the same conclusion and stressed that the data are poor.[642]
- **Known.** The official studies test the extraterrestrial explanation. The interdimensional explanation has not been tested by them.
- **Known.** In optics and electronics an exceptional point makes modes appear and vanish abruptly as a parameter is crossed. Systems held near it react strongly to very small disturbances.[643]

Back to the whole

> **Reading.** If such appearances come from the other side, the pattern of this book says where and how they could be seen: only near the border, where both sides balance, and abruptly. In PT systems an exceptional point makes modes appear and vanish without a gradual change. Witnesses often describe sudden appearance and disappearance.
>
> Vallée's control system has the form of Chapter 1's Watchers: something that stays at the border and adjusts what humans believe, but does not explain itself.
>
> This is a likeness of form. It explains no single case. The data do not decide it.

Here the border is the place where an appearance from the other side would be possible, and nowhere else.

Study 8: Back to the whole

Nine fields, one form. This chapter states the pattern as four rules and then checks what each rule stands on. The rules are readings, built on the known and measured facts of the chapters.

8.1 Four rules

- **Rule 1. One reality, two readings.** The primes and the zeros are one object read twice (Ch. 3). The crystal and its reciprocal lattice are one object read twice (Ch. 4). Hot and cold Ising systems are one model read twice (Ch. 4). In Rowlands' physics space and antispace add up to zero. In the Vacuum.Net theory every trit has its mirror.
- **Rule 2. The border is where both readings weigh the same.** The critical line (Ch. 3). The self-dual point, the Lee–Yang circle, the zone edge and the PT threshold (Ch. 4). Focus 27 and the moment of falling asleep (Ch. 5). The decree that closes the year (Ch. 2). The alchemical

[639] [119] Vallée, J. (1988). Dimensions: A Casebook of Alien Contact. Contemporary Books, Chicago.

[640] [178] Vallée, J. (1975). The Invisible College. Dutton, New York.

[641] [179] All-domain Anomaly Resolution Office (2024). Report on the Historical Record of U.S. Government Involvement with Unidentified Anomalous Phenomena, Vol. I; and FY2024 Consolidated Annual Report on UAP. US Department of Defense.

[642] [180] NASA UAP Independent Study Team (2023). Final Report. NASA, Washington DC.

[643] [15] Chen, W., Özdemir, Ş. K., Zhao, G., Wiersig, J. & Yang, L. (2017). Exceptional points enhance sensing in an optical microcavity. Nature 548, 192–196.

conjunction (Ch. 1b). Bifröst, the sídh mounds at Samhain, the torii and the crossroads of Eshu (Ch. 1c).

- **Rule 3. Beyond the border one side wins.** Zeros of two voices leave the line (Ch. 3). Below the critical temperature order wins; above it disorder (Ch. 4). The PT spectrum turns complex (Ch. 4). In the old texts the Watchers cross and the balance breaks (Ch. 1).
- **Rule 4. Swinging keeps the balance; standing still on the border does not cross it.** The human sleeps and wakes; the Ba flies out and returns; the shaman travels and comes back; yang turns into yin at its limit (Ch. 1c). The Watchers and the wakeful machines do not swing. Certainty without the swing stays on the threshold (Ch. 6).

8.2 Seven recurring features

Chapters 1, 1b and 1c collected the border in more than thirty traditions. Chapters 2, 5 and 7 added a few more. Read side by side, the same features keep coming back. To check this, each tradition in the book was coded for seven features. The coding uses only what this book records. A 0 means 'not recorded here', not 'absent in the tradition'.

- **F1 Guardian or gate.** A marked gate, or a being who guards or watches it.
- **F2 Vertical axis.** A tree, pillar, mountain, hole or ladder of levels that leads up or down.
- **F3 Water or bridge.** A river, sea or bridge that must be crossed.
- **F4 Passage depends on the crosser.** The same border is easy for one and hard for another.
- **F5 A price.** Something must be given to pass: a coin, a cow, a buffalo, good deeds.
- **F6 The threshold becomes a stay.** The border is not a line but a period or a place.
- **F7 Opens at a turning of the year.** The border opens at a fixed point of the calendar.

For each tradition the direction of crossing was also noted: outward (a human goes to the other side), inward (the other side comes here), or both.

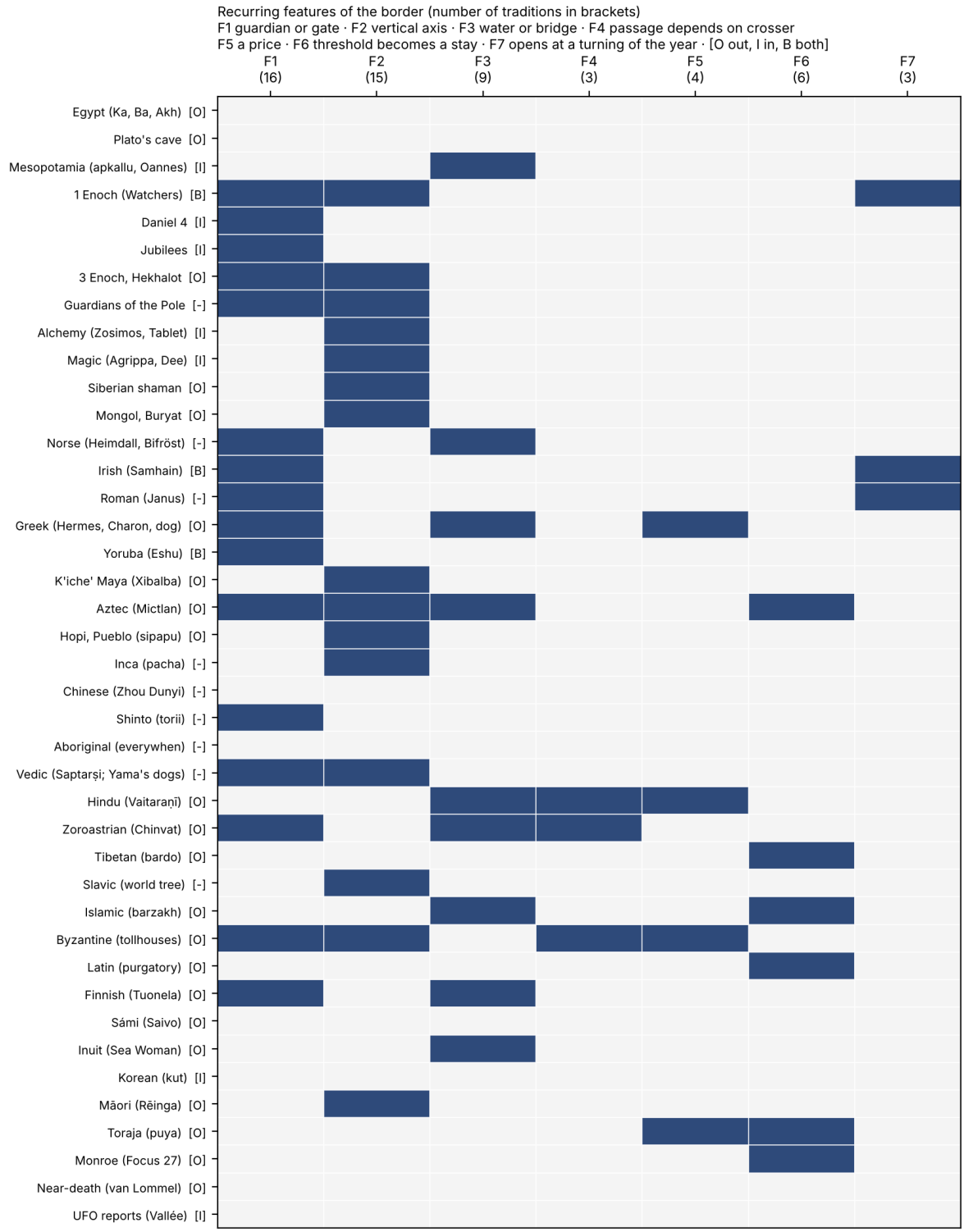

Figure 8.1. Seven recurring features in 41 traditions treated in this book. Dark: the feature is recorded in this book. The count of each feature is given at the top; the direction of crossing in brackets after each name. *Coding by the author on the text of this book; counts Measured on that coding.*

Table 8.1. Counts of the seven features. *Measured on the author's coding.*

Feature	Traditions	Examples
F1 Guardian or gate	16 of 41	Watchers, Heimdall, Janus, Eshu, the dogs of Yama and Chinvat, Kerberos, the torii
F2 Vertical axis	15	world tree, smoke hole, sipapu, seven palaces, nine levels of Mictlan, the pole
F3 Water or bridge	9	Styx, Tuonela, Vaitaraṇī, Chinvat, Bifröst, the two seas of the barzakh
F4 Depends on the crosser	3	Chinvat, Vaitaraṇī, the tollhouses
F5 A price	4	Charon's coin, the cow, the buffalo, good deeds
F6 Threshold becomes a stay	6	bardo, barzakh, purgatory, Mictlan, Toraja, Focus 27
F7 Turning of the year	3	the four added days of Enoch, Samhain, Janus
Direction	out 22, in 7, both 3	out: shaman, Enoch, Hermes; in: Watchers, mudang, Dee's angels

Four observations follow from the coding.

- **Measured (on the coding).** There are two families of border. The vertical one (F2: tree, axis, hole, levels) and the horizontal one (F3: water, bridge, sea) almost never occur together. Of 15 vertical and 9 horizontal borders, only one tradition has both: the Aztec Mictlan, with its nine levels and its river.
- **Measured (on the coding).** Where the passage depends on the crosser (F4), a price (F5) is asked in two of the three cases and water is crossed in two of the three. The judging border is mostly a crossing of water that must be paid for.
- **Measured (on the coding).** The three borders that open at a turning of the year (F7) all have a guardian (F1).
- **Measured (on the coding).** Outward crossings are recorded three times as often as inward ones (22 against 7).

These are counts on one author's coding of one book. They are not a sample of world cultures. The coding can be tested against an independent one. Stith Thompson's Motif-Index of Folk-Literature, the standard index of narrative motifs, already has classes for most of these features: a river as barrier to the otherworld (F141.1), an entrance guarded (F150.2.1), a bridge to the otherworld (F152), and a soul-bridge that is easy for the righteous and harder for others (A661.0.5.1).[644] That the index needed these classes at all shows that the features recur worldwide.

[644] [181] Thompson, S. (1955–1958). Motif-Index of Folk-Literature. Revised ed., 6 vols. Indiana University Press, Bloomington.

8.3 Each feature has a counterpart in science

Table 8.2. Features of the border and their counterparts.

Feature	Counterpart	Status	Chapter
F1 Guardian or gate	the exceptional point as the most sensitive place; a detector on the border	Known (physics); likeness a Reading	4
F2 Vertical axis	a ladder: the windows 3, 9, 27 on the critical line; rungs ×2, ×3	Measured; likeness a Reading	0, 3
F3 Water or bridge	an interface between two media: the zone edge; the Lee–Yang circle; the barzakh of two seas	Known; likeness a Reading	4, 1c
F4 Depends on the crosser	rule N4: response depends on the state; the PT threshold depends on γ/κ	Known; likeness a Reading	0, 4
F5 A price	a parameter must be brought to its threshold value before anything passes	Known; likeness a Reading	4
F6 Threshold becomes a stay	critical slowing down: near a critical point the settling time grows without bound	Known[645]; likeness a Reading	4
F7 Turning of the year	the solstice as turning point of the 2:1 day; the decree that closes the year	Known; likeness a Reading	2

> **Reading.** The two families of border are the two basic structures of the Vacuum.Net theory. The vertical border is a ladder: its rungs are counted, seven palaces, nine levels, twenty tollhouses, the Focus levels from 10 to 27. The horizontal border is a mirror line: two seas, two media, two sides of one surface. Ladder and mirror are what Chapter 0 began with.
>
> In number theory the two families meet. The critical line is a mirror line, of the horizontal kind. The windows 3, 9 and 27 climb along it as a ladder, of the vertical kind. Of all the traditions in this book, only the Aztec Mictlan has both, a ladder of nine levels and a river.
>
> Critical slowing down gives the old 'stay on the threshold' a physical form. Near the border, a system takes longer and longer to settle. In the limit it never settles. That is the state of the Watchers, who never sleep, and of the bardo, the barzakh and the Toraja dead, who wait.

8.4 The border as detector

One property appears in physics and is easy to miss. At the border a system is most sensitive. The exceptional-point sensors of 2017 work for that reason.[646] Near a critical point, a magnet responds to the smallest field. And the Watchers, who stand on the threshold, are the ones who see everything. The border is the place of balance, but also the place of seeing.

[645] [12] Hohenberg, P. C. & Halperin, B. I. (1977). Theory of dynamic critical phenomena. Reviews of Modern Physics 49, 435–479.

[646] [15] Chen, W., Özdemir, Ş. K., Zhao, G., Wiersig, J. & Yang, L. (2017). Exceptional points enhance sensing in an optical microcavity. Nature 548, 192–196.

8.5 What the book stands on

Table 8.1. What this book stands on.

Status	What it covers
Proved	The edge of computation (LLPO) in the author's mathematics; the Kramers–Wannier location of the Ising critical point (confirmed by Onsager); the Lee–Yang circle theorem.
Known	Explicit formula; Weil positivity; Montgomery–Dyson statistics; CCM operator; Brillouin zones and band gaps; PT symmetry, its threshold and EP sensing; Rowlands' dual space; the texts of Enoch, Jubilees, Daniel; Annus; Zosimos and the Emerald Tablet; Agrippa; Dee; Keynes on Newton; Eliade; the Edda, Irish, Roman, Yoruba, Maya, Chinese, Shinto and Aboriginal sources; MUL.APIN; Monroe's own descriptions; van Lommel's study; Agobard; AARO and NASA findings.
Measured	The counts of the seven features on the author's coding; equal loudness on the critical line; the ladders inside the zeros; the windows 3, 9, 27; $364 = (3^6-1)/2$; the day-and-night ratios of 1 Enoch 72; Lee–Yang zeros of a 12-spin ring.
Reading	That these borders are one border; the Watchers, Heimdall and Focus 27 as the threshold; the conjunction as the self-dual point; the wakeful machine as "knowledge before capacity"; appearances at the border.

The strength of the pattern is not any single link. Each link alone can be doubted. It is the return of the same form, found independently, in languages that do not know of each other. The author has said this before about the complementary domain: the same pattern is rediscovered each time, independently, in a new language.[647]

8.6 What the pattern is not

It is not a claim that heaven is a reciprocal lattice. It is not a claim that the Watchers were physicists. It is not a claim that UFOs are exceptional points. The claim is smaller and, I think, stronger. Wherever people have thought hard about two sides of one reality, they have found the same three things: a mirror, a line where the mirror is exact, and a breaking of balance beyond it. Physics and mathematics have made this form exact. The old texts gave it its first names.

[647] [139] Konstapel, J. (2026). [On the complementary domain and Dual Space]. constable.blog, 21 July 2026.

Part XIII

Registers

24. Chronology

Table 24.1. Chronology of sources.

Date	Event
3rd millennium BCE	Egyptian Pyramid Texts; Sumerian netherworld myths
c. 1200 BCE	Rigveda 10.14: Yama's dogs
1st millennium BCE	Maqlû; Avesta (Chinvat)
5th–4th century BCE	Plato, Republic; cure inscriptions at Epidauros
3rd–2nd century BCE	1 Enoch; Tobit; Jubilees
2nd–3rd century CE	Corpus Hermeticum; Greek Magical Papyri
c. 300 CE	Zosimos; Iamblichus; Sepher ha-Razim
mid-5th century	Kosmidion built in Constantinople
5th–7th century	Aramaic incantation bowls; Hekhalot literature
late 8th–9th century	Emerald Tablet in Arabic
1256–1258	Picatrix translated under Alfonso X
13th century	Snorri's Edda
1463	Ficino translates the Corpus Hermeticum
1533	Agrippa, Three Books of Occult Philosophy
1580s	Dee and Kelley
16th century	Sahagún, Florentine Codex
1901	Rutherford and Soddy: transmutation
1905	Hawaiian healing outlawed
1958	Monroe's first out-of-body experience
1992–2024	Bound-state beta decay measured (Dy, Re, Tl)
2001	Van Lommel, near-death study in The Lancet

25. Transfers between cultures

Table 25.1. Transfers.

From	To	What	When
Epidauros (Asclepius)	Constantinople (Kosmidion)	incubation	5th century
Mesopotamian apkallu	1 Enoch	the Watchers (inverted)	3rd century BCE
Arabic Ghāyat al-Ḥakīm	Castile, then Latin Europe	astral magic (Picatrix)	1256–58
Greek Corpus Hermeticum	Florence (Careggi)	Hermetism	1463
West Africa (Yoruba, Fon)	Haiti, Brazil, Cuba	orisha, lwa, Ossaim	16th–19th century
Amazon ayahuasca	Acre (Barquinha)	ayahuasca + possession	1940s

26. Full coding table

Table 26.1. All seventy traditions. ● = feature present in the source.

Tradition	Region	F1	F2	F3	F4	F5	F6	F7	F8	Dir.	Zones	Cert.
Egypt (Duat, Ba, heka)	Near East	●		●	●				●	O	12	h
Plato (cave; Myth of Er)	Europe		●	●	●		●			O	8	h
Mesopotamia (apkallu, netherworld, āšipu)	Near East	●		●		●			●	B	7	h
1 Enoch (Watchers)	Near East	●	●		●		●	●	●	B		m
Daniel 4	Near East	●								I		h
Jubilees	Near East	●							●	I		h
Tobit (Raphael)	Near East								●	I		h
3 Enoch, Hekhalot	Near East	●	●	●	●					O	7	h
Testament of Solomon	Near East								●	I		h
Sepher ha-Razim	Near East	●	●						●	I	7	h
Maqlû	Near East							●	●	B		m
Aramaic incantation bowls	Near East	●							●	I		h
Zoroastrian (Chinvat)	Near East	●		●	●		●			O	4	h
Islam (barzakh, Mi'raj, ruqya)	Near East	●	●	●	●		●		●	B	7	h
Hermetica (Poimandres)	Near East		●		●	●				O	8	h
Greek-Egyptian papyri (PGM)	Near East	●	●						●	B	7	m
Alchemy (Zosimos, Tablet)	Near East		●							I	15	m
Picatrix	Near East		●							I	7	h
Greek (Hermes, Charon, Asclepius)	Europe	●		●	●	●		●	●	B		h
Iamblichus (theurgy)	Europe		●							B		m
Byzantium (tollhouses, Kosmidion)	Europe	●	●		●	●			●	B	20	h
Latin (purgatory)	Europe		●		●	●	●			O	7	m
Roman (Janus, mundus)	Europe	●	●					●		B		h
Celtic-Roman (Sulis at Bath)	Europe			●					●	I		h
Irish (Samhain)	Europe	●		●				●		B		h
Norse (Heimdall, Bifröst, seiðr)	Europe	●	●	●						O	9	h
Finnish (Tuonela)	Europe	●		●						O		h
Sámi (Saivo, noaidi)	Europe		●	●		●			●	O	3	h
Slavic (world tree)	Europe		●							-	3	m
Magic (Agrippa, Dee)	Europe	●	●							I	30	h
Vedic (Yama's dogs; Atharvaveda)	South Asia	●	●						●	B		h
Hindu (Vaitaraṇī, Garuda Purāṇa)	South Asia			●	●	●				O	16	m
Tantra (ṣaṭkarman)	South Asia								●	B		h
Rasaśāstra	South Asia								●	-		m
Tibetan (bardo)	East Asia	●			●		●			O	3	h

Medicine Buddha	East Asia								●	I		h
Chinese wu and Shang	East Asia								●	B		m
Daoist healing and exorcism	East Asia	●							●	B		m
Chinese neidan / waidan	East Asia		●						●	O	3	m
Chinese (Zhou Dunyi)	East Asia									-		h
Shinto (torii, miko)	East Asia	●							●	B		h
Korean (kut, Princess Bari)	East Asia			●		●			●	B		m
Siberian shaman	North/Central Asia		●	●					●	O	9	m
Mongol, Buryat, Daur	North/Central Asia		●						●	B		m
Guardians of the Pole	North/Central Asia	●	●							-		h
Yoruba (Eshu, Ọsanyìn)	Africa	●							●	B		h
San (n/om, !kia)	Africa		●			●			●	O		h
Zulu (sangoma)	Africa					●			●	I		h
Haitian Vodou	Americas	●	●	●					●	B		h
Umbanda	Americas	●							●	I	7	m
Barquinha	Americas								●	B		h
Amazon (vegetalismo)	Americas					●			●	B		h
Mapuche (machi, rewe)	Americas		●						●	O		m
Lakota (yuwipi)	Americas					●			●	I		h
Navajo (chantway)	Americas		●						●	I	4	m
Hopi, Pueblo (sipapu, katsinam)	Americas	●	●					●	●	B	4	m
Yaqui	Americas								●	I		m
Aztec (Mictlan)	Americas	●	●	●	●	●	●			O	9	h
K'iche' Maya (Xibalba)	Americas	●	●	●	●					O	6	m
Inca (pacha)	Americas		●							-	3	m
Inuit (Sea Woman)	Americas			●					●	O		m
Mexico (Pachita)	Americas								●	I		m
Aboriginal (everywhen, clever men)	Oceania		●						●	O		m
Māori (Rēinga)	Oceania		●	●						O		h
Toraja (puya)	Oceania					●	●			O		h
Hawaii (kahuna)	Oceania								●	I		h
Monroe (Focus levels)	Modern		●	●	●		●			O	10	h
Near-death (van Lommel)	Modern	●								O		m
UFO reports (Vallée)	Modern									I		h
Sefer Yetzirah	Near East									-		h

27. Glossary

Table 27.1. Glossary.

Term	Meaning
abaton	sleeping hall of an Asclepius shrine
Akh, Ba, Ka	Egyptian parts of the person
āšipu, asû	Mesopotamian exorcist and physician
bardo	Tibetan intermediate state
barzakh	Islamic interval after death
closure	in the theory: a loop that closes and persists
Focus level	Monroe's numbered state of consciousness
incubation	sleeping at a holy place to receive a dream
katsina	Hopi spirit being
Locale II	Monroe's non-physical region
lwa	Vodou spirit
miko	Japanese female medium
noaidi	Sámi shaman
orisha	Yoruba deity
rewe	Mapuche notched pole
ruqya	Islamic healing by recitation
ṣaṭkarman	the six results of tantric magic
sipapu	Pueblo place of emergence
theurgy	"god-work": ritual ascent
trit	in the theory: a step with a direction: out, still or back
Watchers	the ʿîrîn of 1 Enoch

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Each entry gives the source and a short note on what it offers the reader who wants to go further. Numbers match the footnotes.

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