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Cosmogony, Anthropogony, Homology

From Ymir's flesh the earth was made
 and from his sweat (or: blood), the sea;
 Mountains from his bones, trees from his hair,
 and heaven from his skull.
 From his brows built the gentle gods
 Miðgarð (the human realm) for the sons of men;
 And from his brain shaped they all the clouds,
 Which were hard in mood.

So an ancient Germanic poem—verses 40–41 of the *Grímnismál*—recounts the origin of the cosmos. Elsewhere, in Snorri Sturlason's *Gylfaginning* 6–8, a fuller narrative is presented, in which we are told that Ymir ("Twin"), a frost-giant, was the first living being within the universe. Actually it is difficult to speak of "the universe" as such for the time when he was alive; rather, Ymir inhabited a primordial realm, rich in potential but as yet unformed.

The event that changed this realm into the world as we know it was Ymir's death, a death that—according to Snorri—came at the hands of the first gods, Óðinn and his shadowy brothers, Vili and Vé. Then, using pieces of Ymir's body as (quite literally) raw material, those deities constructed our physical universe, along the lines described in the verses I have quoted.

Narratives resembling this one are well attested throughout the world, as has long been recognized by students of mythology and folklore.¹ I take as the data for this book the large set of such stories

*All translations are my own. For sources where the original-language texts may be located, see the list of primary sources, pp. 231–234.

preserved in the ancient literatures of the various peoples speaking Indo-European languages.² The general narrative is that a primordial being is killed and dismembered, and that from that being's body the cosmos or some important aspects of it are created. On this basic theme, a great number of variants occur, as outlined in table 1.

Table 1. Generalized account of creation in Indo-European myths.

Creation results from:

I. The death

A. usually violent

1. by sacrifice
2. by murder
3. in battle

B. but sometimes by natural causes

II. and dismemberment

A. usually literal and corporeal

B. but sometimes figurative (e.g., the "dismemberment" of a primordial king's realm among his heirs)

III. of a primordial being

A. usually human

1. usually the first man
2. the first king (often the first man is also the first king)
3. sometimes other primordial specialists: e.g., the first healer

B. sometimes super- or sub-human beings

1. a god
2. a demon
3. a giant

C. a domestic animal

1. most often, a bovine, as representative of all domestic animals (and often in combination with a primordial human)
2. sometimes the first exemplar of other species: horse, goat, etc.

IV. and the formation of the universe—or some significant portion thereof—from the pieces of the victim's body

A. the physical universe

1. as a totality

Table 1 (continued)

2. or with local reference only: e.g., the features of a specific region

B. the social universe

1. as a set of vertically stratified classes
2. or as a set of horizontally separated kingdoms (which regularly have also strong associations to stratified classes)

C. other specialized items

1. animal species
2. vegetable species
3. foodstuffs
4. elemental matter
5. etc.

Beside the features listed in table 1, there are others that tend to recur in the specifically Indo-European myths of the "creative death" type—central characters are often named "Man" and "Twin," for instance³—but these details are less important than the general shape of the narrative. As examples, two other stories can be added to that of Ymir. First, *R̥g Veda* 10.90, the celebrated "Song of Puruṣa" (*Puruṣasūkta*), composed around 900 B.C.:

(A) When they divided Puruṣa ("Man"), how many pieces did they prepare?

What was his mouth? What are his arms, thighs, and feet called?

The priest was his mouth, the warrior was made from his arms;

His thighs were the commoner, and the servant was made from his feet.

(B) The moon was born of his mind; of his eye, the sun was born;

From his mouth, Indra and fire; from his breath, wind was born.

From his navel there was the atmosphere; from his head, heaven was rolled together;

From his feet, the earth; from his ear, the cardinal directions.

This text contains a dimension lacking from the *Grímnismál* passage. For whereas the latter offered a straightforwardly cosmogonic account—that is, a story of the creation of the universe—the *Puruṣasūkta* contains both a cosmogonic section (*RV* 10.90.13–14, which I have labeled B) and a sociogony: a story of the creation of society (*RV* 10.90.11–12, labeled A). More complex still is a Slavic variant, the

Old Russian "Poem on the Dove King" (*Stiž o golubinoj knig*"), a popular work collected from oral tradition early in the nineteenth century, although literary references to this poem exist in texts dating six hundred years earlier:⁴

- (B) Our bright light comes from the Lord,
The red sun from the face of God,
The young shining moon from his breast,
The bright dawn from the eyes of God,
The sparkling stars from his vestments,
The wild winds from the Holy Spirit.
- (A) From this our little Czars are on earth:
From the holy head of Adam.
From this princes and heroes come into being:
From the holy bones of Adam.
From this are the orthodox peasants:
From the holy knee of Adam.
- (C) Strong bones come from stones,
Our bodies from the damp earth.

This source presents not only sociogonic and cosmogonic accounts (labeled A and B respectively) but also an anthropogony—that is, a story of the creation of man (labeled C).

Although the *Puruṣasūta* lacks an anthropogonic account of the sort encountered here, and the *Grīmnismāl* lacks both an anthropogony and a sociogony, such discussions are to be found in other important Indic and Germanic sources, as we will see in later chapters. In general, within the Indo-European tradition, issues of creation and destruction were considered at all three of these levels: that of the individual human body or microcosm; that of the macrocosm, or universe writ large; and that of the entity intermediate to individual and cosmos—the mesocosm, if you will—human society. For the sake of analytic clarity, I will tend to keep these levels separate from one another, concentrating initially upon the individual and cosmic levels and moving explicitly to the social level only in the final chapter.

Such a separation, to be sure, is rather artificial, for the individual, social, and cosmic levels of discourse are, as we will see, intimately interwoven: mutually implicative and mutually reinforcing. Theories about the nature of the universe, for instance, have other referents in addition, being also—at least implicitly—theories about (and programs for) the "proper" nature of society.⁵ Ultimately, I will consider these myths of creation as one of the world's most successful systems

of ideology, given that they provided the mystifications and legitimations that sustained an extremely widespread, stable, and durable but also extremely rigid, hierarchic, and exploitative social system. This analysis will have to wait, however, until the final chapter. A great many other questions, many of them rather detailed and some quite arcane, must be pondered first.

The cosmogonic and anthropogonic sections of the three texts presented above provide a convenient starting point. Before I discuss the details of these passages, however, it is helpful to observe that the general thrust in each instance is to establish a set of homologies between bodily parts and corresponding parts of the cosmos: eyes and sun, flesh and earth, and so forth. Note also that these texts do not just call attention, in the manner of poetic imagery, to some perceived similarity between two disparate entities. They state not that "X is like Y," but rather that "X was made from Y." Between the two items linked in such a homology, there is thus posited a fundamental consubstantiality, whereby the one entity may be created out of the material substance of the other. The two are understood as *alloforms*, alternative shapes, of one another. Viewed thus, flesh and earth, to take one example, are seen as consisting of the same material stuff: matter that may be temporarily incarnated in either one of two superficially—and only superficially—different forms. To put it somewhat differently, flesh and earth are viewed as alternate moments in a continuous process, whereby one continually is transmuted into the other.

Turning to the details of the homologies that are presented in these three texts, we can note numerous similarities among them, but also some significant divergences, as becomes clear when their contents are plotted in tabular form (see table 2). Some of these divergences may be straightened out readily, as for instance in the case of the *alloforms* posited for heaven. For whether the comparison is to the skull (ON *hauss*) or to the head more broadly (Skt *śiṣṇa-*), the homology rests upon a positional similarity: heaven is the highest part of the cosmos, just as the head or skull is the highest part of the body. When the skull is taken as heaven's *alloform*, a morphological dimension is added to the homology, for the shape of the cranial cap suggests the perceived "rim of heaven."

Similarly, a positional comparison underlies the homology of earth and feet in the Indic text, for in Indic cosmology the universe is regularly considered to possess three vertical levels: heaven, atmosphere, and earth.⁶ Heaven being associated to the top of the human body, the head, earth is associated to its bottom, the feet. This line of

Table 2. Comparison of the homologic sets in *Grímnismál* 40–41, the *Puruṣasūkta*, and the "Poem on the Dove King."

	Heaven	Sun or Dawn	Moon	Stars	Clouds	Wind	Fire
<i>Grímnismál</i>	Skull	—	—	—	Brain	—	—
<i>Puruṣasūkta</i>	Head	Eye	Mind	—	—	Breath	Mouth
"Dove King"	—	Eyes and Face	Breast	Vestments	—	Holy Spirit	—

	Atmosphere	Trees	Mountains or Stones	Sea	Miðgarð	Cardinal Points	Earth
<i>Grímnismál</i>	—	Hair	Bones	Sweat or Blood	Brows	—	Flesh
<i>Puruṣasūkta</i>	Navel	—	—	—	—	Ear	Feet
"Dove King"	—	—	Bones	—	—	—	Body

analysis also applies to the homology of atmosphere and navel posited in the *Puruṣasūkta*, for each of these marks the midpoint of an encompassing vertical structure. We thus have here an extended homology or a homologic set, in which not two but six items are brought into relation with one another: three from the body (or microcosm) and three from the universe (or macrocosm).

Head : Heaven
Navel : Atmosphere
Feet : Earth

This elegant set is not, however, attested anywhere outside of Indic sources. It would thus appear to be an extension constructed upon the traditional Indo-European homology of head (or skull) and heaven—which, as we will see, is well attested elsewhere—making creative use of the general principles of homologic thought.

Elsewhere, the usual alloform for earth is flesh, as shown in the *Grímnismál* and—less obviously—in the "Dove King," where the term used for "body," ORuss *tělo*, denotes primarily the external, visible, fleshy surface of the body, being derived from the PIE root *tel-*, which marks surfaces of all kinds, including the surface of the body and also that of the earth (as for instance, in Lt *tellus* and OIr *talam* "earth," as well as ORuss *t'lo* "soil").⁷ Together with this homology of flesh and earth, another is often grouped to form a four-item homologic set posited upon substantive (that is, material) and positional resemblances. For just as bones are the dense matter located within the softer flesh, so stones are related to the soil. This set could be graphed as follows:

Flesh : Earth
Stones : Bones

It is articulated concisely and forcefully in the anthropogonic section (section C) of the "Poem on the Dove King":

Strong bones come from stones,
Our bodies (*tělesa*) from the damp earth.

An ambiguity to consider in the data laid out in table 2 is the subtle alternance in the alloforms posited for the sun (or dawn). For whereas the Indic text gives "eye" (*caṣṣoh*, singular ablative), its Slavic counterpart gives "eyes" (*očej*, in the dual). The question is, do both eyes

correspond to the sun, or does only one, and if the latter, what becomes of the other eye? One might expect the occurrence of another four-member homologic set, correlating the eyes to the chief heavenly bodies:

Right Eye : Sun
Left Eye : Moon

This set, however, does not occur in any of the texts I have considered so far, nor is it frequent elsewhere.⁸ Rather, the alloform given for the moon in the *Puruṣasūkta* is the mind, and in the "Dove King" the breast. The logic of these comparisons is rather difficult to fathom. The issues are whether there is any correspondence between mind and breast, and further, what led to their homologization to the moon. The latter problem proves easier to resolve, and its resolution leads to resolution of the former.

It would appear that the basis for the Indic comparison of mind and moon is folk etymology, specifically the resemblance between the words *manas-* "mind" and *mās-* "moon" (or, as it is given in the *Puruṣasūkta*, *candra-mās-* "radiant moon"), a resemblance that is also apparent in the PIE forms from which they are derived: *menos-* ("mind," from a verb "to think") and **mē(n)s-* ("moon," from a verb "to measure," with probable reference to the measurement of time).⁹ The philological value of this comparison is nil: it is more word play than scientific linguistic analysis. But once posited, the homology exerted powerful influence on the history of ideas, and the various theories of "lunacy" that flourished until quite recently—whereby mental and emotional states are correlated to the phases of the moon—in all likelihood derive from the ancient homology of mind and moon. If this is so, it might also help to explain why another bodily part commonly understood as the seat of the emotions—the breast—appears as the alloform of the moon in the "Poem on the Dove King."

What all these materials reveal is a common pattern of creation mythology, traditional among the Indo-European peoples, in which the world is formed from the dismembered body of the first man and—in some versions—the body of the first bovine.¹⁰ An important aspect of this tradition was the use of detailed homologies, relating the parts of the human body to parts of the cosmos, and also to parts of society (I will postpone study of the latter system until Chapter 7). As should already be evident (and will become more so), certain specific homologies recur consistently in a fairly fixed form. Others are subject to considerable variation. But even in the most stable homologies—flesh

and earth, for instance—a certain amount of innovation or play was always possible, for the tradition rests more upon the logic of homology than on the details of any given comparisons. The methodological implication of this is that we ought not attempt to reconstruct pristine PIE homologies, from which all deviations may be dismissed as degenerate forms or subsequent transformations. Rather, my goal is the identification of more or less well-defined semantic ranges in which homologies regularly recur, but always with some degree of variation.

With this in mind, let us turn to an Iranian creation account that makes use of the same pattern of homologic analysis: the Manichaean cosmogony described in a Pahlavi (Middle Persian) text, from the ninth century A.D., *Škend Gumānīg Wizār* 16.8–20.¹¹

This also is said [by the Manichaeans]: the bodily, material creation is of Ahriman ("the Evil Spirit"). More precisely, the sky is from the skin, the earth is from the flesh, the mountains are from the bone, and the plants are from the hair of the demon Kūnī . . . Kūnī was the general of Ahriman's army, who at the beginning of the first battle swallowed the light in order to steal it from the god Ohrmazd ("the Wise Lord"). And in the second battle, [Ohrmazd] seized the demon Kūnī and many demons, and he bound them on the sphere, and killed the demon Kūnī. This macrocosm (*ēn dām ī wuzurg*) was created and made from her.

Within this doctrine—which is also alluded to in *Dēnkart* 3.200.7—the negative Manichaean valuation of the material world is forcefully expressed, for the cosmos derives from the body of a demon (Pahl *dēw*) bearing the name Kūnī, which would seem to mean nothing other than "Anus."¹² Consistent with other Manichaean views, the only redeeming feature of the material world is the fact that particles of light exist trapped within matter, by virtue of Kūnī's having swallowed up the light in her initial assault. This light, after the death and dismemberment of Kūnī, presumably became the spiritual portion imprisoned within humans, animals, and even certain vegetables and fruits.¹³

Of foremost interest at present is the fact that three of the four homologies presented in this passage—flesh/earth, bone/mountains, and hair/plants—correspond closely to homologies given in texts I have considered above, while the fourth, skin/heaven, is a variation upon the equation of skull and heaven. Here, however, heaven is viewed not so much as a lofty sphere (and thus homologous to the skull), but as the outermost covering of the cosmos, so that the skin—the body's outermost shell—is taken to be its alloform.

Yet another text contains the story of the earth's origin from the body of a primordial man, although here it is not the entire earth that is created, but only a crucial portion thereof: the mountain that supports the heavens. Still, several of the homologies we have already encountered do recur. The text in question is Ovid's description of the transformation of Atlas, *Metamorphoses* 4.655–662:

As large as he was, Atlas is made into a mountain; for his beard and hair
Are changed into forests, his hands and arms are ridges.
What had previously been his head is the utmost summit of the mountain,
And his bones become stone. Then, grown great in all his parts,
He grew to an immense size—thus you established it, O gods—and the sky
With all the stars rested upon him.

While the transformation of hands and arms into ridges is unparalleled elsewhere, and results from Ovid's attempt to fit the entire body of Atlas into the image of a mountain, other transformations are quite familiar by now: hair/forests, bones/stones, and head/mountaintop, understanding that the summit of the peak (*summo . . . in monte cacumen*) here replaces the summit of the cosmos, the rim of heaven. In truth, this must be viewed as something of a cosmogonic account, for it recounts the separation of heaven and earth and the origins of the cosmic mountain—Mount Atlas had already been called the "pillar of heaven" (*ton kiona tou ouranou*) in Herodotos 4.184—that connects those realms.¹⁴ Moreover, there seems to be no direct Greek or Roman antecedent for Ovid's story: only *Aeneid* 4.246–251, which depends on the *Metamorphoses* account, is at all similar. Either Ovid invented the story of Atlas's transformation entirely on his own—which seems unlikely, given the precise correspondence of the homologies with those encountered in other parts of the Indo-European world—or he reinterpreted pieces of an inherited cosmogonic tradition, making creative and poetic use of them in a new—and entirely appropriate—mythic context.

While the reflexes considered thus far mostly tell of the origin of the cosmos from a human body, others,—like section C of the "Poem on the Dove King," are more anthropogonic than cosmogonic in their orientation, telling of the creation of the first man from the elements of the cosmos. Often, such texts are all thought to derive from an apocryphal book of the Old Testament, the Book of the Secrets of Enoch (or, as it is usually cited, II Enoch, to differentiate it from the

Ethiopic text similar in name). This text—most probably written in Hellenistic Alexandria somewhere between 30 B.C. and A.D. 70 (and thus, perhaps subject to Greek or Iranian influence)—survives only in Slavic translation, in Russian, Bulgarian, and Serbian manuscripts of the sixteenth and seventeenth centuries.¹⁵ In the crucial passage, II Enoch 30.8–9, God himself is speaking:

And on the sixth day I ordered my Wisdom to make man out of seven elements put together: his flesh from the earth, his blood from dew and sun, his eyes from the abyss of the sea, his bones of stone, his thought from the speed of angels and from cloud, his nerves and hair from the grass of the earth, his soul from my spirit and from the wind. And I gave him seven faculties: hearing to the flesh, vision to the eyes, smell to the soul, touch to the nerves, taste to the blood, endurance to the bone, and sweetness to the thought.

Here are many of the same homologies found in the cosmogonic texts cited earlier. Clearest, perhaps, are flesh/earth, bones/stones, and hair/grass. To these may be added thought/cloud, recalling the homology of brain/cloud in *Grímnismál* 41. Again, the extension of the homology hair/grass to include nerves (thus one must here interpret the ambiguous term *žily* [which may also denote veins and sinew] given its association with the sense of touch in 30.9) may be understood as prompted by the morphologic resemblance between hair and nerves. The granting of smell to the soul (*ōboněnie duševno*) also informs us that the soul was understood as being, or at least involving, the breath, yielding the homology of breath and wind, to which God's spirit (*dux*) is added as a secondary source. This also helps to clarify the homology of winds from the Holy Spirit (*Svjata Duxa*) in the "Dove King," where the spirit in question would appear to be a Christianized reinterpretation of the breath.

The derivation of blood "from dew and sun" (*ōt rasi i slnca*) is rather strange. Although blood is derived from dew rather than from the sea in certain other texts, and from fire in others still (usually with the explanation that this is why blood is warm and red),¹⁶ nowhere else to my knowledge is blood ever said to be derived from the sun. Perhaps this may be the result of a textual corruption, for if one regards the phrase *ōt bezdny morsky* ("from the abyss of the sea") as an interpolation, then punctuates after *rasi* and again after *ōči ego*, one is left with *kr'v ego ōt rasi, i slnca ōči ego*, "his blood from the dew, and of the sun his eyes," which is more in keeping with the usual range of IE correspondences.

It is also worth noticing that within this text an attempt is made to build an expanded homologic set including not only items drawn from the microcosm and those from the macrocosm, but also the senses—that is, those faculties which mediate between macrocosm and microcosm, bringing knowledge of the former to the latter. This attempt, while conceptually bold, is not terribly successful, and many of the specific homologies—such as hearing/flesh/earth or sweetness/thought/cloud—seem rather forced, being motivated by the desire to fill out a system rather than by any compelling internal logic.¹⁷ It is nevertheless worth graphing the structure of this system, if only to see how creative minds could struggle to build ever more sophisticated systems starting from traditional homologies. If one accepts the emendations I have suggested, and removes the overtly Christian items ("speed of angels" as an alloform of thought, "spirit" as an alloform of soul), the following picture emerges:

Earth	:	Flesh	:	Hearing
Dew	:	Blood	:	Taste
Sun	:	Eyes	:	Vision
Stone	:	Bones	:	Endurance
Cloud	:	Thought	:	Sweetness
Grass	:	Nerves	:	Touch
		and Hair		
Wind	:	Soul	:	Smell

That there are seven items listed in each of these series obviously presented certain problems when the analysis of the senses was attempted; "endurance" and "sweetness" were added to fill out the standard list of five sensory faculties. Use of a seven-part schema (following the theme of creation in seven stages from Genesis 1–2) was quite common in medieval texts describing the anthropogony, as was an octopartite pattern, the so-called Eight-Part Adam. But in both these forms, the description of how the first man's body was created from alloformic portions of the cosmos was an extremely popular *topos*, closely related versions being found in Latin, Celtic, Germanic, and Slavic sources dating from the ninth to the nineteenth centuries, only some of which can be cited here.¹⁸ As I noted earlier, many authorities have viewed these as all ultimately derived from the lost Latin or Greek antecedent of II Enoch, although the evidence for this is less than overpowering, given how little we know of II Enoch prior to its sixteenth-century appearance in Slavic translations.¹⁹ Even should the authorities be right in this hypothesis, one must still ask what it was that made these verses from a relatively obscure apocryphon so enduringly

popular from one end of Europe to the other. What made the description of Adam's body being formed from the elements of the cosmos so tremendously appealing to Celts, Germans, and Slavs for a millennium or more? For my part, I believe that the most likely answer to such questions is that in such stories as that found in II Enoch 30.8–9, European peoples found a superficially Christianized—and thus acceptable—version of their own still familiar and fondly remembered pre-Christian creation accounts. They thus seized upon such reworkings of familiar themes, clung to them tenaciously, and circulated them widely. One could cite literally dozens of texts within this tradition, of which only a few must suffice here. Consider, for instance, an extract from the fifteenth-century Old Frisian Code of Emsig:

God made the first man, that was Adam, from eight transformations: the bone from the stone, the flesh from the earth, the blood from the water, the heart from the wind, the thoughts from the clouds, the sweat from the dew, the locks (of hair) from the grass, the eyes from the sun, and then he blew in the holy breath (or: spirit), and then he made Eve, Adam's love, from his rib.²⁰

Consider also an Irish extract of the thirteenth or fourteenth century (British Museum Additional MS. 4783, folio 7a):

There is this to be known concerning the creation of Adam: (he was made) from seven parts. The first part is from the earth, the second part from the sea, the third part from the sun, the fourth part from the clouds, the fifth part from the wind, the sixth part from stones, the seventh part from the Holy Spirit [, the eighth part from the light in the deep].

The part of earth, that is the body of a man. The part of the sea, that is the blood of a man. The part of the sun is his face and countenance; the part of cloud, his thought; the part of wind, the breath of a man; the part of stones, his bones; the part of the Holy Spirit, his soul. The part made from the light in the deep, that is his Christianity.

If the earthliness should be dominant in a man, he is sluggish; if the sea, he is unsteady; if the sun, he is fair and lively; if the cloud, he is light and foolish; if the wind, he is renowned and hotheaded; if the stone, he is hard in discussions and greedy and a thief; if the Holy Spirit, he is lively, generous, and full of grace from the divine scriptures; if the light, he is a joyful and fortunate man.²¹

Like II Enoch, these two versions have been superficially Christianized, as is evident from the mention of Eve's creation (taken from Gen-

esis 2.18–22) and the inspiration of Adam (taken from Genesis 2.7) in the Old Frisian account, and the derivation of Adam's soul from the Holy Spirit and his Christianity (a delightful anachronism) from the light in the deep according to the Middle Irish. These superficial additions notwithstanding, the ancient Indo-European homologies remain: flesh(or body)/earth, bone/stone, blood/water(or sea), and eyes(or face)/sun are found in both texts, while hair/plants is in the Old Frisian. Beyond this, breath/wind is stated explicitly in the Middle Irish and lies behind the derivation of heart from wind in the Old Frisian, where the heart is understood as the seat of life and thus replaces the life-breath. The Irish text also helps us to understand the logic behind the homology brain(or thought)/cloud. For when the homology is stated as brain/cloud (as in *Grimnismál* 41), its basis is the morphological resemblance between two crenulate entities. When it takes the form thought/cloud, the ground for comparison is the insubstantiality or fluffiness of the two alloforms. For as the Irish version tells us, when the proportion of cloud within an individual exceeds all other elements and thus dominates his constitution, "he is light and foolish."

This statement comes from the last paragraph of the Middle Irish text, which—like the treatment of the senses in II Enoch 30.9—is an expansion on the theme of the homologic relation of microcosm and macrocosm. In this passage it is also implied that the anthropogonic process is ongoing, such that each successive human being is created from the same elements of the cosmos as was Adam, going on to specify what the consequences should be if any single element were to preponderate over the others. As a result, we are told just what qualities accompany each material substance of which the body is constituted. Omitting the most fully Christianized items, the system is as follows:

Earth	:	Body	:	Sluggishness
Sea	:	Blood	:	Unsteadiness
Sun	:	Face	:	Fairness, Life
Cloud	:	Thought	:	Foolishness, Lightheartedness
Wind	:	Breath	:	Fame, Hotheadedness
Stones	:	Bones	:	Hardness, Greed, Thievery

A similar expansion is evident in an interpolation to a famous Old Russian text, the "Discourse of the Three Saints" (*Bes"da Trex" Svjatelej*), in which is found another superficially Christianized reflex of these same basic homologies.²² The Christianization, however, goes somewhat further here than in the Old Frisian and Middle Irish

sources I have been considering. For not only are abstract qualities—usually Christian virtues and vices—associated to each homology, but a hierarchy is established in which the first group of alloforms (earth/body) is most corporeal and thus "lowliest," while the last (Holy Spirit/zeal and all that is good) is most fully spiritual (in a Christian sense) and is thus said to be "foremost."

And thus he (i.e., God) made (Adam's) body out of eight parts composed in four. The first part is of the earth, which is the lowliest of all parts. The second is of the sea, which is blood and wisdom. The third is of the sun, which is beauty and eyes for him. The fourth is of the celestial clouds, which are thought and weakness. The fifth is of the wind—that is air—which is breath and envy. The sixth is of stones, that is firmness. The seventh is of the light of this world, which is made into flesh, that is humility and sweetness. The eighth part is of the Holy Spirit, placed in men for all that is good, full of zeal—that is the foremost part.²³

The contents are by now so familiar that it is not difficult to restore the few pieces that are missing from the picture. Thus, a corporeal alloform for stones, which are only homologized here to "firmness" (*utor'zdenije*), is obviously bones. Similarly, no corporeal alloform is given for earth because earth's normal homologue, flesh, has been pressed into service elsewhere in the system, as we are told that "the light of this world is made into flesh" (*světa sego mira, iže stvoren' pl'tnju*), an obvious allusion to the doctrine of Christ's incarnation.

Down into the nineteenth century, this anthropogony was still circulating, as evidenced by a Rumanian variant, part of a text entitled "Questions and Answers," dating to 1809:

Question: "From how many parts did God make man?"

Answer: "From eight parts: the body from soil; bones from stones; blood from dew; eyes from sun; thoughts from clouds; breath from wind; intellect from moon; the gift of prophecy from the Holy Spirit."²⁴

Clearly, this is not an independent version, but most likely draws on earlier Slavic, Greek, and/or Latin traditions. Yet it is a testimony to the enduring attraction and power of this system of cosmogonic and anthropogonic mythology, for many of the same basic homologies keep recurring in sources the dates of which span three millennia or more. Perhaps it is worth summarizing the nature of those homologies at this point. Nine separate items recur with some degree of frequency.

1. *Flesh/Earth*. Occurring in all the texts cited except the *Puruṣasūkta* and Ovid's story of Atlas, the homology of earth and flesh—or, more broadly, the body—is one of those most firmly established. In certain Christianized versions of the anthropogony, this homology is denigrated to the advantage of other "loftier" or more spiritual homologies. Thus, the "Discourse of the Three Saints" calls the portion of the body formed from the earth the "lowest" (*xužd'šē*) of all, and whereas most texts use a neutral term to denote the earth (ON *jǫrð*, OFris *erthe*, OE *fold*, OIr *talam*, ORuss *tělo*, Pahl *zamīg*, OCS and ORuss *zemlja*), certain others refer to "mud," "soil," "clay," or "loam," as the source of the base flesh (Lt *limus*, OE *lām*, MHG *leim*, Rum *pământu*). The basis for this homology is a substantive resemblance between the two materials compared, and also a positional relation within a homologic set that also involves the next set of alloforms.

2. *Bone/Stone*. Closely related to the homology of earth and flesh is that of bone and stone, for just as stones are the hard substance set inside the soft earth, so is the relation of bones to flesh. This powerful image is lost when the alloform of bone is defined as mountains, something that occurs in both the Eddic and Pahlavi accounts (ON *björg*; Pahl *kōf*). The chief characteristic of bones highlighted through this homology is their hardness, as is seen in II Enoch 30.9, where the faculty given to the bone is "endurance" or "firmness" (*tr'pēnie*), and in the Middle Irish reflex, where one with an excess of bone is said to become "hard in discussions" (*cruaidh do trachtadh*). This homology occurs in all the sources we have considered thus far, with the exception of the *Puruṣasūkta*. A phonological as well as a semantic correspondence is evident in the terminology used for bones, Lt *os*, Pahl *ast*, ORuss and OCS *kost'* all being derived from PIE **H₂os-t(H₂)*.²⁵

3. *Hair/Plants*. Somewhat less broad in its diffusion is the homology of plants and hair, which is lacking in the *Puruṣasūkta* and in the Middle Irish, Old Russian, and Rumanian reflexes. Other sources do consistently group hair and plants together, the plants in question regularly being inedible vegetation: trees (ON *baðmr*, Skt *vanaspatih*), forest (Lt *silvas*), or grass (OCS *trava*, OFris *gerse*), although generic terms for "plants" also appear (Skt *oṣadhiḥ*, Pahl *urwar*). The grounds for comparison would seem to begin with the morphological resemblance of hair and grass, both being long, thin, and grouped in clumps, but they extend to other factors as well. The position of hair growing on top of the flesh (and not just the hair on the head) corresponds to that of plants growing on top of the earth. Further, hair and plants are characterized by incessant growth. This property of growth, as

well as location on the extremity of the body atop the flesh, has led in some instances (see Chapter 4) to the extension of this homology to include nails as well as hair in the comparison to plants. When only morphological factors are taken into account, however, plants may also be homologized to sinews or nerves, as occurs in II Enoch.

4. *Blood(or other bodily fluids)/Water*. Considerable variation marks the homologies drawn between the fluid elements of microcosm and macrocosm. Some texts posit only one rather general set of alloforms—most often that of blood and water—while others provide much more detailed analyses, comparing blood to riverine waters, urine to swamp waters, and so forth (implying here further homologies of blood vessels to riverbeds and bladder to swamps).²⁶ In two Old English texts, the *Rituale Ecclesiae Dunelmensis* and the *Dialogue of Solomon and Saturn*, a major divergence is apparent, blood being homologized not to any fluid but to fire, normally taken as the opposite of all fluids. Perhaps this homology is intended to be surprising, for the texts go on to justify it, explaining that both blood and fire are red and hot, as evidence of (or better yet, *because* of) their alloformic relation.²⁷ Among peoples who live near the ocean, there is a tendency to homologize sweat and sea, based on the saline content of both fluids, as is seen in *Grimnismál* 40, where the term used is ON *sveiti*, which may denote either "sweat" or "blood," although its etymological connection to the former is unmistakable.²⁸ Other texts still relate tears to sea, blood to dew, sweat to sacrificial libations, or semen to water, in all instances the material resemblance of two fluids providing the fundamental ground for homologization. Beyond this, the specific properties of certain fluids help to refine the comparison; for instance, a common pattern of downward motion in droplets leads to the association of urine and rain, and the fact that both sweat and dew appear mysteriously and seemingly spontaneously on the surface of things leads to their being understood as alloforms of each other.²⁹

5. *Eyes/Sun*. The two orbs that are involved in the act of vision—eye and sun—are consistently linked in the texts considered here, and in most other Indo-European discussions of microcosm and macrocosm as well. So closely are the two associated that not only is it common in various Indo-European languages to refer to the sun as an "eye"³⁰ but in at least one stock the noun that denotes "eye" is actually derived from the word for "sun" (OIr *sūil* < **sūli*, a zero-grade form of PIE **sāwel-*).³¹ Whereas we have only relatively recently come to understand the process of vision as one whereby light transmitted by the sun enters the eye, which acts as a receiver, so powerful was the homology of eye and sun throughout antiquity that the eye

was believed to be a source of light like its alloform the sun.³² While the terms for both items in this homology are quite consistently of PIE origin—sun, from **sāwel*: Skt *sūryah*, Pahl *xwar-šēd* (< Av *x̥ar-* plus *saēta-*), ORuss and OCS *sl'n'ce*, Rum *soare*, OFris *sunna*; eyes, from PIE **H₃ekw-*: Skt *akṣini*, ORuss and OCS *ōči*, Rum *ochi*, OFris *agene*³³—they do not agree in number, for while the sun is always singular, the term for eyes almost always occurs in the plural or (in those languages where the dual survived) in the dual. One must conclude that from the one sun, both eyes—indeed, all eyes—have their origin. One might have expected the two eyes to be derived from the two great celestial luminaries, sun and moon, but, as we have seen, the moon was reserved for another use.

6. *Mind/Moon*. Of the various items of the macrocosm that recur in different texts, the moon—somewhat surprisingly—is among the rarer ones. The clearest sources in which it appears are those from India, where the moon (*candra-māh* “shining moon”) is said to come from the mind (*manas*) of Puruṣa (RV 10.90.13, *AitUp* 1.4), a comparison that seems to be prompted by their phonological similarity. Two other sources I have considered offer similar alloforms, although there the phonological base has been lost: the Rumanian “Questions and Answers,” where the intellect (*înțelepciunea*) is formed from the moon (*lună*), and the “Poem on the Dove King,” where the moon is homologized to the breast (ORuss *grud*), the latter being understood as the seat of the emotions, much as the mind is the seat of thought. Again, in a text I will discuss shortly, the Pseudo-Hippocratic *Peri Hebdomadōn* 6.1, it is said that “The place of the moon is where sense prepares judgment” (*Lien [= lunae] locus sensus apparuit iudicium*). And, as has been demonstrated by Jacques Duchesne-Guillemin, the structure of this text strongly indicates that the “place where sense prepares judgment” was the region of the chest or diaphragm.³⁴ But beyond this there is no further evidence to offer. Perhaps there was no IE homology of mind and moon, then—but if not, how can one explain the appearance of this curious association in Slavic, Greek, and Indic sources, not to mention the late Rumanian reflex? Moreover, how is one to explain the omission of the moon from the eyes/sun homology, where it might fit so well? On balance, I am inclined to believe that the homology mind/moon was a part of the ancient system, but one that was extremely fragile, resting as it did on a phonological resemblance rather than on substantive, morphologic, or positional bases, as do the other traditional homologies. Thus, given normal processes of semantic renewal, as other terms for mind and moon were intro-

duced lacking any phonologic similarity to one another, the homology tended to be abandoned.

7. *Brain(or thoughts)/Cloud*. Thoughts—which are differentiated from “mind” only by a subtle distinction—also show up in another homology, being denoted by a wide array of terms in different cosmogonic and anthropogonic texts (among them Mlr *imrādud* “thought,” MHG *muot* “mood,” OFris *toht* “thought,” MEng *wit*, Lt *cogitatio* and *mens*, Rum *cugetu* “cogitation,” and OCS *pomysl* “thought”). Yet all of these forms of mental activity are homologized to clouds, often with the specification that, like clouds, thoughts are weak (ORuss *m'kota*), light (Mlr *etrom*), or unsteady (OE *unstaðelfastnes*). In contrast, a morphological basis for the homology is provided when the microcosmic alloform has a more tangible nature, as in *Grímnismál* 40 where it is the brain—and not an abstraction like “thought”—that is homologized to the clouds. *Bundahišn* 28.4 also makes the brain (Pahl *mazg*) the starting point for its homology, although its alloform is presented as “(the realm of) endless light” (*asar rāšnāh*), one of the highest heavens in the Zoroastrian system, the result perhaps of the elevation of thought beyond the realm in which clouds are found.

8. *Head/Heaven*. Although most of the anthropogonic texts are silent regarding this homology, the Indic, Iranian, Germanic, and Latin cosmogonic sources consistently state that heaven—meaning here, no doubt, the rim of the celestial vault (ON *himinn*, Skt *dyauh*, Pahl *garōdman* is somewhat different in this regard)—was formed from the head or skull of a primordial being, its shape and location at the top of the body suggesting and sustaining the comparison. Ovid's story of Atlas presents an interesting reworking of this tradition, since given that Atlas becomes the cosmic mountain on which the heavens rest, his skull cannot possibly be said to become the heaven itself. Instead it is said to become the apex of the mountain (*summo . . . in monte cacumen*), that is, the very point where heaven and earth meet. Within certain other traditions, particularly those of Iran, the heavens were understood to be a shell that completely encased the earth, rather than a vault placed over the top of it, and consequently it is skin, the body's outermost covering, that appears as the alloform of heaven (SGW 16.10, *GBd* 28.4, *Peri Heb* 6.2).

9. *Breath/Wind*. One of the most consistent homologies is that of lifebreath and wind, the latter being interpreted as the respiratory process of the cosmos. Not only is this homology attested in virtually all the sources I have considered, save the Germanic and Iranian cosmogonic accounts, but the terms used to denote “wind” almost

invariably derive from the same PIE verb, **H₃w(H₁)*- "to blow," although the nominal formations vary somewhat: Skt *vāyuh*, OCS *větr*, ORuss *větra*, Lt *ventus*, Rum *vânt*, OE *wind*, and OFris *winde*.³⁶ In some of the later European reflexes, this comparison is Christianized, probably under the influence of Genesis 2.7, where God breathes life into Adam. Thus, in texts written within a Christian milieu the Holy Spirit often replaces the wind and the soul often replaces the breath.

These nine homologies are the basic building blocks in a system of natural philosophy, a system of stunning elegance and infinite subtlety. By identifying specific items in the cosmos as alloforms to corresponding parts of the human body, they form a major component of the creation mythology of virtually all peoples of antiquity who spoke Indo-European languages. Tables 3, 4, and 5 expand upon table 1, to lay out fuller evidence from all the texts I have considered thus far and a few to which I will shortly turn. The picture that emerges is one of a fairly consistent homologic system, in which there still existed some room for variation and innovation. I must emphasize, however, that building blocks are less interesting in themselves than the larger structures that can be constructed from them. The later chapters of this book will be devoted to those structures: the multiple applications of basic homologies to a variety of concerns.

There is a problem that remains to be addressed, one that two great scholars of generations past, Jacob Grimm and Hermann Guntert, worried over without resolving. Thus far, I have considered two different—but closely related—sets of materials. One is a cosmogonic tradition, in which it is told how the body of a primordial being served as the raw material from which the physical universe was made. The other is an anthropogonic tradition, in which—conversely—it is recounted how the elements of the physical universe served as the raw material from which the body of the first man (and thus, of humanity in general) was made. In the first instance, the process described is one of separation, (sacrificial) dismemberment; in the second, it is one of construction, putting together. The question that must be asked, then, is precisely how these two complementary traditions are related to one another. Both Grimm and Guntert considered this question within the context of the Germanic materials, where the issues are drawn with great clarity: how are the stories of Ymir's dismemberment and the Eight-Part Adam related?

For Grimm, the issue was rather simple, for he felt that the cosmogonic view, where "(one explains) the sun as a giant's eye," was "more congenial to the childhood of the world."³⁶ Thus, apparently Ymir was first, and the Eight-Part Adam was a later, more mature

Table 3. Semantic analysis of homologies: microcosm → macrocosm.

Text	Microcosmic alloforms								
	Flesh	Bone	Hair	Blood	Eyes	Mind	Brain	Head	Breath
Macrocosmic alloforms									
<i>Grímnismál</i> 40-41	EARTH	MOUNT	TREES	SEA	—	—	CLOUD	HEAVEN	—
<i>Rg Veda</i> 10.90.13-14	—	—	—	—	SUN	MOON	—	HEAVEN	WIND
"Poem on the Dove King"	EARTH	STONE	—	—	DAWN	MOON	—	—	WIND
<i>Škend Guntarig</i>	EARTH	MOUNT	PLANTS	—	—	—	—	HEAVEN	—
<i>Wizār</i> 16.8-20	—	STONE	FOREST	—	—	—	—	TOP OF COSMIC MOUNT	—
<i>Metamorphoses</i> 4.655-662	—	—	—	—	—	—	—	—	—
II Enoch 30.8	EARTH	STONE	GRASS	DEW	SUN	—	CLOUD	—	WIND
Code of Emsig	EARTH	STONE	GRASS	WATER	SUN	—	CLOUD	—	WIND
British Museum MS. 4783 fol. 7a	EARTH	STONE	—	SEA	SUN	—	CLOUD	—	WIND
<i>Discourse of Three Saints</i>	light of world	STONE	—	SEA	SUN	—	CLOUD	—	WIND
<i>Aitareya Upaniṣad</i> 1-2	—	—	PLANTS	—	SUN	MOON	—	—	WIND
<i>Greater Bundahīšn</i> 28	EARTH	MOUNT	PLANTS	SEA	SUN & moon	—	endless light	HEAVEN	WIND
<i>Peri Hebdomadēn</i> 6	CLAY	STONE	—	RIVER	—	MOON	warm soil	—	AIR
Empedokles	EARTH	STONE	LEAVES	—	—	—	—	—	AIR & aether

Note: Capital letters signify an item that falls within the general semantic range for the variants studied. Lower-case letters signify an item that falls beyond the general semantic range for the variants studied.

Table 4. Semantic analysis of homologies: macrocosm → microcosm.

Text	Macrocosmic alloforms								
	Earth	Stone	Plants	Water	Sun	Moon	Cloud	Heaven	Wind
Microcosmic alloforms									
<i>Grímnismál</i> 40–41	FLESH	BONE	HAIR	SWEAT OR BLOOD	—	—	BRAIN	SKULL	—
<i>Rg Veda</i> 10.90.13–14	feet	—	—	—	EYE	MIND	—	HEAD	BREATH
"Poem on the Dove King"	BODY	BONE	—	—	FACE	BREAST	—	—	HOLY SPIRIT
<i>Škend Gumānīg Wizār</i> 16.8–20	FLESH	BONE	HAIR	—	—	—	—	skin	—
<i>Metamorphoses</i> 4.655–662	—	BONE	HAIR	—	—	—	—	HEAD	—
II Enoch 30.8	FLESH	BONE	HAIR & nerves	BLOOD	EYES	—	THOUGHT	—	SOUL
Code of Emsig	FLESH	BONE	HAIR	BLOOD	EYES	—	THOUGHT	—	heart
British Museum MS. 4783 fol. 7a	BODY	BONE	—	BLOOD	FACE	—	THOUGHT	—	BREATH
<i>Discourse of Three Saints</i>	lowest part	FIRMNESS	—	BLOOD	EYES	—	THOUGHT	—	BREATH
<i>Āitareya Upaniṣad</i> 1–2	—	—	HAIR	SEMEN	EYES	MIND	—	—	BREATH
<i>Greater Bundahišn</i> 28	FLESH	BONE	HAIR	BLOOD	EYE	eye	BRAIN	HEAD	BREATH
<i>Peri Hebdomadōn</i> 6	FLESH	BONE	—	BLOOD & HUMORS	heat in viscera	SENSE	—	heat in skin	BREATH
Empedokles	FLESH	SHELL	HAIR	SWEAT	—	—	—	—	SOUL

Note: Capital letters signify an item that falls within the general semantic range for the variants studied. Lower-case letters signify an item that falls beyond the general semantic range for the variants studied.

Table 5. Etymological analysis of homologies.

Text	Microcosmic alloforms								
	Flesh	Bone	Hair	Blood	Eyes	Mind	Brain	Head	Breath
<i>Grímnismál</i> 40–41	hold	bein	hár	sveiti	—	—	heili	hauss	—
<i>Rg Veda</i> 10.90.13–14	(pad)	—	—	—	caṣuḥ	MANAS	—	śiraḥ	pra-ANAH
"Poem on the Dove King"	tělo	KOST	—	—	OČI	grud'	—	—	(svjata dux)
<i>Škend Gumānīg Wizār</i> 16.8–20	gōšt	AST	mōy	—	—	—	—	(pōst)	—
<i>Metamorphoses</i> 4.655–662	—	OS	barba coma	—	—	—	—	caput	—
II Enoch 30.8	pi't'	KOST	kosa	kr'v'	OČI	—	pomyšl'	—	(duša)
Code of Emsig	flask	benete	lokkar	blod	AGENE	—	toqt	—	(herte)
British Museum MS. 4783 fol. 7a	colaind	cnáimh	—	fuil	(drech)	—	imrádud	—	ANÁL
<i>Discourse of Three Saints</i>	pl't'	(utvr'ž-denije)	—	kr'v'	OČI	—	mysl'	—	v'zduxa
<i>Āitareya Upaniṣad</i> 1–2	—	—	loman	(retaḥ)	AKŚINĪ	MANAS	—	—	pra-ANAH
<i>Greater Bundahišn</i> 28	gōšt	ASTAG	mōy	xōn	cašm	—	mazg	sar	wēn
<i>Peri Hebdomadōn</i> 6	caro	OS	—	sanguis	(calidum)	sensus	cerebrum	—	spiritus
Empedokles	—	(kogknē)	trikhes	hidrōs	—	—	—	—	pneuma
Posited PIE form	—	*H ₁ OST(H ₂)-	—	—	*H ₃ EK'-	*MENOS-	—	—	*H ₂ ENH ₂ -

Note: Capital letters signify a phonologic and semantic correspondence. Lower-case letters signify a semantic correspondence only. Lower-case letters in parentheses signify an item that falls beyond the general semantic range for the variants studied.

(continued)

Table 5 (continued)

Text	Macrocosmic alloforms								
	Earth	Stone	Plants	Water	Sun	Moon	Cloud	Heaven	Wind
<i>Grímnismál</i> 40–41	jorð	björg	baðmr	sær	—	—	ský	himinn	—
<i>R̥g Veda</i> 10.90.13–14	bhūmih	—	—	—	SŪRYAH	candra- MĀH	—	dyauh	VĀYUH
“Poem on the Dove King”	ZEMĹJA	kamen’	—	—	SOLNCE	MĚSĹAC	—	—	VĚTRA
<i>Škend</i> <i>Gumānig</i> <i>Wizār</i> 16.8–20	ZAMĹG	kōf	urwar	—	—	—	—	asmān	—
<i>Metamorphoses</i> 4.655–662	—	lapis	silvas	—	—	—	—	summo in monte	—
II Enoch 30.8	ZEMĹJA	kamen’	trava	rosa	SL’N’CE	—	ðblak”	—	VĚTR”
Code of Emsig	erthe	stene	gerse	wetere	SUNNA	—	wolk	—	WINDE

Table 5 (continued)

British Museum MS. 4783 fol. 7a	talam	cloch	—	muir	grían	—	nél	—	gáeth
<i>Discourse of Three Saints</i>	ZEMĹJA	kamen’	—	more	SL’N’CE	—	ueves’n’	—	VĚTRA
<i>Āitareya Upaniṣad</i> 1–2	—	—	oṣadhi- vanaspatiḥ	āpaḥ	ādityaḥ	candra- MĀH	—	—	VĀYUH
<i>Greater Bundahišn</i> 28	ZAMĹG	kōf	urwar	zrēh	xwaršēd (& māh)	—	(asar rōšnīh)	garōdman	wād
<i>Peri Heb- domadōn</i> 6	quod circa ossa	lapis	—	aqua fluminem	SŌL	luna	(quod in terra calidum)	jovem	aēr
Empedokles	KHTHŌN	lithos	phylla	thalassa	—	—	—	—	aerōdos aitherōdos
Posited PIE form	*GH ² DHOM-	—	—	—	*SĀWEL-	*MĒ(N)S-	—	—	*H ₂ W(H ₁)-

reworking of the cosmogonic tradition, just as Christianity was more mature than paganism. Güntert, for his part, wanted to keep the anthropogonic and cosmogonic traditions quite separate, seeing Ymir as the direct Germanic derivative of a PIE cosmogony, and the Eight-Part Adam as having entered Europe through a devious route, via II Enoch, which—being written in Hellenistic Alexandria—had acquired some passages, most notably 30.8–9, that showed the influence of Iranian speculation on the theme of microcosm and macrocosm.³⁷

While both of these positions must now be rejected—Grimm's for its naiveté, Güntert's for its insupportable leaps³⁸—the problem is made more vexing still by the existence of a third set of texts in which the basic building blocks of the system are arranged in a fashion that is neither straightforwardly cosmogonic nor anthropogonic, but simply homologous—stating the homologies without reference to the directionality of any transformations that may occur. Thus, for instance, is the famous chapter 28 of the *Greater Bundahišn*, which contains dozens of homologies, many of them quite novel—teeth/stars, mouth/gate of heaven, and so forth—but which also preserves the common Indo-European set with great fidelity. The chapter begins with the statement "It is said in the religion: 'Man's body is the measure of the material world'" (GBd 28.1, TD MS. 189.3–4), and the introductory phrase "It is said in the religion" (*pad dēn guft kū*) signals that a passage of the lost Avesta is being quoted, thus assuring us that the contents date at least to the Sassanid period (third to seventh centuries A.D.), and perhaps even earlier, the ninth-century date of the *Bundahišn*'s rescension notwithstanding. The passage goes on to state (GBd 28.4, TD MS. 189.8–190.5):

(Each person has) skin like the sky, flesh like the earth, bone like the mountains, veins like rivers, blood in his body like water in the seas, and a belly like the ocean, and hair like plants—there where the hair grows more, like a thicket—the essence of the body (marrow) like metal, . . . breath drawn in and out like the wind . . . the peak of the head and the brain like (the realm of) endless light, the head like heaven, the two eyes like the sun and moon.

Most of these comparisons are now quite familiar. The homology of marrow and metal is of some interest for its novelty, the basis for this comparison perhaps being the location of strains of ore within rocks, just as marrow is found in streaks inside rock's alloform, bone. A certain expansion of the homologies is also evident, particularly

with regard to the celestial and aquatic realms. Thus, in the regions above, three separate homologies are mentioned: (1) skin/sky, the sky seen as an external shell that encircles the cosmos; (2) skull and brain/ endless light (*asar rōšnūh*), where the realm of endless light is one of the highest, but not the ultimate heavenly realm, reflecting the brain's position beneath the very top of the body (the "top of the head," *bālist īsar*, does not properly belong here, but is apparently inserted because of the phonetic attraction of *sar* "head" and *asar* "endless"); and (3) head/heaven (*garōdman*), this heaven being the highest of all, the residence of Ohrmazd. Of the three, skin/sky seems to be a characteristically Iranian innovation, occurring also in SGW 16.10; brain/endless light, to be a variant upon from the older homology brain/cloud; and head/heaven preserves the same homology attested in Indic, Germanic, and Latin sources.

Turning to waters, we find the association of veins and rivers on the basis of their form and function, but somewhat surprisingly blood is homologized to sea water and not to fluvial water, which would be the logical continuation of the vein/river homology. A final fluid homology, belly/ocean, connects the two great reservoirs of fluid.

What is notable, quite apart from the relative novelty or conservatism of the specific homologies, is this text's noncommittal stance with regard to the directionality of the homologies. Far from stating that elements of the macrocosm became components of the microcosm at the time of creation, or vice versa, the *Bundahišn* merely claims that they are "like" (Pahl *ciyōn*) one another. The Pseudo-Hippocratic *Peri Hebdomadōn* 6.1–2, most likely written in the fifth century B.C., and once—but no longer, thanks to the brilliant analysis of Jacques Duchesne-Guillemin—thought to depend directly on the Avestan antecedent of *Greater Bundahišn* 28 (the lost *Damdād Nask*), also presents straightforward homologies, with no suggestion of either cosmogonic or anthropogonic slanting.³⁹ The introductory passage of *Peri Hebdomadōn* 6.1 is very cautious and tentative on this point:

Those bodies and trees which are in the earth have a similar nature to the world, both the small and the great. For it is necessary that the parts of the world should all be similarly connected to the world, for they take their place in the world from parts (that are) equal and similar.⁴⁰

The text then proceeds to the business at hand, which is organizing both body and cosmos in a system that has seven parts (the main

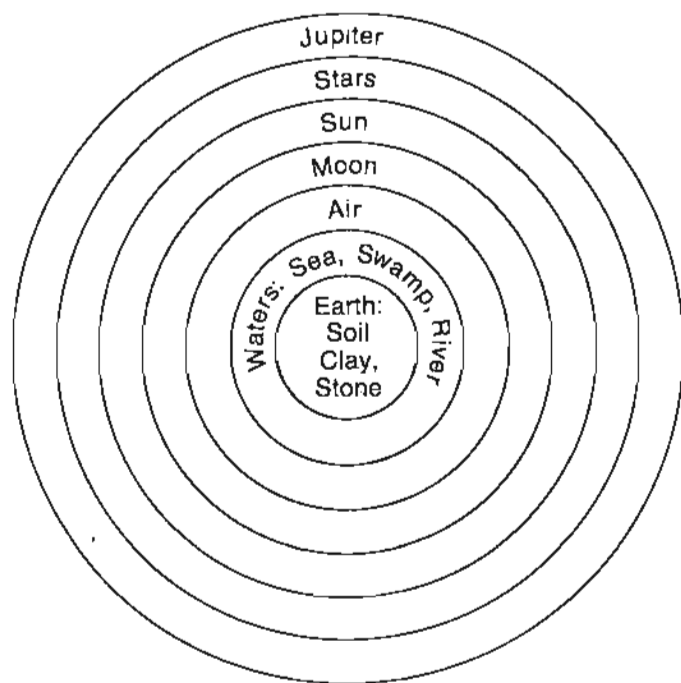


Figure 1a. The macrocosm according to Peri Hebdomadon 6.1-2.

theme of the *Peri Hebdomadon* is the seven-partite structure of all things). This is not achieved without some difficulty, for of the seven items included, two—earth and water—are further subcategorized into three lesser groupings each (stone, clay, soil; rivers, swamps, seas). The resultant whole of eleven (expanded from seven) parts is then given an elegant organization as a system of concentric spheres, starting with the innermost (stone on the macrocosmic level, bone on the microcosmic) and working to the outermost limits (Jupiter and the bodily heat that resides in the skin).⁴¹ The homologies presented may be listed as follows, moving from heights to depths or from periphery to core:

7. Skin (i.e., the heat surrounding the flesh) : Jupiter
6. Subcutaneous tissue (i.e., the heat underneath the skin) : Stars
5. Heat in the viscera and veins : Sun
4. Sense (located in the lungs and diaphragm) : Moon
3. Breath : Air
2. Bodily Fluids : Waters
 - 2c. Humors : Seas

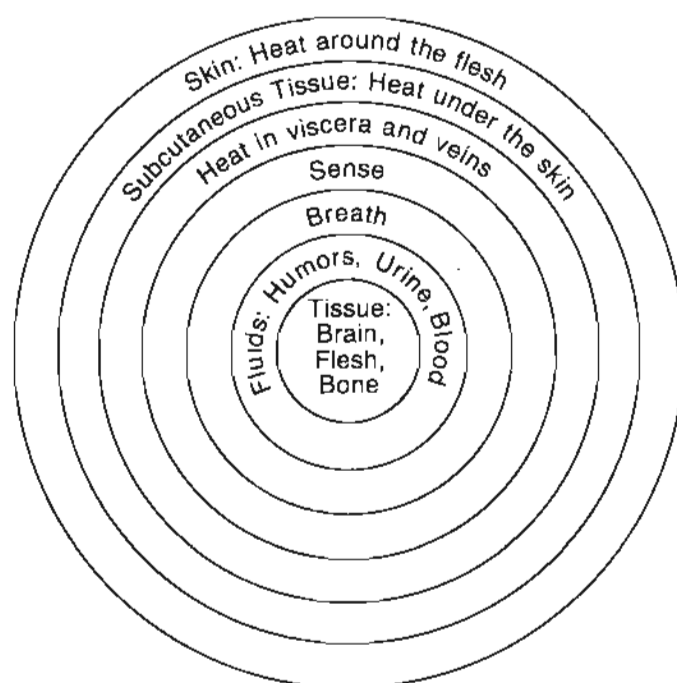


Figure 1b. The microcosm according to Peri Hebdomadon 6.1-2.

- 2b. Bladder and Intestines (i.e., urine and feces) : Swamps
- 2a. Blood : Rivers
1. Tissues : Earth
 - 1c. Marrow, Brain, and Semen : Soil (i.e., soft earth)
 - 1b. Flesh : Clay (i.e., hard earth)
 - 1a. Bone : Stone

Alternatively, this system may be schematically represented as a set of concentric spheres, as in figure 1.

To be sure, this system is markedly different from any I have considered thus far. Its originality is striking and is one of the chief arguments for viewing it as independent of Iranian—or other—influence. Yet it would be an error to overestimate the originality of this text, for the same, highly traditional homologies are attested in other Greek sources, as for instance, in a famous fragment that survives from the work of the epic poet Khoirilos of Samos:

Stones are the bones of the earth;
Rivers are earth's veins.⁴²

Yet whereas Khoirilos's use of the homologies is fairly traditional—the same kenning, “bones of the earth” (*hōgna hreyrs*) occurs also in Old Norse (*Ynglingatal* 19.10)—the *Peri Hebdomadōn* rearranges them boldly, and the rearrangement makes certain adjustments necessary. Thus, hair—which could only go on top of the skin, resulting in the macrocosmic absurdity of plants growing beyond the outermost planetary sphere—has been dropped. Others have been given a new orientation, as for instance the homology of mind and moon, the organ of consciousness here being set in the lungs and diaphragm (presumably *Gk phrenes* in the antecedent Greek version) to reflect the moon's position as the central sphere of the system (the fourth in a set of seven), much as the diaphragm is the central arc in the body.⁴³ Others emerge more or less unscathed by the reworking, foremost among them bone/stone, flesh/clay, blood/rivers, and breath/air—that is, the lower items in the series. Beyond the realm of the diaphragm/moon homology, things become difficult, for the author of the text chooses to characterize the celestial spheres above all by their light and heat, and thus seeks spheres of heat within the body as their proper counterparts, settling on the heat in the viscera and veins for the sun, the heat in the flesh for the stars, and the heat in the skin for Jupiter. Yet nowhere does he say that one set of alloforms comes from the other. Rather, he refers only to bodily parts as being “imitations” of their macrocosmic homologues.⁴⁴

If the novelty of the *Peri Hebdomadōn* presentation is remarkable, equally remarkable is the conservatism with which a source written some two thousand years later arranged the same basic building blocks. The source in question is Sir Walter Raleigh's *History of the World* 1.2.5, a section entitled “That Man is (as it were) a little world: with a digression touching our mortalities.” The digression need not concern us here, but after quoting Gregory Nazianzus to the effect that in creating man God created “another world,” a small one to go in the large, Raleigh proceeds to embellish this theme:

For out of earth and dust was formed the flesh of man, and therefore hevie and lumpish; the bones of his body we may compare to the hard rockes and stones, and therefore strong and durable . . . His bloud, which disperseth it selfe by the branches of veines through all the bodie, may be resembled to those waters, which are carried by brookes and rivers over all the earth; his breath to the aire; his naturall heate to the inclosed warmth, which the Earth hath in it selfe, which stirred up by the heate of the Sunne, assisteth Nature in the speedier procreation of those varieties, which the Earth bringeth forth; Our radicall moisture, oile, or Balsamum (whereon the

naturall heat feedeth and is maintained) is resembled to the fat and fertilitie of the earth; the haire of mans body, which adorne or overshadowes it, to the grasse, which covereth the upper face and skin of the earth; our generative power, to Nature, which produceth all things; our determinations, to the light, wandring, and unstable clouds, carried every where with uncertaine winds; our eies, to the light of the Sunne and Moone, and the beauty of our youth, to the flowers of the Spring, which, either in a very short time, or with the Sunnes heat drie up, & wither away, or the fierce puffs of wind blow them from the stalks; the thoughts of our minde, to the motion of Angels; and our pure understanding (formerly called *Mens*, and that which alwaies looketh upwards) to those intellectuall natures, which are alwayes present with God; and lastly our immortal soules (while they are righteous) are by God himselfe beautified with the title of his own image and similitude.⁴⁵

Here, the tradition is nearing its end, and one wonders to what extent Raleigh actually believed in the truth of this construction. Certainly he had other sources before him as he wrote, and his pompous verbosity hardly carries the force of conviction. In all likelihood, this passage is an antiquarian reminiscence on the theme of microcosm and macrocosm, but it does manage to preserve ancient content with staggering fidelity. Raleigh's skepticism is evident the moment he goes beyond what can be supported by the biblical account of creation, for having asserted that “out of earth and dust *was formed* the flesh of man” (as in Genesis 2.7), he becomes hesitant and hides behind the language of simile: “the bones . . . *we may compare* to the hard rockes,” “his bloud . . . *may be resembled* to those waters.” The result is neither cosmogony nor anthropogony, nor even really homology, but mere poetic fancy.

Not so in the *Aitareya Upaniṣad*, which presents the most daring and compelling of all the versions I have discussed. After telling how the original lone Self (*ātman*) created the levels of the universe (heaven, atmosphere, earth, and underworld), it goes on to tell that that Self produced the first man, here called Puruṣa (“Man”) as in RV 10.90. The original Puruṣa seems to be an amorphous mass, however, for the primordial Self next works on him through heat (*abhi-tap-*), a process of transformation familiar from yoga, where ascetic heat (*tapas-*) is at once a mode and a sign of self-transformation. *AitUp* 1.4 describes the process:

(The Self) heated that one (i.e., Puruṣa, “Man”). When it was heated, its mouth broke off, like an egg. From the mouth, there was speech;

from speech, fire. Its nostrils broke off. From the nostrils there was breath; from breath, wind. Its eyes broke off. From the eyes, there was vision; from vision, the sun. Its ears broke off. From the ears, there was hearing; from hearing, the four quarters. Its skin broke off. From the skin, there was bodily hair; from the bodily hair, plants and trees. Its heart broke off. From the heart, there was mind; from mind, the moon. Its navel broke off. From the navel, there was the downward (anal) breath; from the downward breath, death. Its penis broke off. From the penis, there was semen; from semen, the waters.

Straightforwardly cosmogonic, this passage describes the transformation of the first man into the cosmos, and in this is quite like the *Puruṣasūkta* (on which it draws), the myths of Kūnī, Ymir, and Atlas, and the cosmogonic section of the "Poem on the Dove King." Unlike these, however, the *Aitareya Upaniṣad* posits intermediate steps between the microcosmic body and the macrocosmic universe. Thus, for instance, from the nose when first detached from the body there came breath, and thereafter from the breath came wind; likewise, from the eyes there was first vision, then the sun. Sometimes the traditional homologies are preserved in the first and third items of the expanded homologies (for example, *eyes/vision/sun*); sometimes in the second and third (for example, *heart/mind/moon*). These transformations may be graphed as in figure 2.

This expansion, while interesting, is not in itself remarkable. As we have seen, II Enoch 30.9 also expands upon the usual set of homologies to introduce seven sensory "faculties" or "natures" (*est'stu*) placed within the bodily parts, which mediate between the body and the external world: vision between eyes and sun, smell between soul and wind, and so on. Here again, note the contrast of directionality: whereas II Enoch is anthropogonic, *AitUp* 1.4 is cosmogonic. The second

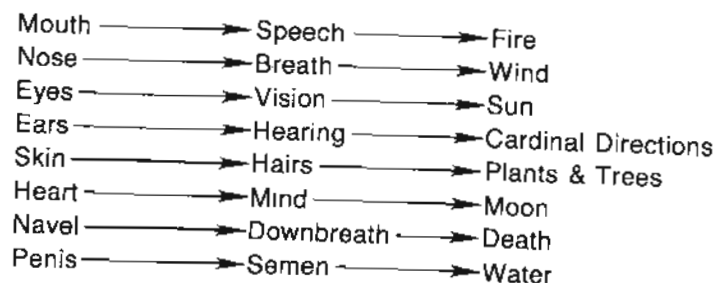


Figure 2. Microcosm to macrocosm according to *Aitareya Upaniṣad* 1.4.

Khanda of the *Upaniṣad* pursues things further, however, adding an anthropogonic account as a counterpart to and reversal of the cosmogony:

These deities (i.e., fire, wind, sun, etc.) that were thus emitted fell into the great sea. He (the primordial Self) afflicted it with hunger and thirst. They said to him, "Produce a resting place for us, where, being established, we may eat."

He brought a cow to them. They said, "Truly, that's not enough for us." He brought a horse to them. They said, "Truly, that's not enough for us." He brought *Puruṣa* (i.e., a man) to them. They said, "Ahl Well done!" Truly, *Puruṣa* (or: man) is something that is well done. (The Self) said to them, "Enter into your respective resting places."

Fire, having become speech, entered into the mouth. Wind, having become the breath, entered into the nostrils. The sun, having become vision, entered into the eyes. The four quarters, having become hearing, entered into the ears. Plants and trees, having become bodily hair, entered into the skin. The moon, having become the mind, entered into the heart. Death, having become the downward (anal) breath, entered into the navel. The waters, having become semen, entered into the penis.

The directionality of creation is thus reversed. A cosmogony becomes an anthropogony as the dismembered *Puruṣa* is reassembled. In truth, it is not so much a question of directionality as it is a much broader, more daring understanding of the nature of creation. For cosmogony and anthropogony are seen to be equally creative, each one being but a phase in an oscillating process whereby whenever the cosmos is created, the body is destroyed, and—conversely—when the body is created, the cosmos is destroyed. The material substances common to both microcosm and macrocosm thus pass from one set of alloforms to the other *and back again* as cosmogony and anthropogony endlessly alternate. To accommodate the full sweep of this construct, I must revise the diagram offered in figure 2, which shows only half of the process. In light of *AitUp* 2.1–4, the picture must appear as in figure 3.

Some of these cycles seem tighter in their logic than others. For instance, the cycle of breath works beautifully: as one exhales, breath leaves the body through the nose and enters the wind, leaving the wind and rejoining the body upon inhalation. The simple act of breathing thus alternately constructs the macrocosm (while deconstructing the microcosm), then constructs the microcosm (while de-

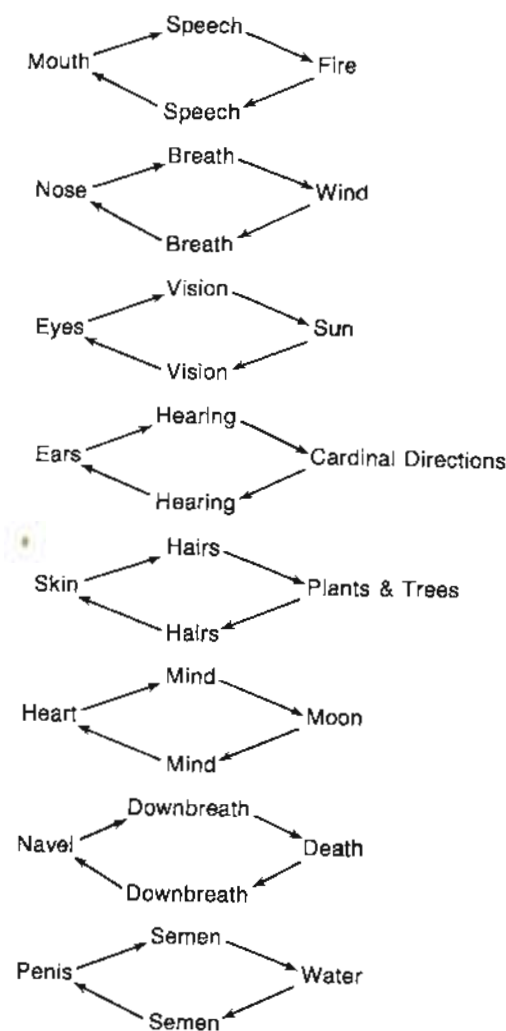


Figure 3. Microcosm and macrocosm according to Aitareya Upaniṣad 1.4-2.4.

constructing the macrocosm). Similarly, as sound travels into the distance and ceases to be heard, the cardinal directions (the utmost statement of spatial distance) come into being as the sound enters them, while the ears fall apart, being no longer in use. But when

sound travels from the distance and is heard by the ears, distance ceases to be, and the ears are reconstituted through the act of hearing.

Other cycles pose more difficulty, particularly those in which there is no mediation through the senses, as for instance the cycle of skin/hair/plants. Yet, as we shall see in Chapters 3 and 4, this cycle actually works admirably well, for it is the ingestion or absorption of plants that causes hair to grow from the skin, while the proper disposal of hair causes the growth of plants. In both instances, the material substance of one alloform is broken down and reconstituted as the matter characteristic of the other alloform, the two processes alternating in a never-ending cycle.

More important than the details of any individual cycle (or subcycle, perhaps) is the working of the entire system. For if we were to ask what sort of system might have given rise to the ideas contained in *both* the anthropogonic and the cosmogonic texts considered earlier, we might well posit one like that of the *Aitareya Upaniṣad*, in which cosmogony and anthropogony alike are but moments in an eternal alternation whereby matter passes from microcosm to macrocosm and back again. Moreover, this text is not alone in presenting such a view; it is found also at the very dawn of Greek philosophy, in the works of Anaximander⁴⁶ and more fully in those of Empedokles.

The basic outlines of Empedokles' system are well known, and a brief summary should suffice here. The cosmos is seen as consisting of the four elements he first grouped together: earth, air, fire, and water (fragments B21, B22, B38, and B71). The actions of these elements are governed by two eternal forces: Love, which acts to unite things, and Strife, which cuts them apart (B17, B20, B21, B26). Under the influence of these forces, the cosmos alternates between a stage of total Love, in which all elements are combined in a perfect, undifferentiated, spherical mass (B27, B27A, B28, B29), and a stage of total Strife, in which the elements are fully separated from one another, whirling at terrific speeds and struggling with one another (fragment B35; Aristotle, *Metaphysics* 985. 23-27). Between these two extremes there are a period of increasing Love and one of increasing Strife, during which time the elements exist in various compounds, the compounds growing larger under the influence of Love, and breaking into smaller units under the influence of Strife.⁴⁷

Among the surviving fragments of Empedokles' writings, one of the most important is that which appears as B17 in the Diels-Kranz collection, a passage strongly reminiscent of *AitUp* 1.1-2.4. It opens with this statement:

I tell (something) diploid: for at one time, the One grew to be one only
 Out of many, and at another time it separates again, to be Many out of one.

The One and the Many are thus placed in a relation of reciprocal alternation, each giving rise to the other in turn, as impermanent states of unity are produced by love, only to yield to equally temporary states of separation produced by strife. As Empedokles adds a bit later (B17.12–13), "Insofar as they never stop continuously alternating, thus they are ever motionless in the cycle." "One" and "Many" are thus but moments in an invariant cycle, while "Love" and "Strife" are the forces that produce change from one moment to another and back again, as in figure 4. In his poem *Peri Physeās* ("On Nature"), Empedokles seems to have described the entire cycle, but from those fragments which have survived it is easiest to get a sense of how the transition from the One to the Many occurred under the force of increasing Strife.

Four separate fragments describe the nature of the One as a "perfectly rounded sphere" (*sphairos kukloterēs*),⁴⁸ firmly established in harmony, rejoicing in its solitary rotation.⁴⁹ Fragment B27A says of the

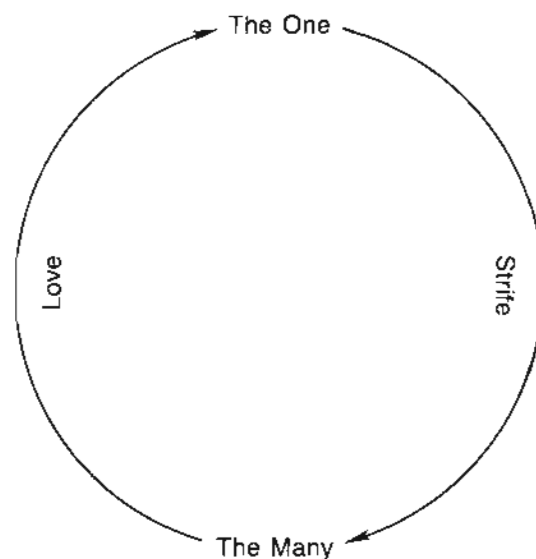


Figure 4. Empedokles' basic system.

sphere, "There was neither dissent nor unseemly battle in its limbs." This simple statement must be understood as a triple negation, for not only were there no dissent and no battle, but there also were *no limbs* in which these might occur, for limbs would only distort the perfect spherical shape of the One.⁵⁰ Fragment B29 makes this fully explicit, saying of the Sphere:

Two branches (i.e., arms) did not shoot from its back,
 Nor feet, nor swift knees, nor generative members;
 But it was a sphere, and equal to itself on all sides.

The first evidence of Strife's activity, then, is the appearance of limbs upon the sphere, for as the first line of fragment B30 puts it, "Great Strife grew (lit 'curdled') within limbs," placing this event at the moment when the time allotted for Love's full rule had ended and the time for the increase of Strife's power had just begun. Strife thus initiates its work of separation by drawing out limbs from the previously limbless, undifferentiated sphere. That Strife will enact further violence upon the sphere and its new excrescences is abundantly clear from fragment B31, which tells us "All the god's (i.e., the sphere's) limbs trembled, one after another," using a verb (*pelemizō*) that is elsewhere employed to describe the trembling of fear prompted by a threatening and violent adversary.⁵¹

Apparently, the transition from One to Many, in Empedokles' view, took place quite literally through dismemberment, just as the transition from Many to One came as the result of reassembling scattered limbs (B20, B58, B59).⁵² Disembodied limbs, however, are not the end point of the reign of Strife, but only a step along the course of increasing Strife. Limbs, too, may be further broken down by the action of separation, and Empedokles takes pains to tell us the precise composition of flesh, blood, and sinew (A78, B96, B98)—something he does for no other item in the entire universe, at least within the fragments of his work that survive.⁵³ It is worth citing in full the "formula" for the composition of bones: (B96):

Earth dutifully received in her fair-breasted hollows (or: molds)
 Two of the eight portions of sparkling water
 And four of fire, and white bones came into being,
 Divinely fitted together with the glue of Harmony.

Bone is thus earth, water, and fire mixed together in a 1:1:2 ratio, just as flesh and blood, being lighter in weight and less dense than

bone, contain air mixed in with the other three elements (B98). While both flesh and blood tend toward a 1:1:1:1 ratio of the elements, flesh deviates from this a bit, having slightly more earth than a perfectly balanced ratio would admit, being thus denser and less fluid than blood. It is blood, then, that is the perfect substance, containing all elements united in equal measure.⁶⁴

Of equal importance to the details of these proportions is the specification in the last line of fragment B96, which finds an echo in B98, line 3, that these bodily parts are put together and held together by the power of Love and Harmony. Yet what Love puts together, Strife tears apart, and as the period of increasing Strife continues, these bodily parts are broken down, as are all things, until finally there is nothing left but the primal elements—earth, air, fire, and water—standing separate from one another and hostile to one another under the total rule of Strife. This stage is but a moment, however, after which Love's powers begin to increase. And as they increase, the elements are fused together again, forming first tissues, then limbs, then bodies, then larger agglomerations still, until finally the perfect unity of the Sphere is restored—only to be broken down again.

To be sure, Empedokles' Sphere is not a man, yet in all other respects what is said of it is startlingly similar to what we are told of Puruṣa in the *Aitareya Upaniṣad*. Dismembered, they both give rise to the elements of the world, out of which elements they are again reassembled—presumably, only to be dismembered again. Regarding the homologies, however, the two sources differ, for whereas the *Upaniṣad* preserves such one-to-one equations as those of hair/plants, eyes/sun, and breath/wind, Empedokles views things differently, interpreting all organic matter—as, indeed, all matter of any sort—as compounds of varying proportions of earth, air, fire, and water.

This quadripartite elemental system appears to have been Empedokles' own creation, and it was enormously influential on the history of western philosophy down to modern times. Elegant in its simplicity and its flexibility alike, it is one of the hallmarks of his genius. Yet there persists evidence, in the fragments of his *Peri Phuseōs* and in testimonia regarding his work, of an older system with which he was familiar: the system I have explored in this chapter. Five separate instances may be cited.

In one of the briefest of the surviving fragments, B55, Empedokles speaks of "sea, the sweat of earth" (*gēs hidrōta thalasson*). Aristotle contemptuously dismissed this phrase (*Meteorologica* 357a24) as mere poetry, contributing nothing to a true knowledge of nature. Yet within Empedokles' statement is not only the explicit homology of sea and

sweat but also an implicit homology between earth and flesh, based on material and positional resemblances. For if sea is the saline fluid that runs off of earth when the earth is warmed—and this, Theophrastos reported, was the sense of Empedokles' comparison—sweat is the saline fluid that runs off of flesh when the flesh is warmed.⁶⁵ This homology of earth and flesh is further implied in another brief fragment, B148, where the soft tissue that encases living creatures—that is, the flesh—is described, perhaps poetically and perhaps more seriously, as a type of earth: "mortal-surrounding earth" (*amphibrotēn khthōna*). The four-part homologic set apparent in these fragments, then, is as follows:

Earth : Flesh
Sweat : Sea

Another traditional homology is attested, not in an actual fragment of Empedokles' writings but in an ancient summary of his ideas prepared by Aetius, who tells us that Empedokles declared the soul to be a mixture primarily consisting of air and aither, the latter being that rarefied, fiery element which filled the uppermost heavens.⁶⁶

The fullest and most fascinating treatment of any homology appears in Fragment B82:

The same hairs and leaves and thick feathers of birds
And scales (of fish) come into being on sturdy limbs.

Here Empedokles expands upon the simple alloformic pair hair/leaves, adding feathers and scales to build a larger set. His expansion is not simply random, for his additions are intended to call our attention to his system of the four elements: earth (represented by plants), air (represented by birds), water (represented by fish), and fire (somewhat surprisingly, represented by humans).⁶⁷ The result is an elegant twelve-part homologic set:

Earth : Plants : Leaves
Air : Birds : Feathers
Water : Fish : Scales
Fire : Humans : Hair

So sophisticated is this construction that one of the most serious recent interpreters of Empedokles has claimed that here we may perhaps see "the first awareness of biological analogy and homology."⁶⁸ But in

light of the other sources I have treated, one can hardly attribute such radical novelty to a Greek philosopher of the Fifth century B.C. Genius he was, but he was working with a set of building blocks already several millennia old.

A novel twist on the old system is also apparent in Empedokles' discussion of crustacea, tortoises, and other animals characterized by exoskeletons, which he contrasts to organisms "dense inside and rarefied on the outside" (B75). Tortoises and others of their ilk he describes in B76 as "stone-skinned" (*lithorrhinos*), by which he means that their bones are on the outside, where their skins ought to be.⁵⁹ Yet he refers to these external bones as "stones" (*lithos*). A mere poetic metaphor? Perhaps, but a metaphor that rests upon the ancient homology of bone/stone. Given the presence of four other traditional homologies within the extant Empedoklean corpus, plus the correspondence of Empedokles' alternation between One and Many to the cosmogonic/anthropogonic cycle, I am inclined to view Empedokles as a creative—but faithful—heir to the Indo-European body of thought on the themes of creation and destruction.

Within that system, anthropogony and cosmogony were both described, the two being complementary halves of one cyclical process, a process whereby matter was recurrently transubstantiated from a microcosmic form to a macrocosmic form and thence back again, bones becoming stones becoming bones becoming stones . . . world without end. The body and the universe are alloforms of each other, their respective component parts subtly interrelated along the lines of the homologies I have detailed in this chapter. As will become clear, I have only begun to convey just how subtle this homologic system could be.