

Goethes Faust und die Mythologie des Mae-Phaisto-Philaes

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Goethes Faust: der *Archae-Typos* des Designs in Spannungsfeldern

Goethes Werk "Faust" bietet den *Archae-Typos* des *Designs in Spannungsfeldern*, die nach Goethe die Essenz des Lebendigen ausmachen.¹ Das Zentralthema der *Metamorphose*, der beständige Wandel der Formen, das Goethes Lebenswerk wie ein roter Faden durchzieht, bietet hier in einer extrem kondensierten Ver-Dichtung² einen *uchronisch* wirkenden Kristallisations- und Ur-Sprungs-Punkt der oben genannten Spannungsfelder zwischen *Sein* und *Werden*, *Kreation* und *Zerstörung*, *Theoretik* und *Pragmatik*, *Freiheit* und *Notwendigkeit*.³ Die persönliche Darstellung des Ringens von Faust als handelnden Akteur erlaubt nicht nur eine theoretische Betrachtung, sondern auch eine empathische, persönliche, Teilnahme an dem Drama, was auch die starke Wirkung und die zeitlose Aktualität des Stoffes in mehr als vier Jahrhunderten seit dem Faust-Buch von Spieß von 1587 erklärt.⁴ Der "Faust" von Goethe ist auf mehreren Ebenen ein gutes Beispiel für die erfolgreiche kulturelle *Transmission* und *Gestaltung*.⁵ Es ist eine lebendige Transmission und Wieder-Erneuerung des altgriechischen mythologischen und vorsokratischen Gedankenguts. Der "Faust" stellt den Weg der abendländischen Kultur von den Ursprüngen in der altgriechischen und orientalischen Mythologie, über die mittelalterliche Alchemie, bis in die Moderne dar, wie schon Spengler gezeigt hat. Es ist leider im Rahmen dieser Arbeit nicht möglich, im einzelnen nachzuverfolgen, wie Goethes Denken auf die Gedanken von Schopenhauer und Nietzsche eingewirkt hat, und welche Verbindungen zu der heutigen thermodynamischen Sicht der offenen Systeme und der Kybernetik bestehen. Es sollen lediglich einige punktuelle Hinweise gemacht werden, über die Verbindungen zwischen dem Begriff der "Faustischen Kultur" bei Spengler, der Kulturmorphologie von Frobenius, und den "Patterns of culture" bei Ruth Benedict, und Gregory Batesons Zentralbegriff des "Pattern of Pattern" (Metapattern).⁶

Fausts Metanoia

Am Anfang, der Szene in Fausts Studierstube (354-460), finden wir den Protagonisten, als typischen *Theoretiker* und Büchergelehrten, in einem Zustand, den man heute als *Midlife Crisis* bezeichnen würde. Er

erkennt, daß er zwar vieles weiß, aber daß all sein Wissen nur tot und steril ist, und weiter denn je von der Quelle der Schöpfung, der *En-ergeia*, der *Poiaesis* und der *Physis*, entfernt ist. In der Szene der Übersetzung der Stelle aus Joh. 1.1. (1224-1237) läßt Goethe seinen Protagonisten einen *Paradigmenwechsel* (das wird auch *Metanoia* genannt)⁷ durchmachen. Faust wandelt sich vom *Theoretiker* zum *Praktiker*, indem er das "*en archae en ho logos* (Im Anfang war das Wort)" neu übersetzt. Faust ändert die Übersetzung in: "*Im Anfang war die Tat*" (1237). Da das Ganze aber ein alchymischer Prozess ist, verändert er auch damit sich selbst, seine eigene psychische Grundstruktur (*Metanoia*), und eröffnet damit in seiner Seele den Raum für das Erscheinen des *Mephistopheles*.

Mephistopheles und Mae-phaistos

Die Tiefgründigkeit und Tiefsinnigkeit der Anspielungen an die antike Mythologie, Hesiodos und die Vorsokratiker, und die Alchemie, läßt sich nicht direkt aus dem Faust-Text entnehmen, sondern muß aus dem erschlossen werden, was Goethe *im Verborgenen* läßt.⁸ Dazu ein kurzer Exkurs zu dem Wort "Mephistopheles" und seine Verbindung zu dem Goetheschen Zentralthema der *Metamorphose*. In (1331-1332) sagt Faust wohl nicht ohne Grund: "Bei euch, ihr Herrn, kann man das Wesen gewöhnlich aus dem Namen lesen", das ist ein genügender Anlaß, sich einige tiefere Gedanken zu dem "Wesen des Namens *Mephistopheles*" (nomen est omen) zu machen. Es ist wahrscheinlich hebräischen Ursprungs (*Mephez*, Zerstörer and *Tophel*, Lügner) aber es läßt sich sehr gut für griechische Wortspiele (*Metamorphosen*) verwenden,⁹ die alle im Faust-Kontext einen Sinn ergeben. Melanchthon hat es als *maephoto-philaes* (Nicht-Licht-Freund) interpretiert. *Mephisto* läßt sich aber auch als Anklang auf *pistis*, den Pakt ausdeuten, den er mit Faust schließt. Oder es kann ein Anklang auf *hephaistos* sein, den olympischen Schmiedegott (der hinkte, und immer an rauchigen Feuern stand), der auch als *ho phainon* bekannt war.¹⁰ Das Verb *phaino* ist mit dem modernen Wort *Phänomen*¹¹ verwandt, und bedeutet: Zum Licht (Leuchten) oder zum Klang (Klingen) bringen, und verbindet damit die Worte *phos* (Licht) und *phonaes* (Klang).¹² Nebenbei ist *ho phainon* auch der Name für den Planeten (und die alchymische Kraft) *Saturn*. Das *Mae-phaistos* kann also als Verneinung von *phainon* gedeutet werden, was auf das *Verborgene* hinweist, das Goethe hier mit allen seinen Untertönen in das Faust-Drama einbringt.¹³

ex archae - en archae

Der Stelle Joh. 1.1. christlicher (hellenistischer) Version, entspricht (im Verborgenen) die altgriechische Version der Theogonie von Hesiodos¹⁴: "*ex archaees... hoti proton genet auton* (vom Ursprung an... was von ihnen zuerst entstand)", und weiter: "*aetoi men protista Chaos genet, autar epeita Gai' eurysternos*" (wahrlich, im Ursprung entstand das *Chaos*, aber dann die breitbrüstige *Gaia*...) (Theog., zl. 116-117, siehe auch Faust 455-459). Kontrastieren wir nun beide Stellen: "*en archae ... logos*" (Joh.) gegen "*ex archaees ... - > Chaos -> (Chaea)¹⁵ Gaia (Gaea) -> Rhea -> Hera*" (Hesiodos). Wenn wir Fausts Formulierung zurückübersetzen: "*Im Anfang war die Tat*" (*en archae ... ergon*), und die Wort-Klänge ineinanderfließen lassen,¹⁶ so erhalten wir ungefähr: "*en ar...chae... chaos... gaea -> en-er-geia -> ergon*".¹⁷ Diese Wort-Klänge weisen uns auf ein Ur-Spannungsfeld hin, zwischen *en-ergeia* (die Kraft, die zum Werden bringt) und *ergon*, (das Gewordene, das Werk, die Tat) (W.v.Humboldt),¹⁸ oder Lateinisch: *Principium non est principiatum*. Daß *en-er-geia* "zufällig" so klingt wie eine Klang-Überleitung zwischen "en archae" und "chaos" und "gea" kann in diesem Kontext nicht weiter verfolgt werden. Goethe läßt in der kurzen Szene "Finstere Galerie" (6173-6306) seinen Protagonisten Faust den Gang ins *Ungeformte*, in das *A-Peiron* des Anaximandros, antreten. Dies ist das Reich "*der Mütter*", der *materia*,¹⁹ der Be-reich jenseits alles Reichenden, Greifenden, Tastenden, Fassenden, das Grenzenlose: "In deinem Nichts hoff' ich das All zu finden" (6256). Der Besuch Faustens in diesem Reich findet, verständlicherweise, ohne Teilnahme der Zuschauer, im *maephainon*, im Verborgenen, statt, ebenso wie sein späterer Gang zu Persephone, um Helena an die Oberwelt zu holen. Mit der Einführung des Mephistopheles bringt Goethe auch die archaische Göttergeneration zur Wieder-Auferstehung, die in der Hesiodischen Theogonie²⁰ (119-132) als erste aus dem Chaos entstanden ist.

Ich bin ein Teil des Teils, der anfangs alles war, / Ein Teil der Finsternis, die sich das Licht gebar, / Das stolze Licht, das nun der Mutter Nacht / Den alten Rang, den Raum ihr streitig macht (1348-1352) / Des Chaos wunderlicher Sohn (1384)

In der Szene der "Klassischen Walpurgisnacht" verwandelt (Metamorphose) sich Mephistopheles in eine der Ur-Meergöttinnen der Phorkyaden (7984-8033).

(Meph.) Da steh' ich schon, / Des Chaos vielgeliebter Sohn! / (Phorkyaden) Des Chaos Töchter sind wir unbestritten / (Meph.) Man schilt mich nun, o Schmach, Hermaphroditen. (8027-8029)

Mephistopheles als Agent der Metamorphose

Diese Stelle, der *herm-aphroditaes* als "Des Chaos vielgeliebter Sohn" ist ein weiterer Schlüssel zu seiner Identität, denn in den Orphischen Hymnen ist er auch als der *Protogonos*,²¹ der *Erikepaios*, der *Phanes* (*phaino*), and der *Priapos*²² bekannt, (Orpheus 1992: 29). Der Wort-Teil *-pheles*, kann sowohl in *-philaes* (Freund) anklingen, als auch *phaeraes*, (Träger -> *phos-phaeraes* = *Lucifer*)²³, als auch *phalaes* ~ *phallos*, also der *Phallus*, von des *Lacans Gnaden*. Dies verweist auf den *Priapos*.²⁴ Nach Graves (1988: 30) ist er auch der *Eros*,²⁵ der aus einem silbernen Ei geschlüpft ist, das von Nyx (der Nacht) in den Schoß der Dunkelheit gelegt worden war, und er setzte das Universum in Bewegung. Eros war doppel-geschlechtlich²⁶ und hatte goldene Flügel, er hatte vier Köpfe, mit denen er manchmal wie ein Bulle oder ein Löwe brüllte, manchmal wie eine Schlange zischte, und manchmal wie ein Widder blökte.²⁷ Wir finden hier also einige wesentliche Facetten dieser enigmatischen Gestalt, die uns in der christlichen Sichtweise als der *Teufel* (von *Diabolos*²⁸) bekannt ist, und die "im Anfang alles war" (1348). Die folgende Darstellung ist, wenn man daraus die christlichen moralin-sauren Anteile neutralisiert, eine Re-Formulierung des Anaximandros-Fragments:²⁹

Und das mit Recht; denn alles, was entsteht, / Ist wert, daß es zugrunde geht; / Drum besser wär's, daß nichts entstünde. / So ist denn alles, was ihr Sünde, / Zerstörung, kurz das Böse nennt, / Mein eigentliches Element. (1335-1344)

Die fehlende Integration der essentiellen Kräfte des Vergehens, des Abbaus, oder in heutiger Sprechweise, der *Entsorgung*, im abrahamitischen Schöpfermythos ist, wie Bazon Brock darstellt, ein entscheidender Defekt der westlichen Zivilisationen, deren kulturelle Leitthematata noch immer auf diesem Schöpfermythos beruhen:

Brock (AGEU, 185): Der **Mythos des schöpferischen Hervorbringens** ergibt aber ohne sein Pendant, die Fähigkeit etwas aus der Welt zu bringen, die Konsequenz, daß die Welt langsam vollgestellt wird mit all dem, was in ihr vorher nicht existent war. Das heißt, daß der Schöpfer oder das Kollektiv der schöpferischen Menschen die Welt gerade dadurch zerstören, daß sie ununterbrochen und immer schneller die Welt mit den Produkten ihrer Schöpfungsfähigkeit verstellen.

Also weit davon entfernt, in der Gestalt des Mephistopheles das Ur-Böse zu sehen, könnte man ihn sinnvoller als den *Schutzpatron der Ökologen* ansehen.³⁰

In (1353-1377) stellt sich Mephistopheles als die archaische Kraft des Chaos dar, des Werdens und Vergehens, der Dynamis, der Veränderung, und der Bewegung: "Mit Wellen, Stürmen, Schütteln, Brand", die in der heutigen Wissenschaft das Thema der Thermodynamik und Chaostheorie ist. Mephistopheles wird von Goethe im Faust als Agent der *Metamorphose* dargestellt. Die Wandlung der Formen ist ein Prozess, der selten harmonisch und ohne Störungen verläuft, meist aber mit Brüchen und Kämpfen, und Zerstörung alter Formen verbunden ist. Dies verbindet den Faust-Stoff mit heutigen wissenschaftlichen Fassungen wie der Katastrophentheorie von R. Thom.³¹ Es sei daran erinnert, daß das griechische Wort *tropae* ursprünglich "Umkehr, Rückkehr, Wendung, Veränderung" bedeutete, und der Begriff *en-tropia* bedeutete also "Kraft, Potential zur Veränderung".³² Der aktuelle physikalische Gebrauch ist aber eher das Gegenteil davon, da *Entropie* die Tendenz zum thermodynamischen Gleichgewicht, also dem Wärmetod, damit den unvermeidlichen *Verlust* des "*Potentials zur Veränderung*" bezeichnet. Eine ähnliche "Umwertung der Worte" wurde auch schon bei der Differenz der Begriffe der *energie* und *energeia* festgestellt.³³ Der Pakt mit Faust, und das folgende Drama entfaltet die Entfesselung dieser archaischen Kräfte, und ihr letztliches Sich-Selbst-Brechen im Tode. Das Wort *Mephistopheles* wirkt aus seiner Klang-Multivalenz heraus als ein unaufgelöstes semantisches Spannungsfeld, ein ursprünglicher (primordialer, *archae*) Attraktor, wie bei René Thom beschrieben.³⁴

Klang und Licht - Apollinisch und Dionysisch

Die *Klang / Licht* -Thematik des Mephistopheles wird ebenfalls in der hebräischen Genesis ausgedrückt: Gott sprach (*phaemae, phonae*) es werde Licht (*phos*). Nietzsche griff diese Polarität wieder auf, als er die Differenzierung von *Apollinisch* und *Dionysisch* aufstellte.³⁵ Auch wenn diese Götter nach Hesiodos einer späteren Generation angehören, wiederholen sie in ihrer Polarität den Dualismus von *Phos* und *Phonae*, von *Licht* und *Klang*, und von *Licht* und *Dunkelheit*, die in dem Wort *Mephistopheles* schon angeklungen sind. Die Verbindung zu Apollon geht über die *phos*- Wurzel, zu Dionysos über die *phonae*- Wurzel. Der

Beiname von Apollon ist *phoibos*, der klare, strahlende, helle.³⁶ Er ist der Lichtgott, und übertragen, der Gott der klaren Rationalität, des *Logos*, wie er in Joh. 1.1. beschrieben wird.³⁷ Sein Gegenspieler ist Dionysos, der Gott des tosenden Lärms und der Dunkelheit, sowie des Rausches und der Ekstase (Orphischer Hymnus), der von der christlichen Religion zum *Diabolos* stilisiert worden ist.³⁸ Sein dionysisch- / mephistophelisches "Glaubensbekenntnis" drückte Nietzsche hier aus:

Die Bejahung des Vergehens *und Vernichtens*, das Entscheidende in der dionysischen Philosophie, das Jasagen zu Gegensatz und Krieg, das *Werden*, mit radikaler Ablehnung auch selbst des Begriffs "Sein" - darin muss ich unter allen Umständen das mir Verwandteste anerkennen, was bisher gedacht worden ist. Die Lehre von der "ewigen Wiederkunft", das heisst vom unbedingten und unendlich wiederholten Kreislauf aller Dinge - diese Lehre Zarathustra's *könnte* zuletzt auch schon von Heraklit gelehrt worden sein. Zum Mindesten hat die Stoa, die fast alle ihre grundsätzlichen Vorstellungen von Heraklit geerbt hat, Spuren davon. - (Ecce homo, Geburt der Tragödie, 3)³⁹

Meta-Morphologie: Eine Systematik der Muster, ihrer Transmission, und ihren Veränderungen

Morphologie von griech. *Morphae* (Form, Gestalt, Geste, Muster), engl: *pattern*⁴⁰, bedeutet im vorliegenden Kontext: *Eine allgemeine Systematik der Betrachtung von Patterns, Formen, Mustern, oder Gestalten.*⁴¹ Im Sinne der Lehre der *Metamorphosen* nach Goethe bezeichnet damit *Meta-Morphologie* die Lehre der *Transmission*, und der Systematik der *Veränderungen* von Patterns. Der Fokus auf die Dynamik unterscheidet die Meta-Morphologie wesentlich von der klassifizierenden und eher statischen Morphologie der Biologie.⁴² Der Faktor der Dynamik, "Kultur als Werden", findet sich auch in der deutschen Kulturmorphologie von Frobenius und Spengler, die sich auf Goethes Arbeiten zur Morphologie gründet. Der vorliegende Ansatz versucht in den folgenden Darstellungen, eine neue theoretische Basis im Sinne heutiger wissenschaftlicher Erkenntnis zu finden.⁴³ Der Begriff der "kulturellen Muster" (patterns of culture) wurde von Ruth Benedict (1934) in ihrem berühmten Werk geprägt. Sie formulierte dort auch ihre Grundunterscheidung von Kulturen in "Apollinisch" und "Dionysisch", und die Herleitung der Begriffe von Nietzsche. Sie war eine Schülerin von Franz Boas, welcher als Immigrant nach Amerika gekommen war, und in Deutschland u.a. bei Adolf Bastian, dem Gründervater der deutschen Ethnologie, am Berliner Völkerkunde-Museum gearbeitet hatte.⁴⁴ Adolf Bastian war als Universalgelehrter bestens mit den Klassikern vertraut, und kannte wie viele der gelehrten Deutschen seiner Zeit, den Faust wohl auswendig, sowie alle Details der alten Mythologien, die Goethe im Faust nur andeutet. Der bekannteste (und kontroverseste) kulturmorphologische Autor ist Spengler (1980). Ruth Benedict nimmt in ihrer Arbeit auf die Gestalt-Psychologie und die Kulturmorphologie Spenglers Bezug. Wohl noch bekannter als Ruth Benedict war eine weitere Schülerin von Boas, Margret Mead,⁴⁵ deren (zeitweiliger) Ehemann Gregory Bateson eine kybernetische Lehre von den "Mustern der Muster" (Patterns of patterns: *Metapatterns*) aufgestellt hat.⁴⁶ Batesons Begriff der *Information* (nicht mit der nachrichtentechnischen, von Shannon, zu verwechseln) ist: *Information is the difference that makes a difference.*⁴⁷

Die Epochen von Muster-Transmissionsklassen

Es ist möglich, Epochen von Muster-Transmissionsklassen in unserer Welt aufstellen, die sich in einer zeitperspektivischen Darstellung normiert in Zehnerpotenzen von Fünf anordnen lassen. Selbstverständlich ist die Genauigkeit der Zeitschätzung, vor allem der älteren Musterklassen, "cum grano salis" zu handhaben.⁴⁸

- 1) Die atomar- physikalisch- chemischen Muster, deren Persistenz über ca. 15 Mrd Jahre Geschichte des Universums reicht,
- 2) die molekular-biologisch-genetischen Muster-Transmission der Prokaryoten über ca. 4-5 Mrd Jahre Geschichte der Biosphäre,⁴⁹
- 3) die Evolution der vielzelligen Organismen (Metazoen) auf der eukaryotischen (Zellkern-) Basis seit ca. 500 Mio Jahren,⁵⁰
- 4) die neuronal-Verhaltens-Muster der Säugetiere und Vögel seit dem Ende der Dinosaurier vor ca. 50.000.000 Jahren,⁵¹
- 5) die Gestik- / Laut- / Werkzeug-Gebrauchs- Muster der Anthropoiden, seit ca. 5.000.000 Jahren,⁵²
- 6) die Werkzeug- / Feuer- / Ritual- / Sprach- / Symbolik- Muster des Homo Sapiens,⁵³ seit ca. 500.000 Jahren,⁵⁴
- 7) die Bild-Artefakt-Muster des Homo Sapiens Sapiens (oder Cro Magnon) seit ca. 50.000 Jahren, die etwa in den Ausdrucksformen von Altamira, Lascaux, und Chauvet zu finden sind,⁵⁵
- 8) die Sprach-Zeichen-Codierungs-Muster der Schrift, seit ca. 5.000 Jahren, wovon das Alphabet, die dominante abendländische Form der Schrift, etwa die Hälfte dieser Zeit, ca. 2500 Jahre existiert,⁵⁶
- 9) Buchdruck, mechanische Schrift-Muster-Verarbeitung, seit ca. 500 Jahren,
- 10) elektronische, automatische, programmgesteuerte Signalverarbeitung, Computer: 50 Jahre.

Die Modi der Transmission der atomar- physikalisch- chemischen Muster aus Klasse 1) stehen nicht im Fokus unserer Betrachtung, sondern werden als gegeben angenommen. Es ist aber keinesfalls selbstverständlich, daß (oder warum) Atome die Konstanz aufweisen, die sie für uns haben, im Rahmen der vorliegenden Untersuchung ist der (nach Ansicht der heutigen Physik) atomare Aufbau der Welt die Grundlage der Konstanz des Universums, und für unsere Betrachtung ist es unerheblich, ob die zeitliche Persistenz eines Wasserstoff-Atoms auf seiner *Dinglichkeit* (oder *Substanz*) beruht, oder darauf, daß es eine bestimmte Form von *dynamischen* Phänomen ist, etwa eine *stehende Welle*, oder ein *Soliton* (nach der Chaos-Theorie), im Raum-Zeit-Kontinuum.⁵⁷

Die geosphärische System-Einbettung der Musterklassen

Die oben genannten Musterklassen stehen in einer hierarchisch geschichteten System-Einbettung, bei der die jeweils älteren Musterklassen die Basis für die jüngeren bieten. Ihre energetisch-materielle Einbettung läßt sich nach Vernadskys (und seiner Nachfolger) thermodynamischer Kosmologie⁵⁸ in verschiedenen Sphären anordnen, die an der Kugelgestalt der Erde ausgerichtet sind. Im Folgenden wird das über Klammersymbole ausgedrückt, die wie geschachtelte Kugelschalen⁵⁹ zu lesen sind:

(Kosmo- (Iono- (Strato- (Atmo- (Hydro- (Litho- (Geo-Sphäre))))))
(Bio-Sphäre)

Das Erdsystem wird energetisch von der Strahlungsenergie der Sonne angetrieben, der hier die *Kosmosphäre* zugeordnet ist. Sie stellt also die energetische Quelle dar, sowie die Senke für abgestrahlte thermische Energie. Sie ist auch die Quelle von anderen kosmischen Einflüssen, wie Sonnenflecken-Aktivität,⁶⁰ Kosmische Strahlung,⁶¹ Planetenbahn-/ Erdachsen-Instabilitäten,⁶² Meteoriten, Super-Novae, sowie noch unbekanntem Faktoren, die beim Durchgang des Sonnensystems durch verschiedene Bereiche der Galaxie auftreten können, und das Leben auf der Erde beeinflussen. Die nächsten Sphären sind die ionisierten äußeren (Iono-), die mittleren (Strato-), und die inneren Schichten (Tropo-) der Luft (Atmo-), des Wassers (Hydro-), der Gesteinsschichten (Litho-), und schließlich, des Erdmantels und des Erdkerns (Geo-Sphäre).

@:VERNADSKY

Vernadskys Arbeit handelt wesentlich von den Interaktionen des Lebens, der *Biosphäre*, mit der (Atmo- (Hydro- und (Litho- Sphäre, welches er als chemisch- energetisches Gesamtsystem betrachtet.⁶³ Lovelock formulierte unabhängig von Vernadsky in seiner Gaia-Hypothese eine ähnliche Sicht dieses Gesamtsystems, und entwickelte es in seiner Zusammenarbeit mit Lynn Margulis weiter.⁶⁴ Da der terrestrische Film des Lebens, die Biosphäre, hauptsächlich wasserbasiert ist, können wir es als Extension der Hydrosphäre ansehen.⁶⁵ Der wesentliche neu dazukommende Faktor der Biosphäre sind die o.g. Musterklassen des Lebens, die sich ebenfalls mit der Sphären-Metapher darstellen lassen:

(Bio- (Oeko- (Semio- (Anthropo- (Ethno- (Noo- Sphäre))))))

Diese Schachtelung stellt einen Ansatz dar, verschiedene Gliederungen, die z.T. der Nachfolge von Vernadsky entstammen, weiter zu systematisieren. Diese weiteren Sphären sind weitere logische Ordnungen, bzw. Entwicklungen der Biosphäre. Die *Oekosphäre* (A.G.) wird hier als Generalbegriff für alle inter-organischen Kommunikations- und Interaktions-Formen eingeführt, die in der heutigen *Ökologie* vor allem unter ihrem energetischen und materiellen Aspekt untersucht werden. Die *Semiosphäre* als Sammelbegriff der Zeichenkommunikation der Lebewesen stammt von Lotman,⁶⁶ *Anthroposphäre* als Gesamtheit der menschlichen Biomasse,⁶⁷ und *Ethnosphäre* der verschiedenen menschlichen Kulturmuster von Gumilev,⁶⁸ *Noosphäre* der höheren symbolischen Gebilde von Chardin, LeRoy und Vernadsky.⁶⁹ Ebenfalls bei Gumilev findet sich der Begriff *Technosphäre* für die dem Naturkreislauf (zeitweise) entzogenen Artefakte des Menschen,⁷⁰ und im Rahmen der vorliegenden Arbeit wurde der Begriff *Bibliosphäre* geprägt.⁷¹

Das Faust-Thema: Virtuelle Unsterblichkeit und Kulturelle Transmission

Wir wollen noch einmal auf das Faust-Thema zurückkommen und die dort angeklungenen mythologischen Untertöne noch einmal vernehmen lassen.⁷²

Nyx, die Nacht, Thanatos, der Tod, und Laetae, das Vergessen

In den Eingangsszenen (1328-1384), in denen sich Mephistopheles als der thermodynamische *Archae-Typos* der *Dynamis* und des *Chaos* vorstellt, nimmt er auch auf seine Mutter, die Urmutter *Nyx*, die Nacht, Bezug (1349-1352). Die *Nyx* war als Schwester von Gaia/Gea/Chaea ebenfalls direkt aus dem Chaos entstanden. Seine Geschwister sind nach Hesiodos (211 ff.) "das verhaßte Geschick" (*Moron*) und "das schwarze Verderben" (*Kaera*) und der Tod (*Thanatos*)" sowie der Schlaf (*Hypnos*), die Träume (*Oneiron*), die *Moiren*: *Klotho*, *Lachesis*, und *Athropos*, die *Nemesis*, und die *Laethae* (das Vergessen), sowie noch einige weitere Übel der Menschheit. Sie sind nur als Kollektivität zu verstehen: "Ich bin ein Teil des Teils, der anfangs alles war (*en archae ... ta panta*)⁷³" (1348).

Nach der Mythologie war *Laethae* nicht nur eine Göttergestalt, sondern auch ein *Fluß*, von dessen Wasser die Seelen der Toten trinken mußten, wenn sie sich wieder auf die Welt in eine Wiederverkörperung gebären lassen wollten. Und die Mythologie zeigt sehr genau die Verfluchung des "Lebens zum Tode", die im Abriß

und Auslöschen der Erinnerung liegt. Deshalb hat der alte philosophische Begriff der *a-laetheia* (das Unverborgene) noch eine andere mythische Bedeutung, der über die philosophische Version hinausreicht. *Alaetheia* bedeutet nämlich wörtlich "die Wieder-Er-Innerung (der Erfahrungen aus früheren Leben)".⁷⁴ Nach der Mythologie ist diese Form der *alaetheia* mit der Errungenschaft des Pythagoras verbunden, der von den Göttern ein Geschenk bekommen sollte. Zwar konnte er nicht unter die Unsterblichen aufgenommen werden, und so wünschte er sich die *alaetheia* seiner früheren Leben. Ihm blieb also das Schicksal aller anderen Sterblichen erspart, zwischen Tod und Wiedergeburt alle Erinnerungen an die früheren Leben zu verlieren.

Im Faust-Drama wird der Übergang vom 1. zum 2. Teil (4613-4678), nach den schrecklichen Erlebnissen um Gretchens Tod, mit einem Eintauchen in den Schlaf (*Hypnos*), die Träume (*Oneiron*), und dem Abwaschen der furchtbaren Erinnerungen und der Schuldgefühle in den Wassern der *Laethae* gestaltet (4629). Auf diese Weise kann Faust wieder als Mensch erscheinen, ohne von den bleiern Schatten seiner Schuld, den Erinnyen, bis an sein Lebensende erbarmungslos gejagt zu werden.

Der Kampf gegen den Sog der Zeit

Die letzten Szenen des Faust-Dramas stellen eindringlich das verzweifelte Aufbäumen der Kreatur gegen den unerbittlichen Sog der Zeit⁷⁵ in seiner rasenden Aktivität dar. Der Kampf gegen die Zeit ist das Wettrennen, und mit genau dieser Formulierung wird auch der Pakt Faustens mit Mephistopheles geschlossen:

Werd' ich zum Augenblicke sagen: / Verweile doch! du bist so schön! / Dann magst du mich in Fesseln schlagen, / Dann will ich gern zugrunde gehn! / Die Uhr mag stehn, der Zeiger fallen, / Es sei die Zeit für mich vorbei! (1699-1706)

Denn es kommt Faust auf Unsterblichkeit (in der kollektiven Erinnerung der Menschen) an:

Zum Augenblicke dürft' ich sagen: / Verweile doch! du bist so schön! / Es kann die Spur von meinen Erdentagen / Nicht in Äonen untergehn. - / Im Vorgefühl von solchem hohen Glück / Genieß' ich jetzt den höchsten Augenblick. (11581-11586)

Aber in genau diesem Moment, mit der Illusion des Sieges über die Zeit vor den Augen, hat Faust den Pakt verloren:

Den letzten, schlechten, leeren Augenblick, / Der Arme wünscht ihn festzuhalten. ... / Die Zeit wird Herr, der Greis hier liegt im Sand. / Die Uhr steht still - / Steht still! Sie schweigt wie Mitternacht. / Der Zeiger fällt. / Er fällt, es ist vollbracht. / Es ist vorbei. (11589-11594)

Brock (AGEU, 205): Ruhmsucht war das kräftigste Handlungsmotiv des antiken Menschen, weil Ruhm zu erwerben bedeutete, unsterblich zu werden.

Bazon Brock hat die entscheidende Bedeutung der kollektiven Erinnerung für die antiken Menschen dargestellt. In der Erinnerung der folgenden Generationen weitergetragen zu werden, in ihren Geschichten und Gesängen fortzuleben, war ihr höchster Wunsch, wie die griechischen Heroen, die von Homer besungen worden sind. Goethe setzt diese Tradition fort, und läßt sie in Faust II wieder auferstehen, und erfüllt sie wieder mit neuem Leben, indem er sie in die Handlung seines Stücks einbindet. Hier hört das Drama auf, eine Bühne zu sein, auf der das Stück "Faust" aufgeführt wird, und wird gelebtes Leben. Goethe bindet sich selbst, und den Leser, in den Prozess der kollektiven Erinnerung mit ein.⁷⁶

Kulturelle Transmission als virtuelle Unsterblichkeit

Kulturelle Transmission ist eine Form der virtuellen Unsterblichkeit.⁷⁷ Zwar überlebt nicht der Mensch in seiner fleischlichen Form, aber einige seiner tiefsten und wesentlichsten Gedanken und Empfindungen können so über die Jahrhunderte und Jahrtausende weitergetragen werden. Jeder Brahmane, der heute die Sanskrit-Verse des Mahabharata aus dem Gedächtnis rezitiert, er-innert und impersonifiziert nicht nur das *Gedächtnis* an Krishna und Arjuna, sondern Krishna und Arjuna leben in ihm auf eine Weise fort, die in einer Zivilisation der schriftlichen kulturellen Transmission nur schwer vorstellbar ist.⁷⁸ Ebenso lebt Mohammed in seinen Koran-Versen weiter fort, und die jüdischen Propheten in den Versen der Bibel. Umgekehrt hat der, der heute diese Gesänge er-innert, auf eine ebenso schwer vorstellbare Weise Teil an der Unsterblichkeit dieser Überlieferung.

Mit diesem Seitenblick auf die Mythologie und die Religion finden wir einige Hinweise und Gründe für die erstaunliche Tatsache, daß kulturelle Muster extrem langlebig sind. Die Überlieferung der Juden ist etwa

3500 Jahre alt,⁷⁹ die Vedische ist ungefähr gleich alt (wenn man nach den Brahmanen geht, aber wesentlich älter),⁸⁰ die Christliche immerhin 2000 Jahre, und die Islamische 1400 Jahre. Die australischen Aborigines behaupten von ihrer Überlieferung sogar, daß sie mehrere 10.000 Jahre alt ist, aber das ist kaum zu verifizieren. Die ältesten Staatsformen waren etwa 2000 bis 2500 Jahre alt, aber wiesen große (über hundert Jahre dauernde) Zivilisationseinbrüche auf: So das ägyptische und das chinesische Reich. China stellt heute den langlebigsten existierenden Zivilisationszusammenhang dar, vor allem aufgrund des Konstanzfaktors der Schrift, die über alle Sprach- und Staatsveränderungen hinweg eine Konformität des Denkens über ca. 2500 Jahre versichert hat.⁸¹ Die ältesten europäischen Staaten waren Byzanz und Venedig, mit je etwa 1000 Jahren.

Die Morphologie der Zeit-Geister

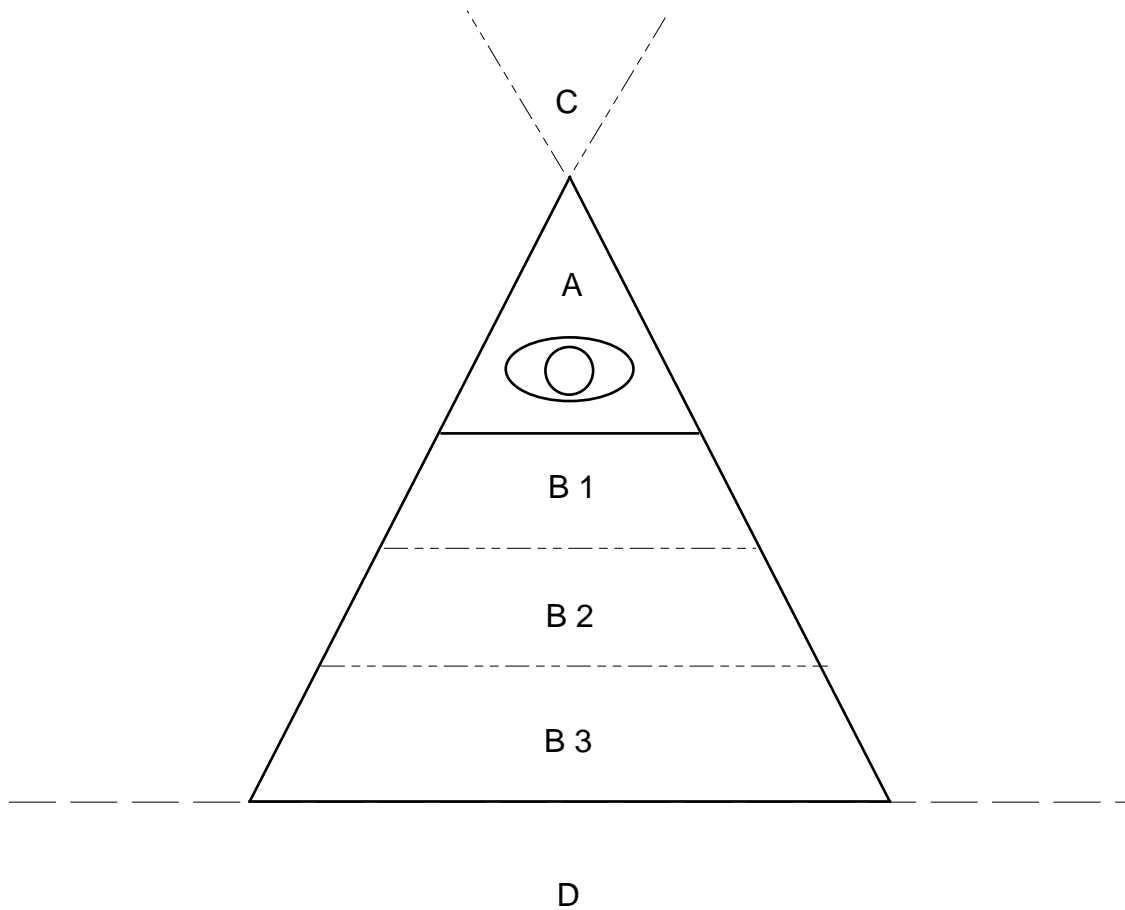
Goethe erfand seinen Faust-Stoff nicht aus der Phantasie, sondern er führte damit einen schon lange laufenden Prozess weiter, der im deutschen Sprachgebrauch als ein Phänomen des *Zeit-Geistes* bezeichnet wird. Seine Leistung war es, diesen Stoff, der die Geister der Menschen offensichtlich so tief erregte, in eine neue Form zu überführen, und ihm damit eine neue Aktualität zu geben. Er formte damit ein neues mythologisches Selbstbild des abendländischen Menschen, wie Spengler ausführte,⁸² und sein Weitblick erfasste genau die Dynamik der Entwicklung der techno-kapitalistischen Zivilisation, die sich in den letzten 200 Jahren entfaltete. (Binswanger 1985). Im Rahmen der hier aufgestellten *Morphologie der Cultural Patterns* handelt es sich um das *Weben und Wirken von Wesen der Semiosphäre*.⁸³ Diese ist die Welt der *Zeit-Geister*, in einem sehr wörtlichen Sinn. Denn es sind Geister, deren Wesen mehr *zeit-haftig* ist, als räumlich fassbar. Die *Semiosphäre* ist eine Welt der flüchtigen Phänomene, denn Kommunikationsprozesse sind, auch wenn sie immer auf Medien und Energien angewiesen sind, subtiler als rein materiell-energetische Formungs- und Austauschprozesse (wie etwa das Schmieden eines Eisenstücks). In den Arbeiten von Jung und Campbell (1972-1996) wird das Wirken dieser Wesen als *Mythologisches Drama* bezeichnet. Das Drama von Faust und Mephistopheles behandelt somit einen zentralen Nexus⁸⁴ von archetypischen Kräften in der Menschheitsentwicklung. Campbell (1996: 701-793).

Die Zeitstruktur des menschlichen Erlebens

Alles, was im Leben eines Menschen stattfindet, all sein *Erleben, Handeln* und *Erinnern*, passiert im Moment des *Jetzt*, dem *Fokus des Augenblicks*.⁸⁵ Dieser Augenblick mit all seinen Geschehnissen und Erlebnissen, reißt den Menschen unwiderruflich den Strom des Lebens entlang. Von diesem unwiederbringlichen Augenblick handeln auch die schicksalsschweren Zeilen in Faust (11581-11594). In der Neurophysiologie spricht man von dem *Drei-Sekunden-Bewußtsein* des Menschen (Pöppel).⁸⁶ Das *Handeln* und *Erleben* kann nur im Augenblick stattfinden. Alles andere ist *Erinnerung* und *Erwartung*, die ebenfalls nur im Augenblick stattfinden. *Erinnerung* ist mit der Vorstellung von der *Vergangenheit* verbunden, *Erwartung* mit der Vorstellung von der *Zukunft*. Die Zukunft ist uns im wesentlichen verborgen. Unsere *Erwartungen* bestehen im wesentlichen aus Extrapolationen unserer Erinnerung, und Schlußformen, die auf Mustervergleichen beruhen. Die bekanntesten davon nennt man *Induktion* und *Kausalität*, und sie lassen einige Aussagen über die Zukunft zu.⁸⁷ Heidegger hat in "Sein und Zeit" eine ausführliche phänomenologische Beschreibung des Seins in der Zeit und in der Welt gegeben.⁸⁸

Die Pyramide als Symbol des menschlichen Zeiterlebens

Ein altes Symbol, das wir auf jeder US-1-Dollar Note finden, das Auge auf der Pyramide, gibt eine passende Darstellungsmöglichkeit des menschlichen Zeiterlebens. Im folgenden ist dieses Bild etwas schematisiert dargestellt.



Das Auge auf der Pyramide

Gegenwart - Zukunft - Vergangenheit

In der Figur stellen die Bereiche A, B1, B2 und B3 eine Pyramide dar, wie auf der US-1-Dollar Note zu sehen. Der Bereich (A) auf der Spitze der Pyramide, der das Auge enthält, symbolisiert das *Jetzt* oder *Gegenwartsbewußtsein*, wie es so treffend in der deutschen Sprache heißt: *Der Augen-Blick*. Dies ist das 3-Sekunden Bewußtsein nach Pöppel, also der zusammenhängende Zeitraum, der als der *Moment* erfahren wird. "Vergangenheit ist uns nur präsent als *gegenwärtiger* Gedächtnisinhalt und Zukunft ist nur als *gegenwärtige* Erwartung des Kommenden gegeben."⁸⁹ Der Bereich (C) der *Zukunft* ist gestrichelt dargestellt, so daß er wie der Ansatz einer umgekehrten Pyramide über (A) aussieht. Da Zukunft nur in der Imagination und Projektion des Bewußtseins besteht (bevor sie faktisch, und damit erlebte Gegenwart und Vergangenheit geworden ist), ist die Strich-Punkt Linie eine geeignete Form der Darstellung.

Der solide Bau der Pyramide, die Welt des faktischen und gewesenen, aufgeteilt in die Bereiche (B1), (B2) und (B3), ist der Bereich der *Vergangenheit*,⁹⁰ in mehreren diskreten Stufen:

B1: die Kurzzeit-Erinnerung und die biographischen Erlebnisse, die Lebenserinnerungen des Individuums.⁹¹

B2: die kollektive, kulturelle Erinnerung, in Sprache und Erzählungen, Gebräuchen und Traditionen, Schrift, Institutionen und Gesetzen. Weiterhin die durch wissenschaftliche Methoden aus materiellen Spuren erschlossene Vergangenheit. Die Fein-Einteilung in weiteren Stufen ist dargestellt als die Muster-Transmissionen der Ethnosphäre nach den o.g. "Epochen von Muster-Transmissionsklassen".⁹²

B3: die phylogenetische Erinnerung unseres genetischen Erbes, die Körperfunktionen, und die Instinkte, der *Weltbildapparat*. Dies beinhaltet die o.g. Muster-Transmissionen der Bio-und Semiosphäre.⁹³

Darunter liegt (D), der Bereich, in dem die Pyramide in den Boden übergeht, er deutet die Grenze des Vergessens, des Todes, und des chthonischen, des "Reichs der Mütter"⁹⁴ an. Dies ist das Reich der Kinder der Urmutter Nyx, der Nacht, die Goethe im *Faust* in Nacherzählung der Theogonie des Hesiod und anderer griechischer Mythologien wieder auferstehen läßt, der Schlaf, der Tod, die Nemesis, die Moiren, und ihre Geschwister, die Träume.

Die Kluft, die unsere Vergangenheit und unsere Zukunft unüberbrückbar trennt

Bazon Brock (1986: 194) stellt die Kluft von Vergangenheit und Zukunft so dar:

Was in der Gegenwart von der Geschichte verwirklicht werden kann - und uns Zukunft garantiert - ist gerade die historische Einmaligkeit und Unwiederholbarkeit alles Gewesenen. **Das in der Gegenwart präsent gehaltene Vergangene** erzeugt uns gegenüber eine schauernmachende Wirkung, weil es uns auf die Kluft verweist, die unsere Vergangenheit und unsere Zukunft unüberbrückbar trennt. Was wir wollen, ist eines, was daraus wird, ein anderes. Niemand - das sagen uns die Zeugnisse der Vergangenheit - kann durch irgendwelche noch so heroische Anstrengungen dafür garantieren, daß sich die Zukunft als Verwirklichung seiner Pläne bestimmen läßt. Sie hat einen eigenen Plan, den erst zu erkennen vermag, wer das Ende der Geschichte in der völligen Stilllegung des zeitlichen Vergehens erlebt hat. Das wird der Fall sein, wenn alles bisher Vergangene simultan die lebendige Gegenwart ausmacht und daher nichts Neues mehr geschehen kann. Da dieser Zustand menschlichem Bewußtsein niemals zugänglich sein wird, bleibt es den Menschen verwehrt, von einem Plan der Geschichte Kenntnis zu nehmen.

Ereignislandschaft und Uchronie

Paul Virilio hat in einem treffenden Bild den Perspektivblick über die gesamte Geschichte des Universums dargestellt. Wenn auch nur in unserer Imagination, können wir von dieser Warte eine Perspektive über die **Ge-Schichte** der **Geschichte** erlangen.⁹⁵ Wir erinnern uns an die oben genannten "Epochen von Muster-Transmissionsklassen".⁹⁶ Es ist ein Aussichtspunkt, der für uns so außergewöhnlich ist, wie für die mittelalterlichen Menschen der Blick Petrarca's 1335 von dem Gipfel des Mt. Ventoux. Der Anregung von Paul Virilio folgend, erblicken wir von dieser hohen Warte - **eine Ereignislandschaft**:

Virilio (1998: 9): Für Gott ist die Geschichte eine Ereignislandschaft. Für ihn gibt es keine Abfolge, weil alles gleichzeitig da ist... Diese nur schwer vorstellbare transhistorische Landschaft erstreckt sich über alle Zeitalter hinweg, von einer Ewigkeit bis zur anderen. Und dieser kaum denkbaren Zone entspringen seit Anbeginn der Zeit die Generationen, die sich durch ihren beständigen Wandel gegen den Horizont einer ewigen Gegenwart abzeichnen... Eine Zeitlandschaft, in der die Ereignisse unversehens an die Stelle der Oberflächengestalt... treten, in der Vergangenheit und Zukunft aus ein und derselben Bewegung hervorgehen und ihre Gleichzeitigkeit offensichtlich zutage tritt.

Der Begriff "**uchronisch**" von Bazon Brock charakterisiert "die Zeitform, in der die verschiedensten Vergangenheiten zugleich präsent sind" (Stratmann 1995: 136), und der Blick über die Ereignislandschaft, "die Erfahrung der Gleichzeitigkeit und der Gleichörtlichkeit" (Brock, AGEU: 134) ist der ultimate Gipfel der Uchronizität.

En archae, kairos: Der Ur-Sprung ist im "Jetzt"

Hier bietet sich der Ansatz für eine weitere Lösung für das wohl älteste *Koan* der Menschheit, zwischen Hesiodos, Anaximandros, Joh. 1.1., und Faust: was denn nun wirk-lich "*en archae*" ist, nach der "*Natur*" des *Ur-Sprungs*.⁹⁷ Der Ursprung liegt "*In der Tat*", wie Faust schon richtig bemerkte, denn das *Jetzt ist ewiges Weben, Werden und Wirken*⁹⁸ der thermodynamischen Fließgleichgewichte der Organismen. Aber die Antwort von Faust ist im Sinn von Radio Eriwan zu bewerten: Im Prinzip ja, aber die Fragestellung ist falsch. Man darf nicht danach fragen, was *im Anfang war* (Vergangenheit), sondern was *im Ur-Sprung ist* (Gegenwart). Desweiteren muß man die Fragestellung umkehren, es ist nicht zu fragen, was der *Inhalt des Ur-Sprungs* ist, sondern, *worin der Ur-Sprung besteht*. *Principium (en archae, en-ergeia) non est principiatum (ergon)*. Die Römer hatten hierfür in ihrer pragmatischen Art noch einen anderen Satz geprägt: *Hic Rhodos⁹⁹, hic salta!*¹⁰⁰

Mnaemae, Gedächtnis, und Erinnerung

Erinnerung basiert auf *Rekurrenz* ähnlicher Muster im neuronalen System. Das Gedächtnis ist seit Aristoteles Gegenstand intensiver Forschung.¹⁰¹ Da das Hören eine neuronale Rekurrenz-Funktion ist, ist Erinnerung wesensmäßig mit dem Hören verbunden,¹⁰² was die ansonsten kryptische Passage von Aristoteles in seiner Einleitung zur Metaphysik (980 b 21) erhellt. In der heutigen Neurologie sind die Grundfunktionen der Erinnerung, die neuronalen synaptischen Verbindungen, zwar prinzipiell bekannt, aber wie (und wo) die neuronalen Prozesse für welche Erinnerung(en) genau stattfinden, ist noch weitgehend ungeklärt.¹⁰³ Im vorliegenden Zusammenhang sind die allgemeinen Phänomene der Muster-Transmission vorrangig vor differenzierenden Unterscheidungen. *Erinnerung* wird als generischer Begriff für alle in diesen Bereich fallenden Phänomene gebraucht, seine *deutsche Be-deutung* als *Er-Innerung* wird mit Hegel¹⁰⁴ zur

Akzentuierung ihres Prozesscharakters und der fortwährenden Neuschöpfung gewählt. Dies positioniert den Gebrauch vor allem gegen den *Speicher*-Aspekt, der in heutigen Diskursen vor allem mit Computer-Metaphern vorherrschend geworden ist. Der Begriff des *memory* bei Computer-Termini wie RAM (Random Access Memory) müßte korrekter *storage* heißen. Um irgendwie gespeichertes Datenmaterial für praktische Aktion nutzbar zu machen, muß es dynamisiert werden, und in menschliche Er-Innerung überführt werden.

Vergangenheit und Selbst-Erinnerung

Selbst-Erinnerung ist der Schlüsselfaktor zur Selbst-Identität des Menschen, und die absolute Schranke der Selbst-Erinnerung ist der Tod, wenn man die Mythologie und die Esoterik einmal außer acht läßt. Erinnerung zeichnet sich wesentlich dadurch aus, daß sie unvollkommen und unzuverlässig ist. Generell ist festzustellen, daß Erfahrungen umso schlechter erinnert werden, je länger sie zurückliegen. Wenn es sich um Ereignisse handelt, die häufig vorkommen, wird das Einzelereignis ebenfalls schlecht erinnert.¹⁰⁵ Heftige Emotionen wirken sich verstärkend auf die Erinnerungsfähigkeit aus. Starke Schmerzen vergißt man so schnell nicht wieder, und vor allem, man vergißt auch ihre Begleitumstände nicht. Daher wurde Schmerz in vielen Kulturen systematisch als Mnemo-Technik par excellence eingesetzt.¹⁰⁶

Zwischen der absoluten Schranke des *Todes* und dem *Jetzt*, steht noch die *kleine Schranke des Schlafes*, in dem sich jede Nacht die Selbst-Erinnerung ausschaltet, und dem Traumbewußtsein weicht. Normalerweise wacht man am nächsten Morgen wieder mit einer erneuerten Selbst-Erinnerung auf. Aber die *Qualität* der Erinnerung an die Erlebnisse des heutigen Tages unterscheidet sich merklich von der des letzten Tages. Es ist zwar noch die "Ich"-Erinnerung vorhanden, aber wie mit einem Schleier überzogen. Und je weiter wir in unserer Erinnerung zurückzugehen versuchen, desto schleierhafter wird diese.

Das Aoido-Denken: Eine Hypothese von Neuronalen Resonanzmustern in Poesie und Musischer Sprache

In den nichtschriftlichen Kulturen hatte die performative sprachliche Transmission einen wesentlich höheren Stellenwert als in den Schriftzivilisationen, und sie wurde einer speziellen Klasse von Personen anvertraut: Den *Aoidoi*.¹⁰⁷ Sie hatten die vitale Funktion, die Essenz und die höheren spirituellen Werte ihrer Gemeinschaften über die Zeiten zu tragen, und sie vor Degradation zu bewahren. Nach der heutigen neuronalen Erkenntnis der Arbeitsweise des Gehirns, als *Neuronale Aktivationsmuster*, von *Neuronale Oszillationsfeldern* und logischen *Relations-Strukturen neuronaler Assemblies*, die als gekoppelte dynamische Systeme arbeiten,¹⁰⁸ lassen sich auch neue Hypothesen über die Gehirnfunktionen bilden, die in der epischen Poesie ausgebildet werden. Dies wird im vorliegenden Kontext als die *Aoide-Hypothese* formuliert. Ausgangsbasis dazu ist die *phememe* Hypothese von Mary LeCron Foster (1996).¹⁰⁹ Die Autorin nimmt an, daß in archaischen Sprachen Klänge stärker als Bedeutungseinheiten fungierten als in den modernen Sprachen, daß also die Saussure'sche Doktrin des *Signe Arbitraire* nicht universell gilt (oder galt). Worte müssen ausgesprochen und verstanden werden, sie bauen also auf extrem subtile neuro-muskuläre Konfigurationen auf. Es ist allseits bekannt, daß von allen möglichen Phonemkombinationen jede Sprache nur eine sehr kleine Untermenge verwendet, ein Indiz dafür, daß ein "Sprachzeichen", das Wort, einem sehr engen Selektionskriterium folgen muß, um im "Sprachschatz" seinen Platz zu finden.¹¹⁰ Auf neuronaler Ebene kann dies begriffen werden als ein "Feld" von aktiven, dynamischen, aufeinander einwirkenden neuronalen Konfigurationen. Auch wenn diese neuronalen Konfigurationen in der Neurologie noch nicht genau bekannt sind, so erlaubt uns der heutige Wissensstand eine hypothetische Formulierung auf dieser Basis. Foster formuliert die Hypothese, daß in der archaischen Vergangenheit eine größere Einflußnahme der Kulturschöpfer auf Kultivation und Formung der Sprache in einer Art *phememe*-Design bestanden hat, als es in der herkömmlichen Sprachforschung angenommen wird. Diejenigen, die das *Sprach-Design* betrieben, waren in Altgriechenland die oben genannten *Aoidoi*. Die Rolle von Goethe in der Formung der neueren deutschen Sprache wurde schon oben angesprochen.¹¹¹ Weitere Hinweise finden wir in Platons Werken *Kratylos* und *Timaios*.¹¹² Nach dieser Hypothese lassen sich die Klänge der archaischen Aoide-Sprache auf Basis ihrer spatio-temporalen neuronalen Infrastruktur in einem technischen Modell ähnlich einer Molekular-Simulation darstellen.¹¹³

Social Design als Balanceakt in Spannungsfeldern

Als Beispiel für die angewandte Kunst des "Social Design" als Balanceakt unter den Zwängen des Faktischen und der begrenzten verfügbaren Mittel, der zu bewahrenden sozialen Stabilität (und der Machtverhältnisse) im eigenen Staat gegen innere Umsturzversuche, und der Sicherung gegen die ständige existenzielle Bedrohung durch mächtige äußere Feinde, im optimalen Einsatz der gestalterischen Freiheit, soll das Werk von Lars Karbe (1995) genannt werden: "Venedig oder Die Macht der Phantasie". Karbe

liefert gewichtige Argumente für eine Essenz der Kultur im Grad der immer neu zu schaffenden Gestaltungsfreiheit, die sich in Venedig in einer soliden Tradition von 1000 Jahren fortwährend neu inszeniert hat. Dies ist ein sehr subtiler Balanceakt, denn die im Moment der Freiheit gestaltete Schöpfung wird nur allzuleicht, sobald sie faktisch und Vergangenheit, und damit auch Besitzstand, Pfründe, und Privilegien geworden ist, zur Einschränkung und zur Last, die mit ihrem Ballast die Kultur ersticken kann. Das Schlüsselwort Karbes ist die "Not-Wendigkeit", also die *Wendigkeit*, um *aus der Not* einen *Vorteil* oder eine *Erfindung* zu machen, das damit auf die Wortspiele in unserem Titel-Thema: "Design und Zeit" und die Einleitung: "Design oder Nicht-Sein" zurückverweist.¹¹⁴ Die Denkweise der Venezianer beruhte auf der Dynamik des Wasser-Elements, das auch so bestimmend im Werk Goethes war. (Karbe 1995: 20, 34).¹¹⁵ Als geistige Nachfolgerin der griechischen und phönizischen Seefahrerstaaten hatte Venedig damit eine grundsätzlich unterschiedliche Ausrichtung gegenüber den sonst vorherrschenden land- und territorial-basierten Staatsformen. Sicher nicht ohne Relevanz in dieser Betrachtung ist der Mythos der Venus, der Namenspatronin Venedigs (und Mutter des Aeneas, des mythologischen Stammvaters von Rom), als Schaum- (*aphros* = heftig bewegtes Wasser-) geborene. (Hesiod).

Eine besondere Rolle spielte in Venedig die sorgfältige Installation von sozialen Spannungsfeldern im Herrschaftssystem. Karbe beschreibt im Detail die pentarchische Struktur der hohen Räte der Republik, die kein statisches Machtzentrum darstellte, sondern sich in immer neuen Konfigurationen und Koalitionen neu ausbalancieren mußte (19-31, 125-186). Im Verzicht auf feste und explizite hierarchische Strukturen wurde hier ein gelungenes Social Design der politischen Macht entwickelt, wie sein langedauernder Erfolg beweist.

The Semiosphere

The home of the unicorn

We are now going to perform a *Gedankenexperiment*, and to perform it, we need the cooperation of the reader.

*Dear reader: please create for yourself a mental picture of a lush green meadow by a forest, with a small creek running through it. Imagine the scene as vividly as you can or want. Imagine the sweet scent of the herbs, and the pleasant feeling of the warm wind as it caresses the leaves. Now, visualize in the center of that meadow a beautiful creature, with slender, lithe body, graceful like a deer, light in color, a **unicorn**. Imagine that unicorn as vividly as you can or want. See it strolling around the meadow, enjoying itself. Now, dear reader, I ask you the crucial question: Where does that unicorn live?*

The answer has three stages, that we need to consider.

- 1) The first obvious answer is that it lives in that scenery that we just imagined.
- 2) The second answer is that it lives in the imagination, commonly also called *the mind*. But that is not all:
- 3) The third answer is that it lives in the *Semiosphere* (also called *SEMsphere*).

This realm is the domain of all mental projections that are intersubjectively {shared / exchanged}, mainly through the mechanism of language. The present usage is derived from Lotman.

Lotman's semiosphere

Lotman (1990) coined the term *Semiosphere* (here also called *SEMsphere*) for the realm of all mental projections that are intersubjectively shared or exchanged, mainly through language. The SEMsphere is also the world of relations between communicating organisms as viewed from the viewpoint of semiotics. In the following quotation, Lotman refers to the work of Vernadsky as influence to his concept.

Lotman (1990: 123): By analogy with the biosphere, (Vernadsky's concept) we could talk of a semiosphere, which we shall derive as the semiotic space necessary for the existence and functioning of languages, not the sum total of different languages; in a sense the semiosphere has a prior existence and is in constant interaction with languages. In this respect a language is a function, a cluster of semiotic spaces and their boundaries... Outside the semiosphere there can be neither communication, nor language.

The unit of semiosis, the smallest functioning mechanism, is not the separate language but the whole semiotic space of the culture in question. This is the space we term the *semiosphere*. The semiosphere is the result and the condition for the development of culture; we justify our term by analogy with the biosphere, as Vernadsky defined it, namely the totality and the organic whole of living matter and also the condition for the continuation of life.

The next quotation shows that Vernadsky considered the biosphere as a system of societies of living beings in quite the exact sense as Whitehead had expressed it in more philosophical terms in the section before¹¹⁶.

Lotman, (1990: 125), [citing Vernadsky on the biosphere]: ... all life-clusters are intimately bound to each other. One cannot exist without the other. This connection between different living films and clusters, and their invariancy, is an age-old feature of the mechanism of the earth's crust, which has existed all through geological time.

The same idea is expressed more clearly again:

The biosphere has a quite definite structure which determines everything without exception that happens in it... A human being observed in nature and all living organisms and every living being is a function of the biosphere in its particular space-time.

The (not so private) world of the mind

We will now deepen our enquiry of the world of mental projections, the *SEMsphere*, with a quotation from Julian Jaynes:

Jaynes (1976: 1,2): O, WHAT A WORLD of unseen visions and heard silences, this insubstantial country of the mind! What ineffable essences, these touchless rememberings and unshowable reveries! And the privacy of it all! A secret theater of speechless monologue and prevenient counsel, an invisible mansion of all moods, musings, and mysteries, an infinite resort of disappointments and discoveries. A whole kingdom where each of us reigns reclusively alone, questioning what we will, commanding what we can. A hidden hermitage where we may study out the troubled book of what we have done and yet may do. An introcosm that is more myself than anything I can find in a mirror. This consciousness that is myself of selves, that is everything, and yet nothing at all - what is it?

And where did it come from?

And why?

Few questions have endured longer or traversed a more perplexing history than this, the problem of consciousness and its place in nature. Despite centuries of pondering and experiment, of trying to get together two supposed entities called mind and matter in one age, subject and object in another, or soul and body in still others, despite endless discoursing on the streams, states, or contents of consciousness, of distinguishing terms like intuitions, sense data, the given, raw feels, the *sensa*, presentations and representations, the sensations, images, and affections of structuralist introspections, the evidential data of the scientific positivist, phenomenological fields, the apparitions of Hobbes, the phenomena of Kant, the appearances of the idealist, the elements of Mach, the *phanera* of Peirce, or the category errors of Ryle, in spite of all of these, the problem of consciousness is still with us. Something about it keeps returning, not taking a solution. It is the difference that will not go away, the difference between what others see of us and our sense of our inner selves and the deep feelings that sustain it. The difference between the you-and-me of the shared behavioral world and the unlocatable location of things thought about. Our reflections and dreams, and the imaginary conversations we have with others, in which never-to-be-known-by-anyone we excuse, defend, proclaim our hopes and regrets, our futures and our pasts, all this thick fabric of fancy is so absolutely different from handable, standable, kickable reality with its trees, grass, tables, oceans, hands, stars - even brains! How is this possible? How do these ephemeral existences of our lonely experience fit into the ordered array of nature that somehow surrounds and engulfs this core of knowing?

Men have been conscious of the problem of consciousness almost since consciousness began.

As Jaynes points out, the question of consciousness has been brought up in many different guises throughout the ages. For the present study, it is not the aim to try to supply yet another approach to that eternal question of consciousness. Rather, this quotation was given to illustrate a grave fundamental and categorical error that Jaynes and many others writing or speaking on that subject have committed. The error lies in this statement: "And the privacy of it all! A secret theater of speechless monologue..." This is a logical fallacy, since Jaynes is selfspeakingly using the common interchange medium of written language to evoke that very same thought in our minds, and if you have followed the above *Gedankenexperiment* with the unicorn above, you understand it clearly. Language serves as an intersubjective projection mechanism, and by reading this very text that you are reading now, you are submitting yourself to my (the present author's) *written* language projections as much as I submitted to Jaynes' projection. But in the same token I rejected his expressed projection that these projections are private only. (This is basic logics. If there is a projection from one consciousness to another taking place at all, it cannot, by this very act, be private). They are not "speechless

monologue" at all, but technically, *subverbalizing*, or going through rudimentary neuronal processes that have cut off the final motorics of the vocal apparatus. What is private, are our bodily feelings, pains, and joys. But the universe of words and concepts, the SEMsphere, is *intersubjective* and *not private*. Now, we, Julian Jaynes, I and you, dear reader, are engaged in an *intersubjective triad of mental projections in the SEMsphere*. And the fact that Jaynes wrote that piece of text sometime in the 1970's makes no difference to us, as little as that I wrote the Unicorn projection at a different time than *now, this moment* when you are reading it. In the SEMsphere, there exists no such time difference. Whenever we, by our projections, enliven these images, they *are*, outside of physical time and space, in the SEMsphere¹¹⁷. So, by the very fact that I could describe the unicorn's world to you and you recognized it, and you were able to follow my instructions, I have demonstrated to you that we are both partaking, in this little experiment, and completely unimpeded by spatial and temporal distance, in the SEMsphere¹¹⁸. And there is no question how *real* that is. *By the very fact that we have just co-created this consensus reality, it exists*. Even if you disagree with me, you must accept those statements that I have made at some other time, and at some other place, into your mind, here and now. In the diction of *memetics*, you must play a host to the *memes* that I have projected onto you.¹¹⁹ This is the projection that I have created, and by reading it, you are already taking part in it, even if you disagree. In fact, humans have been doing this all the time in the last 5000 years, because when you have read my text, you were following my footsteps through the semantic universe of human cultural productions which have been recorded in writing in the last 5000 years of the current epoch, which I call the *bibliosphere*.¹²⁰ The question of *how real* the entities of the SEMsphere are, or better, of what *logical category* the *reality* of the SEMsphere is, needs to be dealt with, and we will return to this issue in:

Symbol and Symbol System

The definition given by Leslie White serves to illustrate the essential aspects of the symbol:

White (1987: 274): A symbol may be defined as a thing or event, an act or an object, upon which meaning has been bestowed by human beings: holy water, a fetish, a ritual, a word. A symbol is, therefore, a composite of (1) a meaning, and (2) a physical structure. A symbol must have a physical form otherwise it and its meaning can not enter our experience - unless we are willing to accept the claims of telepathy and clairvoyance. But there is no necessary relationship between the meaning of a symbol and its physical basis...

The meanings of symbols cannot be grasped and appreciated (comprehended) with the senses... Symboling is trafficking in non-sensory meanings. And, be it repeated, no animal other than man can have, or be brought to, any comprehension of holy water or fetishes - or sin or Sunday.

White (1987: 276): And because we symbol, we human beings can never experience the external, physical world precisely as non-human beings experience it.

Greek roots: *symbolon*: *sign, indication, insignia, badge, portent*, (Rost 1862,II: 459) and *symbollein*: *to cast together*¹²¹. (Rost 1862,II: 457-8). In the present usage, an important meaning of *symbol* is the dynamic case. This is:

- 1) the time-dependent aspect of symbolization,
- 2) and movement patterns that are part of a (often ritual) performance as in many indigenous situations.

Symbols appear only in context, the symbol system. For the present use in CMS, a definition will be given:

Symbol System: Any set of recognizable and repeatable shapes and performative expressions (which may be 2-d, 3-d, or 4-d¹²²) that conveys meaning.

The SEMsphere

In the present usage, the term *SEMsphere* will be used as term that encompasses communication and symbolization in the most general sense. It implies extended meaning as to include non-language symbolic performance, like ritual (Staal 1989). In this, it is used in a slightly wider meaning than Lotman's *semiosphere*. Since humans are enveloped in this omnipresent *SEMsphere*, all their bodily (somatic) experiences are filtered through the symbolic mechanism. (See White, above). Hoffmeyer (1996, 1997) has formulated the semiosphere view of recent biosemiotics research.

Goethe's Faust, Adolf Bastian, Memetics

Hier geht es gerade mal auf English weiter. I do what I can, but what I am not inclined to do, is to translate myself. I just cannot do it.

Faust and Logocentrism

All citations from "Faust" by line number in Goethe (1972)

(354-363):

FAUST: Habe nun, ach! Philosophie,
Juristerei und Medizin,
Und leider auch Theologie
Durchaus studiert, mit heißem Bemühn.
Da steh ich nun, ich armer Tor,
Und bin so klug als wie zuvor!
Heiße Magister, heiße Doktor gar
Und ziehe schon an die zehen Jahr'
Herauf, herab und quer und krumm
Meine Schüler an der Nase herum -

In his Faust, Goethe presents in a few passages, in an extremely condensed and concise manner (die *Verdichtung*, Strecker 1988: 217-219), a poetic analysis of the problems engendered by the logocentrism that has turned the word into a fetish, and then he takes us in a few more extremely condensed passages, down to the very foundations of our world system. In the opening scene (354-363), he lets Faust speak those famous words which probably every German speaking person has heard sometime in their life. Goethe portrays a man of scholarly learning, not in his youth any more, and apparently with a successful medical practice (981-1010) and ten years of academic teaching and consulting career behind him: "Und ziehe schon an die zehen Jahr' ... Meine Schüler an der Nase herum". In psychological diction, he is apparently experiencing his "mid life crisis" uttering the words in (354-363). This scholarly man of profound learning sees himself trapped in a logocentric bibliosphere of verbiage, that is highly academic, but essentially useless for the recognition of the basic forces and principles of the universe. In short, he is desperately looking for "Alternatives to written Words" (written in the alphabet): "Daß ich erkenne, was die Welt im Innersten zusammenhält, Schau' alle Wirkenskraft und Samen, Und tu' nicht mehr in Worten kramen" (382-385), With the aspect of purely conceptual learning Goethe also gives a characterization of the scholastic academic tradition of Europe before Bacon and Galileo¹²³.

In a later scene (1867-2050) Goethe turns again his subtle sarcasm against the logocentrism of academic tradition. Here he lets Mephistopheles pose as "academic study advisor" for a student who has come to request guidance as to which academic path he should follow. Words are perfectly suited to weave intricate and artful conceptual edifices (1922-1930) which make them ideal for the forming of academic schools, where many generations of students are made to obediently and unquestioningly follow the "words of the master" (1989) down to the Iota (2000). But they are all too often erring around in ornate edifices of verbiage.

(1922-1930):

Zwar ist's mit der Gedankenfabrik
Wie mit einem Weber-Meisterstück,
Wo ein Tritt tausend Fäden regt,
Die Schifflin herüber hinüber schießen,
Die Fäden ungesehen fließen,
Ein Schlag tausend Verbindungen schlägt:¹²⁴
Der Philosoph, der tritt herein
Und beweist Euch, es müßt' so sein:
Das Erst' wär so, das Zweite so,

(1934-1939):

Das preisen die Schüler aller Orten,
Sind aber keine Weber geworden.

Wer will was Lebendigs erkennen und beschreiben,
Sucht erst den Geist heraus zu treiben,
Dann hat er die Teile in seiner Hand,
Fehlt leider! nur das geistige Band.

(1950-1953):

Da seht, daß ihr tiefsinnig faßt,
Was in des Menschen Hirn nicht paßt;
Für was drein geht und nicht drein geht,
Ein prächtig Wort zu Diensten steht.

(1987-2000):

Am besten ist's auch hier, wenn Ihr nur Einen hört,
Und auf des Meisters Worte schwört.
Im ganzen - haltet Euch an Worte!
Dann geht ihr durch die sichere Pforte
Zum Tempel der Gewißheit ein.

...

Schon gut! Nur muß man sich nicht allzu ängstlich quälen;
denn eben wo Begriffe fehlen
Da stellt ein Wort zur rechten Zeit sich ein.
Mit Worten läßt sich trefflich streiten,
Mit Worten ein System bereiten,
An Worte läßt sich trefflich glauben,
Von einem Wort läßt sich kein Jota rauben.

Innis (1991: 4): A complex system of writing becomes the possession of a special class and tends to support aristocracies. A simple flexible system of writing admits of adaptation of the vernacular but slowness of adaptation facilitates monopolies of knowledge and hierarchies... Concentration on learning implies a written tradition and introduces monopolistic elements in culture which are followed by rigidities and involve lack of contact with the oral tradition and the vernacular. "Perhaps in a very real sense, a great institution is the tomb of the founder." "Most organizations appear as bodies founded for the painless extinction of ideas of the founders." "To the founder of a school, everything may be forgiven, except his school".¹²⁵

Faust's Metanoia and Mephistopheles

(1224-1237):

Geschrieben steht: "Im Anfang war das Wort!"
Hier stock' ich schon! Wer hilft mir weiter fort?
Ich kann das Wort so hoch unmöglich schätzen,
Ich muß es anders übersetzen,
Wenn ich vom Geiste recht erleuchtet bin.
Geschrieben steht: Im Anfang war der Sinn.
Bedenke wohl die erste Zeile,
Daß deine Feder sich nicht übereile!
Ist es der Sinn, der alles wirkt und schafft?
Es sollte stehn: Im Anfang war die Kraft!
Doch, auch indem ich dieses niederschreibe,
Schon warnt mich was, daß ich dabei nicht bleibe.
Mir hilft der Geist! Auf einmal seh' ich Rat
Und schreibe getrost: Im Anfang war die Tat!

In this scene, Goethe takes us to the "foundations of the world", he lets Faust critically review the fundamental philosophical statement of the Christian tradition, John (1,1): "en archae en ho logos", which expresses the core of the logocentrism of this tradition. In this essential passage, Goethe lets Faust make his conversion (*metanoia*¹²⁶ / *kata strophae*) from a fundamentally static *declaration-oriented*¹²⁷ (logocentric, scholastic) framework to a *pragmatic and process-oriented* approach. In this, Goethe lets his protagonist perform "pars pro toto" the reorientation of the western mind from scholastic philosophy (*ancilla theologiae*)

towards science and technology as it happened after the Renaissance¹²⁸. Not without a sense for subtle humor, the name *Faust* (fist) of the protagonist emphasizes the elements of *action and process*, as opposed to the *Kopf* (head), the purely cognitive, word and mind oriented approach of the intellectual. It is the fist that forges and holds the tools with which the "faustian" Western civilization went on to conquer the world (Spengler).¹²⁹ As a pun, we might note that to become "a man of the fist", Faust needs to make a pact with *me-fisto*. This whole drama is described in its unfolding by Goethe in *Faust II*, the exploits of Faust and Mephisto in their work for the emperor (the powers of this world). Focusing again on the crucial passage around Faust's *metanoia*.¹³⁰

But the power behind the Faust stems also from a different source than mechanistic technology: Faust had become an adept of (alchymical) *ritual*: "Drum hab' ich mich der Magie ergeben" (375-520)¹³¹ that is: he had studied an area which lies outside of logocentric scholastics as well as of the positivistic sciences and technologies. This focus on magical ritual sets the scene for the first climax of the drama that occurs in the immediately following passages (1255-1290) where Faust performs a series of conjurations, as he discovers that the poodle he has brought home from his walk in the fields, is no ordinary dog. The stages of this ritual process are unfortunately not described by Goethe in detail, only the first conjuration (1272-1291) where he evokes the elements. And when this doesn't work "Du sollst mich hören / stärker beschwören" (1296-1297) he makes another conjuration: "So sieh dieses Zeichen" (1300) and as last measure, he makes reference to an even "stronger medicine" that he has in store for his guest: "Erwarte nicht / das dreimal glühende Licht! Erwarte nicht / Die stärkste von meinen Künsten!" (1318-1321). Apparently this "magic of implication" works, and in an anticlimax, Goethe now describes the appearance of Mephistopheles, "the spirit of negation and destruction" (1328-1384).

1335-1344:

MEPHISTOPHELES:

[Ich bin] Ein Teil von jener Kraft,
Die stets das Böse will und stets das Gute schafft.

...

Ich bin der Geist, der stets verneint!
Und das mit Recht; denn alles, was entsteht,
Ist wert, daß es zugrunde geht;
Drum besser wär's, daß nichts entstünde.
So ist denn alles, was ihr Sünde,
Zerstörung, kurz das Böse nennt,
Mein eigentliches Element.

1348-1352:

Ich bin ein Teil des Teils, der anfangs alles war,
Ein Teil der Finsternis, die sich das Licht gebar,
Das stolze Licht, das nun der Mutter Nacht
Den alten Rang, den Raum ihr streitig macht

With the appearance of Mephisto, Goethe now enters the metaphysical plane, and he goes even deeper, and under-mines all the foundations of our world views of the last 2500 years. He re-introduces the Presocratic philosophy, the concept of "generation and corruption" (1335-1344) which has first been described by Anaximander (also in the Aristotelian treatise under the same name). Thus he re-opens the philosophical field of contention for the ancient Heraklitean ideas of perpetual change "panta rhei", that had been closed shut with the static Parmenidean *Being* and the eternal unchanging world of the Platonic ideas that had been transfigured (heilige Wandlung) into the *Will of God* in the Christian "philosophia ancilla theologiae". Genz (1994: 74-99), Goppold (1998: 2), Weischedel (1975: 21-28), Parmenides (1974), Heraklit (1976). In a later passage, (7850-8487) Goethe lets Thales, Anaxagoras, and Proteus appear as protagonists for the Presocratics.

The word *Me-phis-to-pheles* as used by Goethe is worth scrutinizing. There is no direct translation into any Greek words, but there seem to be several ways to decypher it:¹³²

(Chambers: Mephistopheles): Mephistopheles or Mephostophilis... Both forms go back to the Mephostophiles of the first *Faustbuch* where he describes himself as 'a prince, but servant to

Lucifer'. The etymology of the name is obscure; its origin is probably Hebrew (*Mephez*, destroyer and *Tophel*, liar), but in an age which delighted in rendering German into newly acquired Greek (as the homely Schwartzerd turned into the scholarly Melanchthon) the assimilation to *maephotophilaes*, 'one who loves not the light' added dignity to the Prince of Evil.

For the symbolic decyphering of the appearance of *Mae-phis-to-pheles* we need to consider the alchymical ritual setting of the whole scene that Faust has prepared, and we can make use of methods that are shown by Strecker (1988: 10-43, ch. 1 and 2), taking the *evocation* as important component of the *ritual process* (Turner 1987), in which Goethe lets us partake in this scene. The *Faust* is not an ordinary prose text, but is an instance of extreme symbolic *Verdichtung*. Strecker (1988: 217-219): "The skilful placement speaks within the context of the totality or *Gestalt* of the ritual". This allows us to enter the *ritual process* ourselves and lets us strike the chords of evoked association and meaning that bear a connection to the themes that Goethe introduces in the passage between (1328) and (1867). The Latin words expressing the alchymical process are: *solve et coagula*¹³³, and *transmutatio*. (Chambers: Alchemy). In Greek (Rost 1862,I: 236), this is: {*analysis / diaballein*} (*dissolve*, to cast apart) and {*synthesis / symballein*} (*coagula*, to cast together), and {*metamorphosis / metaballein*} (*transmutatio*). The *symballein* connects us to the word *symbolon*.¹³⁴ The casting apart of *diaballein* had at some time assumed a pejorative aspect in *diabol /-us /-ic* as term for the devil. The alchymical theme of these passages in Faust is that of the processes of creation, destruction, and transmutation: *symballein*, *diaballein*, and *metaballein*. The introduction of the *Mae-phis-to-pheles* serves as cypher for the necessity of any creation to be balanced by dissolution, of the balance of *physis* and *lysis*: "Und das mit Recht; denn alles, was entsteht, / Ist wert, daß es zugrunde geht;". This is expressed by the *mae-*, the Greek negation operator (Rost 1862,II: 79): "ich bin der Geist, der stets verneint". It is also the fundamental tenet of the Anaximandros fragment.

Another association connected with *me-* is *mnae-* / *mnaemae-* (Rost 1862,II: 91): pertaining to memory¹³⁵. This, the cultural memory, is the core theme of the present study, and it is also the theme of the very last sentence in Faust's life (11581-11586): "Es kann die Spur von meinen Erdentagen / Nicht in Äonen untergehn". It is Faust's ulterior wish and aim to remain eternally in the cultural memory of the people for whom he has conquered the *Lebensraum*¹³⁶, to become an immortal cultural heros¹³⁷ (11575): "Nur der verdient sich Freiheit und das Leben, / der täglich sie erobern muß".

Mephistopheles and the polarity of light and sound, space and time

We have several possible ways to decypher the *-phis-to-pheles*: It was mentioned above that there is a *phos*-element that appears as the theme of the consecutive dialogue. This has the following connections: *phos* connects to *phonae* (the sound) by the Greek word *phaino* to bring to light / to sound (Rost 1862,II: 595, 596). *ho phainon* is an alias name for the planet (and alchymical force) *Saturn*. Graves mentions in (1988: 86-88): *hae-phaistos*¹³⁸, *?haemeraphaestos?* (he who shines by day): Greek god of metal work and smiths who is ugly and ill-tempered and hobbles (like the devil). But *hae-phaistos* is well-liked on the Olympus because he makes the most exquisite mechanical devices, especially famous are his mechanical tripods. (Connection to Faustian technology, Spengler 1980). Then there is a Greek word *pistis / pistos* (Rost 1862,II: 293) that refers to a pact, a contract, an agreement, a guarantee, a pledge, a pawn, a collateral, an oath, a vow, which is of prime importance in the following text. The *-pheles* can either be taken as an allusion to *philes*, friend, or to *phalaes / phallos* -> male organ of generation (see Faust: Gretchen), or to *-pheres*, as in *phos-pheres:= lucifer*¹³⁹. The self-characterization of *Mae-phaisto* between (1348 - 1379) makes recurrence to all the core subjects of presocratic philosophy, especially Thales, Anaximandros and Hesiodos. The alchymical elements can be found in the philosophy of Thales: the dry, the humid, the warm and the cold (1374-1376), (Pleger 1991: 56, 65), (Chambers: Alchemy). Anaximandros' work is about the reign of time over the waxing and waning of all things (1338-1344), (1699-1706), (Pleger 1991: 61-66).

The fundamental theme of the polarity of *space* and *time* is brought to bear to with "Das stolze Licht, das nun der Mutter Nacht / Den alten Rang, den Raum ihr streitig macht"¹⁴⁰ (1351-1352). This short passage makes allusion to the fundamental polarity that our main senses and modes of orientation have: *vision* as the sense of *space*, and *hearing of sound* as the sense of *time*. Night, darkness, is the realm of sound. It is also the *Leitmotiv* of the Apollonian / Dionysian dichotomy of Nietzsche, Benedict (1934), and Paglia (1991). From our own experience, we all know that in the darkness, we hear most acutely¹⁴¹. Illustrative for this is also the account of the intense experiences of Jacques Lusseyran when he became blind (Innis 1972: vii), (McLuhan 1978: 198, 1989: 27-28, 35-36, 37, 74-75). Time is the essential motif in the later passage (1699-1706). The polarity of space and time and the influence of the media is one of the main themes in the works of Innis

(1952-1991), and McLuhan (1972-1989). In Faust (1384), Mae-phaisto is described as the son of *Chaos*¹⁴². This brings up Hesiodos' Theogony of the origin (*archae*) of the All (*ta panta*) in the *Chaos*. Hesiodos (1978: p. 34-35, p. 50-53, Theog.). Hesiodos says: *ex archaes... hoti proton genet auton* (from the beginning... what of those arose first), and then he continues: *aetoi men protista Chaos genet, autar epeita Gai' eurysternos*, (in the very beginning, verily, arose the *Chaos*, but then the broad-breasted¹⁴³ *Gaia*... (Theog.,ln. 116-117). And in that first act of primordial creation (out of the *Chaos*) also arose *Eros lysimelaes*, "the most beautiful of the eternal gods, the *member-dissolving*" (Theog.,ln. 120).¹⁴⁴ And then, in the next act of creation, arose (out of the *Chaos*) the dark elements: *Tartaros*, *Erebos*, and *Nyx* (night), and only out of the coupling of *Nyx* and *Erebos* arose finally the *Ether* and the *Haemer* (light of day) (Theog.,ln. 119-124). This is definitely a view of creation that is as unchristian as can be, and *mae-phaistos* now appears as the emissary of all those primordial forces of creation that had been driven into the underworld (the *Tartaros*, or the hell as it is called in Christian terminology). "Ich bin ein Teil des Teils, der anfangs alles war" (*ta panta*). The identity of this "Part of the Part that was the All in the Beginning" is elaborated in a further scene (8027-8029): "(Meph.) Da steh' ich schon, / Des Chaos vielgeliebter Sohn! / (Phorkyaden) Des Chaos Töchter sind wir unbestritten / (Meph.) Man schilt mich nun, o Schmach, Hermaphroditen." This, the *hermaphroditaes* being the "*dearest Son of Chaos*" will add further *light* to the identity of *mae-phaistos*: Because in the Orphic hymns, he is known as the *Protogonos*, the *Erikepaios*, the *Phanes* (*phaino*, above), and the *Priapus*¹⁴⁵, (Orpheus 1992: 29). According to Graves (1988: 30) he is also the *Eros*, who was hatched from a silver egg that *Nyx* had laid in the womb of Darkness, and he set the Universe in motion. *Eros* was double-sexed and golden-winged and, having four heads, sometimes roared like a bull or a lion, sometimes hissed like a serpent or bleated like a ram. By this, we have now recovered a few more of the "parts of the parts that were the All in the Beginning", and of the names and guises under which this master of *permutation* (*metaballein*) of form appeared.

In the abovementioned passage of primacy of the *night* over the *light*: "Das stolze Licht, das nun der Mutter Nacht / Den alten Rang, den Raum ihr streitig macht", Goethe lets Mae-phaisto retrace the connection to John (1,5-9) which equates the *logos* (word) with the *phos* (light), and lets him confront that with the ancient creation mythologies of Anaximandros and Hesiodos (above). His old "birthright" over the light is evidenced in his alias name: the *phos-pheres:= lucifer* (1377: "Hätt' ich mir nicht die Flamme vorbehalten"). It was said above, that Night, darkness, is the realm of sound. This is the theme of the archaic *sound* creation mythologies of the *Chaos*, which are essentially polar opposites of the younger Judaeo-/Christian *light* creation mythology. These are in all depth and detail described in the works of Marius Schneider (Schneider 1951-1990). Ruth Benedict (1934: 78) retraces part of this development in her polarity of dionysian (orgiastic, sound¹⁴⁶) and apollonian (rational, light)¹⁴⁷ cultural patterns after Nietzsche. (Encarta: Dionysos, Bacchus), (Graves 1988: 103-111). The connection between *Saturn* and *time* is given by H.v.Dechend (1993: 122, 203-4, 218, 242, 244-248) who equates *Saturn* with *Chronos* and *Kronos*, the god of time, and in (247-248) *Saturn* is again equated with *Hephaistos*.

Dechend (1993: 134): "Es ist das goldene Zeitalter, in der lateinischen Überlieferung *Saturnia regna*: Die Herrschaft des Saturn, des griechischen Kronos... In Indien hieß sie Yama; im Altpersischen *Avesta* hieß sie Yima xsaeta, ein Name, aus dem in Neupersien Jamshyd wurde; im Lateinischen hieß sie Saeturnus, dann Saturnus. Saturn beziehungsweise Kronos war unter vielen Namen als der Herrscher des Goldenen Zeitalters bekannt - jener Zeit, in der die Menschen weder Krieg noch Blutopfer kannten, noch die Ungleichheit der Klassen - , als Herr der Gerechtigkeit und der Maße, als Enki bei den Sumerern und in China als der Gelbe Kaiser und Gesetzgeber.

The central issue of the Saturnian reign over time is shown in the bet by which Faust wagers his soul's immortality (ie. the endurance of his person's substantial essence over time),¹⁴⁸ against the ever-increasing entropy, the second law of thermodynamics.¹⁴⁹ This is set in (1699-1706), and this sets the starting signal for Faust's and Mae-phaisto's race into creation and destruction, and the waxing and waning of worldly phenomenal appearances against the eternal law of time:

(1699-1706): Werd' ich zum Augenblicke sagen: / Verweile doch! du bist so schön! / Dann magst du mich in Fesseln schlagen, / Dann will ich gern zugrunde gehn! / Die Uhr mag stehn, der Zeiger fallen, / Es sei die Zeit für mich vorbei!

And this pact is to be set in writing (to preserve the evidence against the law of time, destruction, for eternity¹⁵⁰). There is a discussion which writing medium is best: "Erz, Marmor, Pergament, Papier? Soll ich mit Griffel, Meißel, Feder schreiben?" (1731-1732). One settles for parchment: "Allein ein Pergament, beschrieben und beprägt" (1726). Now the central aspect of cultural memory could be characterized as: *CM is that of the personal memories which doesn't die with the person who is dying*. Thus we could state that writing as CM technology is an "Alternative to the immortal soul", and so we get the poignant theme of Faust's pact with his Mae-phaisto for the subject of the present study. This factor of "virtual immortality" is evident in the preservation of the names of scientific and literate workers in the collective memory of society. (Also: Assmann 1993: 145-147). Thus, the writing of an academic bibliography, whatever its utilitarian (exoteric) purposes may be, is also a solemn rite (esoteric) by which (virtual) immortality is instantiated and celebrated. And the very same moment Faust imagines to have achieved this:

(11581-11586): Zum Augenblicke dürft' ich sagen: / Verweile doch! du bist so schön! / Es kann die Spur von meinen Erdentagen / Nicht in Äonen untergehn. - / Im Vorgefühl von solchem hohen Glück / Genieß' ich jetzt den höchsten Augenblick.

That moment is the fulfilment of the pact, and the victory of time over creation:

(11589-11594): Den letzten, schlechten, leeren Augenblick, / Der Arme wünscht ihn festzuhalten. ... / Die Zeit wird Herr, der Greis hier liegt im Sand. / Die Uhr steht still - / Steht still! Sie schweigt wie Mitternacht. / Der Zeiger fällt. / Er fällt, es ist vollbracht. / Es ist vorbei.

Innis (1991: 93): The permanency of death became a basis of continuity through the development of the idea of immortality, preservation of the body, and development of writing in the tombs by which the magical power of the spoken word was perpetuated in pictorial representation of the funeral ritual.

Innis (1972: 7): The concepts of time and space reflect the significance of media to civilization. Media that emphasize time are those that are durable in character, such as parchment, clay, and stone. The heavy materials are suited to the development of architecture and sculpture. Media that emphasize space are apt to be less durable and light in character, such as papyrus and paper. The latter are suited to wide areas in administration and trade. Materials that emphasize time favour decentralization and hierarchical types of institutions, while those that emphasize space favour centralization and systems of government less hierarchical in character...

Thus we have brought about the main themes of the *Ver-Dichtung* in Goethe's Faust: time and space, sound and light, destruction and creation, forgetting and memory, death and immortality, and with the friendly help of *Mnae-phaisto-philes*, we have refreshed our memory (*mnaemae*) and traced them back to their very earliest and oldest beginnings (the *archai*) that exist in the cultural memory of Western civilization (the Homeric epics, the Presocratics, and the Orphic hymns), by this, we have *re-membered* (*Er-innern*) them, (made them present), and with Harold Innis, we can connect them to the cultural transmission that is the core subject of this study.

Faust: Encyclopaedia Britannica

Faust, also called FAUSTUS, or DOCTOR FAUSTUS, hero of one of the most durable legends in Western folklore and literature, the story of a German necromancer or astrologer who sold his soul to the devil in exchange for knowledge and power. There was a historical Faust, indeed perhaps two, one of whom more than once alluded to the devil as his Schwager, or crony. One or both died c. 1540, leaving a tangled legend of sorcery and alchemy, astrology and soothsaying, studies theological and diabolical, necromancy and, indeed, sodomy. Contemporary references indicate that he was widely travelled and fairly well known, but all observers testify to his evil reputation. Contemporary Humanist scholars scoffed at his magical feats as petty and fraudulent, but he was taken seriously by the Lutheran clergy, among them Martin Luther and Philippe Melanchthon. Ironically, the relatively obscure Faust came to be preserved in legend as the representative magician of the age that produced such occultists and seers as Paracelsus, Nostradamus, and Agrippa von Nettesheim.

Faust owes his posthumous fame to the anonymous author of the first *Faustbuch* (1587), a collection of tales about the ancient magi--who were wise men skilled in the occult sciences--that were retold in the Middle Ages about such other reputed wizards as Merlin, Albertus Magnus, and Roger Bacon. In the *Faustbuch* the tales were attributed to Faust; they were narrated crudely and were further debased with clodhopping humour at the expense of Faust's dupes. The intense conviction of the author's descriptions of Hell and of the fearful state of mind of his merciless hero, as well as his creation of the savage, embittered, remorseful fiend Mephistopheles were so realistic that they inspired unquestioning belief. Some of these passages were used verbatim by Thomas Mann in his novel *Doktor Faustus* (1947; *Doctor Faustus*, 1950).

The *Faustbuch* was speedily translated and read throughout Europe. An English prose translation of 1592 inspired *The Tragical History of D. Faustus* (1604) by Christopher Marlowe, who, for the first time, invested the Faust legend with tragic dignity. It invoked more effectively than the original the summoning from the underworld of Helen of Troy to seal Faust's damnation. Marlowe retained much of the coarse humour and clownish episodes of the *Faustbuch*. German versions of Marlowe's play increased them. This association of tragedy and coarse buffoonery remained an inherent part of the Faust dramas and puppet plays that were popular for two centuries. Yet for all the antics of Casper the clown, the puppet plays retained some tense and moving scenes. Faust's end was often floodlit with poetry, and his eternal damnation was never in doubt.

The publication of magic manuals bearing Faust's name became a lucrative trade; the books included

careful instructions on how to avoid the bilateral pact with the devil or, if need be, how to break it. The

classic of these, *Magia Naturalis et Innaturalis*, was in the grand-ducal library in Weimar, Ger., and was known to Goethe.

The German writer Gotthold Lessing undertook the salvation of Faust in an unfinished play (1784). Lessing, an enlightened rationalist, saw Faust's pursuit of knowledge as noble, and arranged the hero's reconciliation with God. This was the approach adopted by the outstanding chronicler of the Faust legend, J. W. von Goethe. His *Faust* (Part I, 1808; Part II, 1832, after the poet's death) makes of the Faust myth a profoundly serious but highly ironic commentary on the diverse potentialities of Western man's cultural heritage.

The poem contains an array of epic, lyric, dramatic, operatic, and balletic elements, ranging through metres and styles to present an immensely varied commentary in terms of theology, mythology, philosophy, political economy, science, aesthetics, music, and literature. In the end Goethe saves Faust by bringing about his purification and redemption.

Hector Berlioz was moved to create a dramatic cantata, *The Damnation of Faust*, upon the French version of Goethe's dramatic poem by Gerard de Nerval. This work, first performed in 1846, is also staged as an opera. Charles Gounod based his opera *Faust* on Part I of the Goethe work, to a libretto by Jules Barbier and Michel Carré. It was first performed in Paris in 1859.

In the 19th and 20th centuries other writers sought to emulate Goethe in assaying Faust's salvation, but with none of his stunning success. And others retold the story without Goethe's happy ending. Among them were Adelbert von Chamisso, *Faust, Ein Versuch* (1804); Christian Grabbe, *Don Juan und Faust* (1829); Nikolaus Lenau, *Faust: Ein Gedicht* (1836); Woldemar Nürnbergger, *Josephus Faust* (1847); Heinrich Heine, *Doktor Faust: Ein Tanzpoem* (1851); and Paul Valéry, *Mon Faust* (1946). Lenau and Valéry, in particular, stressed the dangers of seeking

absolute knowledge, with its correlative of absolute power. For them the incorruptibility proclaimed by Goethe confronts an annihilating instinct common to mankind and to the original Faustbuch. They fear that the Faustian spirit of insatiable scientific inquiry has been given modern expression. Copyright (c) 1996 Encyclopaedia Britannica, Inc. All Rights Reserved

Adolf Bastian's Elementar- und Völkergedanken

Main literature: For introduction to Bastian's work: Fiedermutz (1990), Bastian (1881), Bastian (1866-71), Bastian (1903), Jahoda (1992: 104-110), Schwarz (1909).

For the present study, the relevance of Adolf Bastian stems from his expertise in the fields of biology and ethnology,¹⁵¹ and his approach as of assuming a point of perspective under which to treat cultural productions in an abstract manner and with a systematic singular paradigm with focus on their aspects of form, rather than their content. This paradigm was called by Adolf Bastian's the *Elementar- und Völkergedanken* (here abbreviated as E&V). Since Bastian never brought this work to a definite conclusion (Fiedermutz 1990: 121), a certain measure of interpretation is admissible concerning the open areas of his work. The basic reasoning is this: The idea substrate that is constant behind all the varied individual and ethnic productions must be some basic elementary structure, which Bastian called the *Elementargedanken*. By applying an (unspecified) kind of logical combinatorics (*logisches Rechnen*, which he had derived from Quetelet), Bastian hoped to arrive at a structure which would explain the formation of local ethnic productions (the *Völkergedanken*). Bastian attempted to sum this up in one of the last publications in his life (1903), but since he could never arrive at a systematic exposition, his life work remains a torso. The basic mechanism of reproduction and transmission of cultural material is called the CMS¹⁵² in the context of the present study. The simple observation of the fact that cultural material gets reproduced at all, and that it gets reproduced over a certain appreciable duration (the *synchronic and diachronic extension* of cultural patterns),¹⁵³ proves that there exist stable cultural configurations beyond any individual, idiosyncratic, ad hoc, productions, experiences, inventions, and intentions. After Bastian, there were many designs by diverse workers in different directions to establish systematic views of culture: Steward's Cultural Core (Raum 1990: 262), Leslie White's Concept of Cultural Systems (1975), and Mühlmann (1996), as well as the *memetics* view which will be mentioned in the next section.

Mühlmann (1996: 112): "Kultur ist eine Transmissionsdynamik. Merkmale werden innerhalb einer Generation und von einer Generation auf die nächste übertragen".

Mühlmann (1996: 111): Wenn es einer kulturähnlichen Organisation nicht gelingt, ihre Merkmale an die nächste Generation zu übertragen, kann aus ihr keine wirkliche Kultur entstehen.

Bastian (1866-71: Vol. 2, p. VIII):

Wir haben die Grundgedanken aufzusuchen, wie sie in allen Gedankenkreisen, unter allen Zonen und Ländern, in allen Zeiten mit zwingender Notwendigkeit aus der mikrokosmischen Anlage der Menschennatur hervorgewachsen sind, durch Besonderheiten der Umgebungsverhältnisse zwar an ihrer Oberfläche verschiedentlich gefärbt, aber dem zentralen Achsenkreuz nach unverändert dieselben.

Bastian (1881, 182): Was wir hier suchen, wir werden es finden, in objectiver Umschau über die Gesamtheit der Völkergedanken, in einer Erschöpfung der Denkmöglichkeiten, da damit das Denken an die irdisch erreichbaren Grenzen seiner Fähigkeiten gelangt ist, und, innerhalb des so gezogenen Horizontes, in der Harmonie des Kosmos auch die für seine Schöpfungen harmonischen Gesetze zu finden haben wird... Keines der Völker der Erde vermag uns etwas zu lehren, wohl aber können wir, wenn wir es wollen, von ihnen lernen, -- lernen die Entwicklung der Denkgesetze, aus deren Studium in vorangegangenen Philosophien wir in den bisherigen Wachstumsstadien unserer Civilisation bereits die kräftigste Nahrung gesogen.

Bastian's ideas stand in the tradition of Leibniz¹⁵⁴, Herder, A. and W. v. Humboldt¹⁵⁵, Wundt, and Schopenhauer (via Wundt). The main principle of Schopenhauer's *Vorstellung* is used by Bastian:

Bastian (1881: 12): Die Welt, soweit wir sie kennen, besteht nur aus unseren Vorstellungen, sagt Wundt, und wenn Schopenhauer mit dem Gehirn, worin die höchste Objectivation des Willens sich

zeigt, die Welt als Vorstellung geschaffen sein lässt, mit Raum, Zeit, Formen, Vielheit, Causalität, so hätten auch die (objectiven) Einkörperungen (subjectiver) Abstraction hinzutreten.

(p. 14): Indem der Mensch in dem aus eigenem Mikrokosmos reflectirten Horizont seiner Vorstellungen lebt, ergeben sich die an demselben umherbewegten Gestaltungen als die in der Umgebungswelt projecirten Schöpfungen innerer Denkhätigkeiten...

(p. 15): "Das Vorstellen stellen wir gar nicht wieder vor, sondern indem wir vorstellen, ist ohne Weiteres dadurch dem Vorstellen gewiss, dass es vorstellt"...

Bastian emphasizes the collective psyche of humanity or any ethnic group. The individual psyche is secondary to the collective.

Schwarz (1909: 33): Bastian wiederholt häufig das Lichtenbergische Wort: "Es" denkt den Menschen... Die Sozialpsyche ist bei Bastian autonom, die Individualseelen sind ihr untergeordnet... das Individuum steht zur Sozialpsyche wie die Einzelzelle zum Organismus.

The E&V are by no means limited to mental thoughts and ideas alone, but they encompass the whole of cultural productions (Schwarz 1909: 34). Bastian's natural scientific approach is outlined in (1881: XVI). Here he mentions Quetelet as forerunner, and sketches a mathematical-combinatoric method. (Also Fiedermutz 1990: 131-132).

Bastian (1881: XVI): Die allgemein vergleichende Statistik (neben der Spezialstatistik) trägt vielleicht noch die Elemente oder die Keime von neuen besonderen Disciplinen in sich, deren Begriff bis jetzt mehr geahnt als klar erkannt worden, wenn man gesprochen hat von einer exacten Gesellschaftswissenschaft oder einer Mechanik der Gesellschaft oder einer Physique sociale, die Quetelet anstrebt, oder was man auch wohl bezeichnet hat, als Naturlehre des Staats oder der Gesellschaft oder als "Gesellschafts-Psychologie".

Morphology, Structures, the Cultural Pattern

Morphology

The following section contains material on the systematics of *Cultural Pattern*, the *Morphology*. The salient aspect of *pattern* is that of *form* over *content* or *substance* or *matter*. We are deriving this usage from Goethe's concept of morphology as described in Riedl (1987a), Ruth Benedict's "patterns of culture" (1934: 49-56), and Bateson's (1972) and (1979) work on pattern. The cognitive model of of pattern is that of *relation* and *interconnectedness* as described in the section on *paticca samuppada*.¹⁵⁶ It has been characterized by Bateson (1979: 17, 18) as "*a pattern that connects*", referring to Goethe.

Bateson (1979: 18): We could have been told something about the pattern which connects: that all communication necessitates context, that without context, there is no meaning, and that contexts confer meaning because there is classification of contexts...

So we come back to the patterns of connection and the more abstract, more general (and most empty) proposition that, indeed, there is a pattern of patterns of connection.

Tyler Volk (1995: vii) has derived from Bateson's "pattern of patterns of connection" the term *metapattern*. Now "a pattern that connects" is strictly speaking, a tautology, because there is nothing else to a pattern than its connectivity in the neuronal action of the cognitive system of the observer.

Stafford Beer, in (Sieveking 1974, preface): What after all *is* order, or something systematic? I suppose it is a pattern, and a pattern has no objective existence anyway. A pattern is a pattern because someone declares a concatenation of items to be meaningful or cohesive. The onus for detecting systems, and for deciding how to describe them, is very much on ourselves. I do not think we can adequately regard a system as a fact of nature, truths about which can be gradually revealed by patient analytical research. A viable system is something we detect and understand when it is mapped into our brains, and I suppose the inevitable result is that our brains themselves actually impose a structure on reality.

It is true that a pattern as *Gestalt* has no separate reality in the physical world apart from a set of stimuli. That is cogently shown by the Boring flip Gestalt picture¹⁵⁷ where exactly the same set of physical visual stimuli is perceived in two very different ways. Thus the Gestalt must be a production of the cognitive system. But if these Gestalten have no *reality* in the physical world, they have so much more of a *presence* in the world of *relations*, the SEMsphere.¹⁵⁸ They certainly have an *effect*. Bateson makes a definition of *context* (1979: 15) "*as a pattern through time*". This will be taken as essential platform for the present systematics of the cultural pattern. Patterns *persist* in *time*, and in *communication*, and we wouldn't be able to communicate about patterns (or about anything) if we were not constantly and self-speakingly apply our ability to perceive and understand the patterns of our voiced and written communications (ie. react to them in an intersubjectively coherent manner). The best known cultural pattern by which context arises, is called *language*, but it is not the only one, and it probably is not the most fundamental one. The SEMsphere is the present term for the most encompassing, the all-embracing, pattern of patterns that generates context. So, the world of intersubjective communication, the SEMsphere, is created by the structural coupling of cognitive systems, and ensures that everything we tell each other is not just a chaotic mumbo-jumbo, but it is meaningful.

Morphology derives from the Greek word *morphe*: form, gesture, position, pattern. (Rost 1862: 98). In philosophy, the concept found application in the Aristotelic *hylemorphism*, and in scholastic usage by Thomas Aquinas as *materia and forma* (Hoffmeister 1955: 310-311). There exists also a mythological connection to the Greek god of dreams, *Morpheus*. Mental images of waking life and dreams were considered by the ancient Greeks as productions coming from the same source. Hamilton (1942: 107).

(Encarta: Morpheus): Morpheus, in Greek mythology, god of dreams, the son of Somnus, god of sleep. Morpheus formed the dreams that came to those asleep. He also represented human beings in dreams.

The term *morphology* is used in slightly different meanings by different schools of thought. In linguistics, *morphology* is the study of *morphemes* -- the minimum meaning-bearing constituents of words.

(Encarta: Linguistics): *Morphology* is concerned with the units, called morphemes, that carry meaning in a language. These may be word roots (as the English cran-, in cranberry) or individual words (in English, bird, ask, charm); word endings (as the English -s for plural: birds, -ed for past tense: asked, -ing for present participle: charming); prefixes and suffixes (e.g., English pre- , as in preadmission, or -ness, in openness); and even internal alterations indicating such grammatical categories as tense (English sing-sang), number (English mouse-mice), or case.

Goethe's morphology

In the present context, *morphology* is used in a meaning derived from Goethe, Bateson, and Benedict, which we might call the *Gestalt tradition of morphology*. Its earlier traces go back to Herder and Vico. (Straube 1990: 168), (Herder 1975: XVI-XVII), Berg (1990: 61). Severi's (1993: 309, 311-315) description of Goethe's idea of *morphology* shows the similarity with the *paticca samuppada* principle of Macy, and later on p. 315, he describes how Bateson took up Goethe's idea. Further, on p. 318, he shows how Goethe's work "Farbenlehre" pioneered the application of the Gestalt principle to higher cognitive forms of perception.

Severi (1993: 314): Doch für Goethe ist jeder lebendige Organismus eine Ganzheit, die nicht auf die Summe ihrer Elemente reduziert werden kann... Diese spezifischen Formen, die das Reich des Lebendigen charakterisieren, ändern ihre Gestalten und folgen dabei einer von den Gesetzen der Physik unabhängigen Logik. Diese Logik kann nur von einer systematischen Morphologie enthüllt werden..

Nach Goethe... muß man die Idee, daß jede Ursache ihre bestimmte Wirkung hat, durch die Idee eines wechselseitigen Bedingtheitsverhältnisses mehrerer eine Ganzheit bildender Elemente ersetzen.

(315): Man muß vielmehr die Natur der Beziehungen analysieren, aufgrund derer die Elemente eine Ganzheit bilden.

(318-319): Die "Farbenlehre" ist im Grunde einer der ersten Versuche, die Beeinflussung der Wahrnehmung durch die Tätigkeit des menschlichen Geistes zu studieren... [dann] bedeutet dies für Goethe, daß der menschliche Geist auf spontane Weise eine Form der Organisation der Materie zum Ausdruck bringt. Wir können also etwa, wenn wir die Wahrnehmung einer Landschaft studieren... in dieser das Funktionieren des menschlichen Geistes wiederfinden, wenn wir dabei nur die kausale Betrachtungsweise ausschließen.

Goethe: Morphologie, cit. in Riedl (1987a: 21): Die Erfahrung muß uns vorerst die Theile lehren... und worin die Theile verschieden sind. Die Idee (die Vorstellung) muß über dem Ganzen walten und auf eine genetische (zusammenhängende Weise) das allgemeine Bild abziehen.

Riedl (1995: 114): Goethe... tried to understand the principle underlying his ability to discern pattern.

Riedl (1996c: 105): *Morphology*: since Goethe (1795), the methodology of comparing Gestalt and to generalize the Typus; the cognitive basis for comparative anatomy, taxonomy and phylogeny.

Riedl (1995a): This year, 200 years have passed since GOETHE focused his attention on the path of discovery the mental/cognitive process which allows us to grasp synthetic concepts in morphology, comparative anatomy and taxonomy, to justify them and to estimate their probability. Since this cognitive and epistemological path has become an indispensable foundation for modern science, we hereby honour the anniversary with a translation and commentary of this treatise. Key words: GOETHE, morphology, typus, comparative anatomy, homology, epistemology.¹⁵⁹

Goethe's approach was elaborated in the art theory of Wölfflin, and the *Gestalt* psychology movement, whose founders were Ehrenfels, Wertheimer, Koehler, and Koffka. Severi (1993: 319), Rock (1991: 68), Luchins (1975: 21-44), Koehler (1969), Ertel (1975). These early Gestalt pioneers didn't have the recent neurological knowledge available to their research, but their methods were influential to the later biological and neurological research (Pribram 1975: 161-184), and on later models of neuronal networks (Rock 1991: 75). In the biological sciences, the Gestalt morphology found a main proponent in the work of Riedl who continues the Konrad Lorenz school and its specific branch of evolutionary epistemology (EE). (Riedl 1976-1996c), specific in: Riedl (1987a: 20, 21, 126, 128) and (1995). In the present usage, *Gestalt* will mean the

phenomenal side of a pattern perception process. When a neuronal system interprets a pattern of external stimuli, the recognition configuration that it reaches, will be a *Gestalt*. And it needs to be noted, this *Gestalt* is also a pattern of neuronal excitation in the neuronal system.

Structures

Laughlin (1974: 5): As generally formulated, structures are viewed as naive systems. That is, structures are comprised of elements of some sort and the rules of their combination. Structures thus form configurations, the meaning or total impact of which cannot be understood apart from the set of relationships between elements. This is really a restatement of philosophical holism present in Bergson (1907), Whitehead (1929)¹⁶⁰, and later perfected in the general system theory of Bertalanffy (1956-1971, cg. 1968). In this immediate sense the structuralist-functionalist controversy that was waged in anthropology during the first half of this century was also a very lively topic in ancient Greece - Plato's *Timaeus* certainly may be considered a structuralist document.

The view of structures as formulated by Laughlin serves to illustrate the role of Bertalanffy's (1956-1971) and Whitehead's work in the context of General Systems Theory.

Severi (1993: 312): Struktur ist ein aus interdependenten Faktoren gebildetes Ganzes. Jeder dieser Faktoren hängt von den anderen ab und kann, was er ist, nur durch seine Beziehung mit ihnen sein.

As Severi (1993: 311-315) further points out, the morphological work of Goethe had been influential on the concept of structure as used by Trubezkoi and Jakobson, as well as on the works of Levi-Strauss, Wittgenstein, G. Bateson (1968, 1972, 1979), Piaget, and Frobenius.¹⁶¹ The usage of the structural principle in the present context seeks a generalization beyond the concept of language to non-verbal cultural transmissions. The Semiosphere¹⁶² encompasses, but extends beyond, the range of verbal language. The structural principle is based on the factor of interrelation that is described in Whitehead's relation principle of society.

The Kulturmorphologie movement

In the field of cultural studies, Goethe's approach was taken up by Frobenius. Severi (1993: 312), (Haberland 1973: 15-20), and Spengler (1980), whose work "Untergang des Abendlandes" is mostly known for the controversy it generated. (Encarta: Spengler), Straube (1990: 168).

Frobenius (cited in Haberland 1973: 15): Cultural morphology, which endeavours to discover the meaning and the phenomena of culture as such. The data of the three other related disciplines [History, Prehistory, Ethnography] provide its raw material and its aim is to discover the correlations of the building up of human culture as a unity, according to meaning, geographical distribution and chronological order.

Even though the present academic consensus largely rejects the earlier interpretations of the cultural morphology workers as too much tied to their {biologistic / mentalistic / idealistic / romantic / Deuschtümelei}¹⁶³ ideas that are not valid any more in the light of present CA knowledge, in the present study the *method of the morphological approach* is still assumed useful.

(Straube 1990: 168, 169): Sieht man in einer Kultur nicht nur ein Aggregat von Einzelementen, sondern einen Organismus [wenn auch nicht notwendigerweise im strengen biologischen Sinne (A.G.)], dessen Teile in einem sinnvollen Funktionszusammenhang stehen und sich gegenseitig bedingen, so wird sich die Bedeutung einer einzelnen Kulturgestaltung nur bei Erfassung des gesamtulturellen Zusammenhanges erschließen... Er bezeichnete dieses wissenschaftliche Bemühen, also die ganzheitliche Betrachtungsweise, die heute eine Selbstverständlichkeit ist, als Kulturmorphologie.

Ruth Benedict recurs in her "Patterns of culture" to the Gestalt psychology movement and Spengler's work (1934: 49-56). In her discussion of Spengler, she makes clear the difference between the principles of his morphological method and his untenable and premature conclusions that derived from a falsely applied biological metaphor of culture

(p. 53): ...but Spengler's far more valuable and original analysis is that of contrasting configurations in Western civilization.

(p. 55): ... the facts of simpler cultures may make clear social facts that are otherwise baffling and not open to demonstration. This is nowhere more true than in the matter of the fundamental and distinctive cultural configurations that pattern existence and condition the thoughts and emotions of the individuals who participate in those cultures. The whole problem of the formation of the individual's habit-patterns under the influence of traditional custom can best be understood at the present time through the study of simpler peoples.

Connections of Harold Innis and cultural morphology

Harold Innis (1952-1991) was a pioneer of cultural media studies whose work is relevant for the present study.¹⁶⁴ There are several connections between his work style and that of cultural morphology:

Innis (1972: v, Foreword): If Hegel projected a historical pattern of *figures* minus an existential *ground*, Harold Innis, in the spirit of the new age of information, sought for patterns in the very ground of history and existence. He saw media, old and new, not as mere vertices at which to direct his point of view, but as living vortices of power creating hidden environments that act abrasively and destructively on older forms of culture.

Innis (1972: vii, Foreword): Innis is unique in having been the first to apply the possibilities of pattern recognition to a wired planet burdened by information overload. Instead of despairing over the proliferation of innumerable specialisms in twentieth-century studies, he simply encompassed them. Whether by reading or by dialogue with his colleagues, he mastered all the structural innovations of thought and action as well as the knowledge of his time.

Innis (1972: ix, Foreword): That is why Innis carefully watches the changing material conditions of cultures since a reversal of figure-ground relations will put an individualist culture overnight into an extreme bureaucratic or hieratic posture.

Innis (1992: x, Introduction): This is macro-history on a broad canvas. It freely acknowledges the influence of Oswald Spengler, Arnold Toynbee, and Alfred Kroeber, scholars concerned with understanding the fate of civilizations¹⁶⁵.

Cultural Patterns: observation, stability, transmission, synchrony and diachrony

Benedict (1934: 223): The three cultures of Zuñi, of Dobu, and of the Kwakiutl are not merely heterogenous assortments of acts and beliefs... They differ from one another... because they are oriented as wholes in different directions... and these ends and these means of one society cannot be judged in terms of those of another society, because essentially they are incommensurable.

(231-232): It is obvious that the sum of all individuals in Zuñi make up a culture beyond and above what those individuals have willed and created. The group is fed by tradition; it is 'time-binding'. It is quite justifiable to call it an organic whole. It is a necessary consequence of the animism embedded in our language that we speak of such a group as choosing its ends and having specific purposes... These group phenomena must be studied if we are to understand the history of human behaviour, and individual psychology cannot of itself account for the facts with which we are confronted... only history in its widest sense [observation / documentation of cultural patterns in their diachronic extension, A.G.] can give an account... history is by no means a set of facts that can be discovered by introspection.

With the morphological approach and Ruth Benedict's (1934) concept of "Patterns of culture", the theoretical basis of the cultural memory system will be further elaborated. Patterns are most generally, *Gestalten* that are perceived in the neuronal system of an observer. To be of cultural relevance, there must be an intersubjective stability of patterns on the side of the observer as well as on the observed. That is, if a pattern is just a subjective hallucination, then it has no intersubjective relevance. Also, the sensory inputs impinging on a neuronal system must not be just a random noise. The intersubjective stability of cultural patterns is insured by the structural coupling of organisms in social systems. This factor, their *stability*, is what makes the study of cultural patterns possible at all, and justifies their systematic treatment. Stability shows as *diachronic* and

synchronic extension. If there were no such stability or extension, then again, no observation would be possible. A quotation of Delius supplies those essential traits of observable cultural patterns.

Delius (1989: 26): Culture will be taken to mean ... the ensemble of behavioural traits that characterize specific human groups in the sense that members of such a group at a given period of time tend to hunt with this or that technique, sow seeds in this or that way, adore this or that god, speak this or that dialect, wear this or that dress, greet in this or that manner, build this or that kind of housing, cultivate this or that kind of music, respect this or that institution and so forth. Furthermore, it will be understood that the behavioural traits that constitute a culture are passed on among the members of the population by individuals taking them over from other individuals. The transmission of cultural items occurs through learning by observation of others, by imitation, through instruction, through tradition. The transmission may be direct or may involve intermediaries such as letters, newspapers, advertisements, books, records, videotapes, radio, television. Behavioural traits that are transmitted from parents to children by biological inheritance, such as the coordination patterns of suckling, crying, smiling, sleeping and the organic bounds of perceptual, cognitive and motor capacities of individuals, are thus not part of culture... Thus culture does not include traits that are innate or that are learned individually but only those that are learned from others, directly or through media.

Culture is not inherited through genes, but the genetic endowment of the human sets the constraints to what can be acquired by learning from other human beings and what can be re- or creatively new-produced. Wilson (1978: 21):

In a sense, human genes have surrendered their primacy in human evolution to an entirely new nonbiological or superorganic agent, culture. However, it should not be forgotten that this agent is entirely dependent on the human genotype.

Mühlmann (1996: 112)¹⁶⁶: Kultur ist eine Transmissionsdynamik. Merkmale werden innerhalb einer Generation und von einer Generation auf die nächste übertragen.

Clarke (1978, 84): ...every attribute on an artefact is equivalent to a fossilized action, every artefact is a solidified sequence of actions or activities, and whole assemblages of artefacts are tantamount to whole patterns of behaviour... then we can understand artefacts as simply 'solid' behavior...

To be observable, and to class as cultural patterns, and not as individual idiosyncrasies, there must be a measure of constancy of *reproduction* of behavior instances. The factors in cultural pattern reproduction involve

- 1) the facilities of the human agent, especially *memory*, and possibly
- 2) external *storage*, and
- 3) *transmission*.

ad 1) Cultural pattern reproduction is done by the human agent. The prime factor for reproduction is in the structures of the *human memory*, and, to allow action on the environment, to make memory content intersubjectively experienceable, the human body as expressive device. This is also called the *somatic* aspect of cultural pattern reproduction.

ad 2) A secondary storage factor is to be found in (some of) the material and biological elements of the cultural environment. This may be called the *extrasomatic*, artefacts, or technological aspect of cultural pattern reproduction. This is elaborated further elsewhere.

ad 3) *Transmission* of cultural patterns is effected by direct human communication and (trans-) action, and indirectly, through media and artefacts.

The life patterns, and life habits, the behaviors, creeds, and the forms of the artefacts of peoples of specific human cultures on the planet Earth preserve a certain degree of constancy even while the generations come and go. In some cases, cultural patterns change very profoundly and very rapidly during the lifetime of one generation, such as fads and fashions, or mass conversions. (Bee 1974: 12, 186). A primary cause for rapid

cultural change is a disruption resulting from confrontation with external cultural influences, like invasion or colonization by people from another culture. (For example the colonization of the Americas which changed the cultural patterns of the Amerind people profoundly, or the post- world-war-II cultural turnabout in Germany and Japan.). Leclerc (1973), Said (1979, 1994). Cultural change is the inverse of cultural pattern stability. Bee (1974: 9-11) gives a discussion of the problematics by which factors and criteria to discern cultural change, factors that are as much observational as they are attributable to some "objective" data of a society observed.

The most remarkable and most problematic factor for observation of the diachronic extension of cultural patterns is that many of them extend beyond the life span of individuals. How are long-lasting, slowly changing, cultural patterns observed at all? The diachronic extension of cultural patterns can be indefinitely large, spanning many millennia, as in the case of languages and religions. To objectively observe and study their diachronic extension, one would need to be in the position of an (quasi-) immortal "Extraterrestrial Observer",¹⁶⁷ since within the lifetime of one human being, only partial views of the long-time cultural pattern process are available. Therefore the recognition and classification of such patterns depends on the cultural memory itself, but cultural memory consists of transmission of cultural patterns, and so the whole task of the study of cultural pattern is self-referential.

The Collective Cultural Memory and the Cultural Pattern Replicator

In addition to the biological construction and the facilities of the body, the expressive and impressive facilities of the human being are provided by the framework of cultural pattern templates available in a specific culture. Cultural patterns are those standardized forms of behaviors and artefacts that serve as the *cultural memory framework* for the individual humans, as contradistinct from the *contents* of human memories, which are {dependent on / expressions of} individual experiences and dispositions.

Eco in (Lotman 1990: xi): ... led Lotman to ... see that culture as a set of texts and a *non-hereditary collective memory*.

Dudley (1991: 80), Society has value to the individual primarily as a means of obtaining, storing, and transmitting information.

It is possible to view the unfolding cultural process from the different positions centered at the end of the individual, or at the society. This gives rise to a possible antagonism between the aspects of determination (of the individual) by the existant biological and cultural structures, versus aspects of individual freedom and creativity. Ruth Benedict declares this is as virtual:

Benedict (1934: 251-252): There is no proper antagonism between the role of society and that of the individual. One of the most misleading misconceptions due to this nineteenth-century dualism was the idea that what was subtracted from society was added to the individual and what was subtracted from the individual was added to society... The quarrel in anthropological theory between the importance of the culture pattern and of the individual is only a small ripple from this fundamental conception of the nature of society.

In reality, society and the individual are not antagonists. His culture provides the raw material of which the individual makes his life... Every private interest of every man and woman is served by the environment of the traditional stores of his civilization...

The man in the street still thinks in terms of a necessary antagonism between society and the individual. In large measure this is because in our civilization the regulative activities of society are singled out, and we tend to identify society with the restrictions the law imposes on us... Society is only incidentally and in certain situations regulative, and law is not equivalent to the social order. In the simpler homogenous cultures collective habit or custom may quite supersede the necessity for any development of formal legal authority.

Since all human activities take place within the context of the social system, so is also the study of cultural patterns itself an application case of structural coupling in social systems. Cultural patterns are replicated from the memory of the people, and conversely, the collective repertoire of all their cultural achievements, their cultural facilities, their techniques and crafts, *are the collective cultural memory*, on which each new generation builds their world anew. We can thus view the two aspects of:

1) cultural pattern and

2) cultural memory

as complementary images, or aspects of the same phenomenon, like the two possible aspects of the Boring women Gestalt picture shown above.¹⁶⁸ Thus the *Cultural Memory System CMS* can be also viewed as a *Cultural Pattern Replication System* that is based on the structural coupling of self-organizing biological organisms (the humans), which forms itself a self-replicating, auto-poietic, quasi-living, self-organizing system.

The morphological principle of pattern perception, maintenance, stability, and replication, applies to the neuronal networks active in the brains of observers as much as in the connection networks between individuals of an abstract society. The pattern laws are equivalent for neuronal as well as cultural networks, since the agents of culture are (neuronal networks active in the brains of) humans, and all events and data of the cultural world must in some way be reflected in the human brain and acted / re-acted upon through structural coupling of many brains. By this we are able to apply the morphological principles of pattern laws to any networks whatsoever, to treat any (non-human) "social" phenomena as abstract pattern propagation processes, for example networks of physical nature, as already Whitehead and Vernadsky have presented. The structural laws of such pattern processes are the laws of the SEMsphere.

The Entity-Relation-Transaction triad

The following will be an elaboration of the systematics of metapatterns. For this we will recur to the principle of *paticca samuppada*. We will supply a general logical structure of cognitive dynamics models that generalizes the *paticca samuppada* principle and sets it in a logical relation to the other known philosophical a priori principles of fundamental perceptual orientation. The following is based on Goppold (1998). In a prior section above, Whitehead's view of the world as system of 'societies' was described.¹⁶⁹ It had been stated that his notion of 'society' is not that of a human society. This is now generalized and brought to an abstract formulation:

Goppold (1998: 1): *Society* is defined in this context as a generic term for a "*relation and transaction system between agents*". An *agent* is an acting entity as described in Salthe (1993, p. 159). A *transaction* is defined as a *process* between agents involving a energy/matter exchange. Transactions can only occur along the path of a physical *relation*. This definition makes society functionally equivalent to a thermodynamically open system of dissipative flow, regardless of whether the constituent members are human, organic, or purely physical, like for example a turbulent flow in a hurricane. "Biological systems are only more complicated because of their relative stability, achieved through genetic information - we are especially stable dissipative structures" (Salthe, 1992). J. Barham (1996, p. 238) notes another vital difference: "One of the chief properties distinguishing biological systems from inorganic ones is their limited autonomy from local energy potentials... by actively seeking out more favorable conditions."

Goppold (1998: 2): One of the fundamental analytical aspects concerns the archetypal notion of *state* and of separated (external) dynamical laws, so entrenched in natural science; it appears particularly at odds with "the fluid nature of life" (Marijuán (1997) and Introduction to this Issue). Whitehead in his philosophy of process was the main contemporary philosophical proponent of the issue. Whitehead (1957, p. 27): "...the actual world is a process, and ... the process is the becoming of actual entities."

Goppold (1998: 2): Interestingly, a sideways glance to another region of the planet shows us that at the same time, when the Greeks laid down the ontology of the western world, an ontology of process and relation sprung into existence with the "*pratitya samutpada*" (*paticca-samuppada* in Pali) as it was laid down in the teachings of the Buddha.

Goppold (1998: 2): Peirce has described the ontological categories of Firstness, Secondness, and Thirdness as "a table of conceptions drawn from the logical analysis of thought and regarded as applicable to being". (Peirce, 1958, CP 1.301-1.353). An essential characteristic of category is its non-conversibility (with other categories), or as it will be called further down, its mono-contextuality. The examples of *entity*, *process*, and *relation*, give a primary triadic categorization of being (i.e. a many-valued ontology)... As the discussions between the Parmenides and Heraklit schools show, anything in the world can be perceived either as state (entity) or in flow (process), and it was noted in the beginning (and by the Buddhist philosophy), that the world can also be

perceived as a system of relations, thus showing that non-entity oriented systems of ontology are entirely feasible, and whole civilizations have been built on these foundations. The design of the *holon* as given by Ian Smuts and Arthur Koestler corresponds closely to the positioning of *entity* as ontological category.

The morphology of metapatterns: the triad of Entity-Relation-Transaction

The above statements can now be condensed and lead to a **three-fold** Gestalt flip of cognitive dynamics. This is here called *the morphology of metapatterns, the ERT: {entity / substance}, relation, {transaction / transition / process}*. The *morphology of metapatterns* is the logical ordering by which *patterns of patterns* arise. The cognitive dynamics can take three forms of *metapatterns*:

1) by *Parmenides* and *Zeno*, we can entertain a fundamental cognitive model based on {static entities / unchanging substances / persistent objects / eternal, immutable ideas}.

2) by *Heraklit*, we can entertain a fundamental cognitive model based on {*process / transaction / transition*}

3) by *the Buddha*, we can entertain a fundamental cognitive model based on {*paticca samuppada / inter-relation / inter-causality*}.

On reflection of these metapatterns, a Gestalt flip of the cognitive dynamics can occur, called *metanoia*. The ability to perform a *metanoia*, leads to the formation of the next level of metapatterns, ie. reflexions upon reflexion. A still further level is to reflect on the form of the changes of reflexions.

Cyrill von Korvin-Krasinski, a researcher who sought to overcome the dualism of the western mentality, saw the potential of the Christian idea of the Holy Trinity which was never used by its philosophy. He wrote in "Trina Mundi Machina" (Korvin-Krasinski 1986):

Korvin-Krasinski (1986: 51) Ein Vertreter der indisch-tibetischen Lebensanschauung sagte mir einmal: "Ihr Christen habt in Eurer Religion einen geoffenbarten Gott, die Hl. Dreifaltigkeit; und in Eurer Philosophie betreibt ihr nur die dualistische Spekulation des Aristoteles. Eure Philosophie ist kein Abglanz der Trinität! Wir Asiaten dagegen kennen oft keinen persönlichen Gott, noch weniger kennen wir die Göttliche Trinität der Christen, aber unser Welt- und Menschenbild, unsere ganze Spekulation ist triadisch aufgebaut. So eignet sich unsere asiatische triadische Spekulation anscheinend viel besser für die Auslegung Eurer trinitären Religion, als Eure eigene dualistische Philosophie!"

Cultural patterns as immortality complexes

Dennett (1990) points out one essential property of cultural patterns (which he calls memes)¹⁷⁰: they are potentially immortal.

Dennett (1990): Memes, like genes, are potentially immortal, but, like genes, they depend on the existence of a continuous chain of physical vehicles, persisting in the face of the Second Law of Thermodynamics. [material carriers]... tend to dissolve in time. As with genes, immortality is more a matter of replication than of the longevity of individual vehicles... Brute physical replication of vehicles is not enough to ensure meme longevity... for the time being, memes still depend at least indirectly on one or more of their vehicles... a human mind.

(Wright 1994: 157): The only potentially immortal inorganic entity is a gene (or, strictly speaking, the pattern of information encoded in the gene, since the physical gene itself will pass away after conveying the pattern through replication).

In the present study, cultural patterns are said to form *immortality complexes*. Cultural patterns share this property with the genetic patterns of the DNA molecules, which Dawkins (1976) had therefore awarded the attribute "The Selfish Gene". Whether such a character trait can at all be attributed to some otherwise quite harmless strings of nucleotic acid, is a discussion for which this is not the place. The observation is indeed, that the patterns of life forms have enjoyed a fairly good constancy as long as our cultural memory will attest to (the rhinoceroses, antelopes, bison and horses in Altamira and other caves look pretty much the same as

they do now) (Anati 1991), and what comparisons of fossil bones with those of presently living species can tell us.

Within the cultural memory of humanity, we can also conclude, that certain cultural patterns have endured for a very long time indeed: The Australian Aboriginal rituals, which are, to the claim of the Aboriginals themselves, tens of thousands of years old (Strehlow 1947-1971), and the rites of the major religions of the world that are one to several thousand years old, the Vedic and Parsee: Staal (1982), (1986), (1989), the Jewish: Assmann (1992: 196-255), and the Christian (Encarta: Christianity), and Islam (Encarta: Islam, Muhammad). And, as we see from the example of ritual, these patterns depend in their transmission from the past into the future on the humans to perform (enlive) them. A central aspect of *cultural memory* could be characterized as: *CM is that of the personal memories which doesn't die with the person who is dying.*¹⁷¹ Since cultural patterns are also the cultural memory, we thus come to the *pact or bargain* (pistis) that is being struck between the mortal humans as living agents in the transmission of the (potentially) immortal patterns: the humans can gain a piece of that immortality for themselves. In this way, we can re-interpret the significance of those very old and venerable rituals that the most long-lived traditions of humanity have upheld during all those millennia. To be a transmitter of cultural patterns is a virtual equivalent of an "Alternative to the immortality of the Soul".

The Aoide-Hypothesis:

Information technologies of advanced oral tradition

Neurology, epics, trance, and neuronal patterns in the brain hemispheres

An important aspect of the methods and arts (CMA) that the Cultural Memory Bearers (CMBs) of the oral traditions used, is the issue of *epic trance*. In present neurological research, this is formulated as a question of self-stabilizing neuronal homeostatic patterns that are evoked by reciting and listening to metered poetry. It has been treated in a paper by Turner and Pöppel.¹⁷² In their paper, Turner and Pöppel make a strong case for the effects of metered poetry on the development of a wholesome, whole-brained usage of the mind. Metered poetry has the capability of inducing the brain to a mode of functioning that, according to their hypothesis, is actually of a higher quality than the free-form prosaic mode of thinking that has become the norm in script based civilization. We thus have an indication that the epic poetry induces mental states and modes of functioning that are today loosely called "trance". This is often associated with the more prophetic aspects of *oidoi*. In the Indian Vedic tradition, we find the *rishis*, whose task was predominantly that of seers and prophets. It also gives us an opportunity to reconsider the tradeoffs humanity has bought into by adopting writing, occasion for a reconsideration of the inherent drawbacks of this powerful civilizational instrument. Platon also issues a stern warning about the use of script in Phaidros (274c - 276e¹⁷³).

Pöppel and Turner write:

(p.75): Human society itself can be profoundly changed by the development of new ways of using the brain. Illustrative are the enormous socio-cultural consequences of the invention of the written word. In a sense, reading is a sort of new synthetic instinct, input that is reflexively transformed into a program, crystallized into neural hardware, and incorporated as cultural loop into the human nervous circuit. This "new instinct" in turn profoundly changes the environment within which young human brains are programmed... our technology [functions] as a sort of supplementary nervous system.

(p.76-77): **The fundamental unit of metered poetry is what we shall call the line...** it is recognizable metrically and nearly always takes from two to four seconds to recite... The line is nearly always a rhythmic, semantic, and syntactical unit as well - a sentence, a colon, a clause, a phrase, or a completed group of these. Thus, other linguistic rhythms are accommodated to the basic acoustical rhythm, producing that pleasing sensation of appropriateness and inevitability, which is part of the delight of verse and aid to the memory.

The second universal characteristic of human verse meter is that certain marked elements of the line or group of lines remain constant throughout the poem and thus indicate the repetition of a pattern. The 3-second cycle is not marked merely by a pause, but by distinct resemblances between the material in each cycle. Repetition is added to frequency to emphasize the rhythm. These constant elements may take many forms, the simplest of which is the number of syllables per line... Still other patterns are arranged around alliteration, consonance, assonance, and end

rhyme. Often, many of these devices are used together, some prescribed by the conventions of a particular poetic form and others left to the discretion and inspiration of the individual poet.

The third universal characteristic of metrical poetry is *variation*. Variation is a temporary suspension of the metrical pattern at work in a given poem, a surprising, unexpected, and refreshing twist to that pattern... Meter is important in that it conveys meaning, much as melody does in a song. Metrical patterns are elements of an analogical structure, which is comprehended by the right cerebral hemisphere, while poetry as language is presumably processed by the left temporal lobe. **If this hypothesis is correct, meter is partially a method of introducing right brain processes into the left brain activity of understanding language.** In other words, it is a way of connecting our much more culture-bound linguistic capacities with relatively more primitive spatial recognition pattern recognition faculties, which we share with the higher animals.

(p.81-82): Here it might be useful to turn our attention to the subjective reports of poets and readers of poetry as an aid to our hypothesizing. These reports may help to confirm conclusions at which we have tentatively arrived...

The imagery of the poem can become so intense that it is almost like a real sensory experience. Personal memories... are strongly evoked; there is often an emotional re-experience of close personal ties with family, friends, lovers, and the dead. There is an intense realization of the world and of human life, together with a strong sense of the reconciliation of opposites - joy and sorrow, life and death, good and evil, human and divine, reality and illusion, whole and part, comic and tragic, time and timelessness... There is a sense of power combined with effortlessness. The poet or reader rises above the word, so to speak, on the "viewless wings of poetry" and sees it all in its fullness and completeness, but without loss of the clarity of its details. There is an awareness of one's own physical nature, of one's birth and death, and of a curious transcendence of both, and, often, a strong feeling of universal and particular love and communal solidarity.

To reinforce their hypothesis the authors turn to new and speculative fields of scientific inquiry, which are variously termed "neurobiology", "biocybernetics", and "psychobiology". Quoting an Essay by Barbara Lex (1979), "The Neurobiology of Ritual Trance", they state:

(p.82): ... various techniques of the alteration of mental states... are designed to add to the linear, analytic, and verbal resources of the left brain the more intuitive and holistic understanding of the right brain; to tune the central nervous system and alleviate accumulated stress; and bring to the aid of social solidarity and cultural values the powerful somatic and emotional forces mediated by the sympathetic and parasympathetic nervous systems and the ergotropic and trophotropic resources they control.

(p.83): The linguistic capacities of the left hemisphere, which provide a temporal order for spatial information, are forced into an interaction with the rhythmic and musical capacities of the right hemisphere, which provides a spatial order for temporal information.

(p. 84-85): The traditional concern of verse with the deepest human values - truth, goodness, and beauty - is clearly associated with its involvement with the brain's own motivational system. Poetry seems to be a device the brain can use in reflexively calibrating itself, turning its "hardware" into "software", and vice versa... As a quintessentially cultural activity, poetry has been central to social learning and the synchronization of social activities. Poetry enforces cooperation between left brain temporal organization and right brain spatial organization and helps to bring about that integrated stereoscopic view that we call true understanding. Poetry is, par excellence, kalogenic - productive of beauty, of elegant, coherent, and predictively powerful models of the world.

We also find the forces that will work to suppress poetry:

(p.87): A bureaucratic social system, requiring specialists rather than generalists, might well find it in its interest to discourage reinforcement techniques like metered verse because such techniques put the whole brain to use and encourage world views that might transcend the limited values of the system.

They quote from Sidney:

(p.90): "It may well be that the rise of utilitarian education for the working and middle classes, together with a loss of traditional folk poetry, had a good deal to do with the success of political and economic tyranny in our times. The masses, starved of the beautiful and complex rhythms of poetry, were only too susceptible to the brutal and simplistic rhythms of the totalitarian slogan or advertising jingle. An education in verse will tend to produce citizens capable of using their full brains coherently - able to unite rational thought and calculation with values and commitment"

If we apply these views to the societal role of the CMBs of Epic Tradition, we get this surprising picture: The Aoidoi of the past Oral Age may have served a much more important function than the history writers had allotted to them. As hypothetically this could be summed up thusly: They were the guardians of the sacred chants and poems whose purpose was much more than entertaining, or keeping a mythological record of the past, a sort of proto-history. They were the masters of the forgotten arts of attuning the soul with the body, of projecting the past and the future, and healing the cracks and fissures of human society. When civilization arose and humans adopted writing, the use of poetry as cultural memory medium was quickly discarded and relegated to purely entertainment purposes. The important cathartic role played by theater, and especially tragedy, in ancient greek society is one of the last vestiges of this once vigorous tradition. Once the art of the Aoidoi was forgotten, humanity was on full course into the Iron Age, the Kali Yuga, the Age of "Blood, Sweat and Tears".

Participatory events: dancing and drumming

While the epic tradition rested on a fairly select group of people, all traditional cultures had many occasions for participatory events where the larger part of the population was involved: festivals, dancing and drumming. Tribal african culture has developed the art of dance and rhythm to a high level. A particular case are the polyrhythmic traditions of this globe. These are particularly effective in attuning the brain halves. In such communal rhythmic events, it was not only the single person or a small group who experienced the wholesome effect of rhythm but the total community. Even though contemporary civilizations still have preserved remainders of this cultural heritage, it has become confined to specialist performers, with a passive audience whose role is now to applaud, or to let the movements of their bodies be dictated by beat of the metronomic machinery that generates the sound.

Mary LeCron Foster: The reconstruction of the evolution of human spoken language

Mary LeCron Foster (1996): Abstract

Language is an analogical system for classification on multiple levels. Language systems build upon semantic analogies and analogies in phonological, morphological, and syntactic distributions (positional analogies). New meanings are created through the process of metaphorical extension. The direction of language change is determined in large part by this process and by analogical systematization _ hierarchical congruence of classes.

The regularities of sound-change reconstructed by the comparative method provide the most reliable diagnoses of remote linguistic relations; but these are limited to 'families', or, in a few cases, 'stocks' made up of interrelated families. Broader groupings, 'phyla' or 'super-stocks', are suggested on the basis of typological relations, rather than on firmly established sound-correspondences. The basis for going even further and attempting to reconstruct a single prototype for all the world's spoken languages is not agreed upon; but the reconstruction should reflect systematic correspondences in sound and meaning throughout, whether insights were initially gained from typological studies of phonology and/or from internal reconstructions. Hypotheses must show system. While individual meanings underlying reconstructed forms need not be identical, differences should be minimized. Once correspondences are firmly established, culturally influenced semantic variations are useful in assessing degrees of interrelationship among languages.

Pursuing the monogenetic reconstruction through this bare-bones phonemic approach, refined by a series of simplifications, leads to the startling hypothesis that the sounds of which the VC and CVC roots are composed were originally themselves meaning-bearers. These phememes, as they are termed, were minimal units of sound whose meaning derived from the shaping and movement of the articulatory tract. In other words, the phonemes of language, as well as the combinations into which they unite within the word were originally not arbitrary signs, but abstract, highly motivated analogical symbols.

In the earliest stage of primordial language, single phememes expressed notions of space and motion. Across the evolution of the genus Homo these were differentiated and new phememes created, hypothetically in stages, until the phememic inventory was completed during the Upper Palaeolithic. In the Neolithic period, it is hypothesized, syllabic

concatenation with morphophonemic merging increasingly obscured the analogical significance of phememes, which gradually became what we now know as phonemes. Nevertheless, in the roots of most modern languages a number of the primordial phememes are still recognizable [Eds].

The AOIDE model

The following sketch will present an epic language processing model called the AOIDE. This is the working name for a hypothetical information model of neuronal structures and mental functioning of the professional Cultural Memory Bearers of the ancient oral epic traditions world wide whose thinking modes were, according to the hypothesis, different from modern civilized western prosa thinking. The base of the hypothesis are data we have available on the greek *Aoidoi*, (like Homer), the african *Griots*, the norse *Skalden*, the welsh *Bards*, the Australian Aboriginal *Songline* tradition, and the indian *Rishis* and what can be inferred from these data. In the following the word *aoide* will be used for the generic class of all Cultural Memory Bearers of all epic traditions world wide.

AOIDE¹⁷⁴ is called the model of {cultural memory / information / language / epic / sonic / mythic / lucid trance / divination / prophesy} mental technology (mentation) derived from data on various oral traditions around this planet. The working hypothesis on which AOIDE is based, are the *Onoma-Semaiophonic Principles: The Nexus Sounds, Links, and Fields of oral epic song technology*.

The following text will try to elaborate this model. Apart from the author's original ideas, this is based on the oral memory technology researches of Hertha v. Dechend's "Hamlet's Mill" (1993), with her concept of the oral epic computation and data transmission technology, of the comparative trans-global epic studies of Theodor Strehlow (1971),¹⁷⁵ the detailed work on Aoide and the alphabet of Barry Powell (1991), the global musical cosmogony of Marius Schneider (1951-xxxx), and the *phememe* hypothesis of Mary LeCron Foster (1996). As will be made more explicit in the ensuing discussion, *aoide mentation*¹⁷⁶ has a connection with {entering / entertaining} {different / alternate} modes of mental functioning than the normal waking state. One popular name for such states is the blanket term "trance". It must remain for a later and larger project work to define that more closely, and using the results from applying the tools.

The Theory: Onoma-Semaiophonic Principles - Nexus Sounds, Links, and Fields

Let us design a construction principle for a structural edifice of sounds and meaning.

1) *onoma-semaiophonic*

The key term *onoma-semaiophonic*¹⁷⁷ is the working principle of the method applied. It assumes a hypothetical¹⁷⁸ interrelation and connectivity of semantic/phonetic elements of an archaic language like the *aoide* language is assumed to have been. The German term for *onoma-semaiophonic* is *Sinn-Klang*, in English *Sing-Lang*, and Aboriginal Australian: *Song-Line*. *It has to be stated that this is not an etymological concept*.

2) *nexus sounds as attractors*

Let us now call the sound meaning of the *stoichea* as used by Platon in his linguistic discussions in Phaidros, Kratylos, and Timaios the *nexus sounds*¹⁷⁹ of the *aoide language*.¹⁸⁰ The greek version is given only as paradigmatic example, and the principle holds equally for any language in which the *aoide* sings¹⁸¹. *The nexus is not a linguistic or etymological concept*. The *nexus* was used in a slightly different {meaning / intention} by Whitehead in "Process and Reality" (1969: 22-25)¹⁸² and the general principle is transferred to this context. If we want to use a physical metaphor, we can use the *attractor principle* of chaos theory, or maybe an electrostatic / electromagnetic / gravitational attraction force field. Behind this lies a neurological attractor model, but at present this cannot be worked out. (See the note on William Calvin, further down).

3) the *onoma-semaiophonic nexus* and the *morphogram*

This is conventionally called a *word*.¹⁸³ An *onoma-semaiophonic nexus* (or short: *nexus*) is the form (*morphae*) of several *con-nexted nexus sounds*. We have to differentiate between the sound form as it can be put into *grammata* (written signs), the *morphogram*, and its sounding form, the *phonae-morphae*, or *stoichaea*, or in German, *Klang-Form*.

4) the *onoma-semaiophonic link*

Let us assume a sound connection between different but similar *nexus*, i.e. that *nexus* bearing a similar sound will have a connecting similar (and also antagonistic) meaning field, forming an *onoma-semaiophonic link*.

5) *Semaiophonic fields*

are called networks of *nexus* that are connected by *semaiophonic* links.

6) *Semaiophonic structures, notation*

It is almost impossible to describe *semaiophonic structures* in linear alphabetic textual manner. We can use the hypertext metaphor of links extending to the related sounds. We assume that there is a kind of sonic hyper link between similarly sounding words. This gives many-dimensional structures, quite unlike the linear textual sequence.

7) *Semaiophonic core structure, the Klang-Sinn*

The most important question is how sound and meaning (*Klang* and *Sinn*) are connected.¹⁸⁴ This is a difficult theme that can only be sketched in one paragraph for the present context: The neural representation of the machinery to {produce / recognize} a nexus sound with the human voice apparatus needs some neurological structure that are tentatively (and hypothetically) identified by Calvin with certain hexagonal structures on the cortex. Although producing and recognizing structures need (and can) not be identical, there must be a correspondence between them. Then, the structures necessary for vowel formation must by needs be different from those for consonants, since they involve a totally different muscular activity. And since there is no homunculus somewhere in deeper recesses of the brain to attribute meaning to these sound structures, the meaning we (in our consciousness) attribute to the words, must also be embedded in these structures, or be at least morphologically connected, and be of the same morphae (form).

8) Modeling *semaiophonic structures* in a molecular model

These *onoma-semaiophonic networks* can then be assembled in a molecular model similar to the way the atomic constituents of molecules are presently visualized in appropriate chemical models. The matter of technical workability is not concerned with the question whether the model as such makes sense according to current philological or linguistic theories. In the present case, it is important to present a research tool first, and try it out and test it, get experimental results, and not try to prove the consequences and results of the application of the tools, beforehand. Following Whitehead, we need "a new tool as a way for new insights". In the Popperian manner the tool gives ways to experiment with falsifiable hypotheses.

Relation of molecular models in Platon's works

A molecular model of *semaiophonic structures* is suggestive for the following reason: the sound connections in the model extend from the *nexus* in *semaiophonic* space like atomic binding forces. As we see with a glance to Platon's *Timaios*, the ancient cosmology is replete with allusions to a sound combination structure that we can easily match up to modern molecular chemistry models. The geometric connections of the basic geometrical forms, are quite recognizable in the *onoma-semaiophonic* mapping. Platon speaks explicitly of the geometric figures (like Tetraeder) as the basic "elements" of his musico-logical cosmos¹⁸⁵. These geometries reappear faithfully in the modern molecular models as the space structures of the electron clouds which form the chemical bonds. The view of Platon's *Timaios* can be interpreted as the chemical bonds *minus (or abstracted from) the atoms*. More enigmatic passages in Platon's works indicate that there are "trap doors" which may lead us into an unknown dimension of epic language.

Platon's Kratylos Hypothesis and the Semaiophonic Aoide Thought Structures

This is an excerpt of a conference paper presented at: "Semiotics of the Media", Kassel (Goppold 1995b). The main semiotic thesis of Platon in *Kratylos* is formed by the connection: "*onoma homoion to pragmati*" (the word resembles the thing) and "*stoicheia homoia tois pragmasin*" (the sounds, ie the *stoicheia*, be similar to the things also). The paper presents arguments for the interpretation that it is of prime importance to differentiate between Platon's usage of sound (*phona*, *stoicheia*) and letter (*gramma*), and that the "things" he means should not be taken as objective-out-there-things, but as phenomenal "things" to be interpreted in terms of the modern neuronal presentation of what is happening as brain processes while these things arise in our imagination (*phainomenon*). Even though Platon could not think in these terms, we may get a better understanding of what he was hinting at.

The Kratylos Question

nomina sunt omina
(Proverb)

In his famous chapter in *Phaidros* (274c-275), Platon talks explicitly about the problems of the alphabet. In another work, *Kratylos*, he deals with certain aspects of the connection of sound and meaning in ancient Greek language. This material will be taken as starting point for the enquiry. It is always good to start with Platon. Whitehead had stated: "The safest general characterization of western philosophical tradition is that it consists of a sequence of footnotes to Plato" (Whitehead 1969: 53). If Platon had found something important enough to be worth devoting a whole lengthy work, then we might well ask if there is some meaning to be found in what he tells us.

Onoma homoion to pragmati

In *Kratylos*, Platon talks about the connection of words and namings, meaning, and sounds. This would today be considered a discussion of semiotics. He opposes two views:

1) The names of things and people are products of social convention only (the *signe arbitraire* doctrine), with Prodikos (384b) and Protagoras as proponents. The famous statement of Protagoras is cited (386a):

panton chraematon metron einai anthropon.
The human is the measure of all things.

2) The view of *Kratylos* is summed up in "onoma homoion to pragmati" (434a), "the name is similar to the thing". This may be called the *Kratylos Question*, the core of the argument of the dialogue:

Oukoun eiper estai to onoma homoion to pragmati, anankaion pepykenai ta stoicheia homoia tois pragmasin.

If now the word resembles the thing then by necessity must the sounds (the stoicheia) be similar to the things also.¹⁸⁶

Kratylos is Platon's discussion of the subject of fittingness or adequacy of words or symbols to the things symbolized. The key questions are:

1) Are all words arbitrary? (the *signe arbitraire* doctrine).

2) Are there some words more fitting than others?

If we assume 2), then we might continue to ask what they may be more fitting to:

2a) the (objective) thing or

2b) the neuronal (re)presentation the thinker has of a thing.

If we assume 1), we might ask why they are arbitrary. Objective realism, or materialism states that there are totally objective things "out there". We now have to concede the fact that humanity has created literally all possible sound combinations to denote, for example, the "horseness" of the horse in tens of thousands of languages and dialects. Therefore one might be hard put to explain why one word would be more fitting than thousands of others. Now if all words are arbitrary, there is no great sense in searching for better fitting ones.

The structure of the *Kratylos* text

The structure of the semi-monologue in *Kratylos* is peculiar. As in most other works by Platon, we find Sokrates doing most of the argument. He talks about 90 % of the time and his partners Hermogenes and *Kratylos* can only interject a few statements like: "Yes indeed", "Sure", "I see", "Why?", "I believe that", "of course", and so on. Therefore, we cannot call this kind of conversation a true dialogue. Unfortunately, the people who are most knowledgeable about the subject, position 1) Prodikos (384b) and Protagoras (386a) are not there, Hermogenes professes being largely ignorant and acts only as dummy or sparring partner for Sokrates in 75 % of the text. And *Kratylos*, the proponent of position 2), has hardly the opportunity to say two coherent sentences about his view on the matter when he finally gets the word in the last 25 % of the text, starting at 428d, to 440.

Sokrates himself professes, as usual, to be completely ignorant, because he has only heard the "one-Drachme" talk of Prodikos, and not the one for 50 Drachmes (384c). After professing his ignorance, he anyhow goes on developing all sorts of interesting but not very convincing etymologies¹⁸⁷ to support position 2), but finally comes to a position that true understanding is better attained through the things themselves (439b). How this is to be done, he apparently doesn't have the time left to expound, since the text ends two pages later.

Did Platon make a joke?

So the whole work could be interpreted as some kind of tongue-in-cheek practical semiotic joke that Platon makes to befuddle his students in the academy and us across the millennia. Or it can be assumed that Platon didn't have the right conceptual tools to make a semiotic analysis. This seems to be a modern interpretation which is also proposed by Eco (1993: 25). But there are two questions remaining: First: Platon is known to be one of the most outstanding geniuses of mankind. But humor was not one of his strong points. Second: Why did he go through such an effort to make it known to posterity, that he didn't know very much to say about the matter? If we assume that Platon saw enough relevance in the subject to write about it, or have someone else write down his talks about it, then there are again two possibilities: 1) He knew more about it than he wanted to write, the unwritten teachings being in the background. 2) He was guessing himself, but wanted to preserve something that even he, one of the most knowledgeable men of his time, had only a dim recollection of, so that it became not totally lost to posterity. In this treatment, we will lean towards version 2), and give our reasons why.

The terms used by Platon

In Platon's time, Greek was not yet a standardized language. Every greek region had their own dialect. The Ionian was different from the Athenian, that again different from Spartan, and the Italian greek dialects were different still. Platon makes reference to these differences in Kratylos. Classical greek, as it is known today, is the **koinae**, the standardized language of the post-alexandrian oikumene, a product of the work of scholars whose main base was the Alexandria library (which served also as research, studying, and teaching center).

It is usually straightforward to find equivalents between classical greek and modern languages for words of common culture use like: house, ship, knife, loom, horse, sheep, river, tree, mountain, etc., because they denote easily identifiable tangible, physical objects that are common in western, indo-european cultures. Philosophical texts though, present a particular problem for translation because of the extreme variance of semantic fields of key terms used as compared with modern european languages. Kratylos is even more problematic because Platon uses his words in a technical sense, and uses them while he talks about them, without having a proper meta language at his avail. We should note that usually our modern meta languages derive most of their words from greek roots. Here are some of the keywords used by Platon:

onoma - name, denomination, appellation, designation, word, expression.

chraema - this semantic field denotes things of practical relevance and objects of human environment: thing, action, usage, money, belongings, happenings.

There are many similar-sounding, similar-meaning words in the field: chreia, chreos, chreoo, chrae, chraezoo, chraestos, chraestes, chraeo.

chraema was the term used by Protagoras. If the very global meaning of "thing" is substituted for the more specific sense of "objects of human environment" then we get the most obvious and commonsense statement of "the human is the measure of all objects of the human environment". No one in his right mind would want to argue against this. Otherwise what would they be there for? Today, one would call that statement a core requirement of **ergonomics**. And as ergonomics consultant, Protagoras might still make good money today.

pragma - things done, business, negotiation.

This term is used by Kratylos. There is very slight variance to **chraema**, but it might be significant. The semantic field of pragma is a little more oriented towards process, dealings, and doings. The word **praxis** belongs to this field.

Platon uses this term in the majority of places that are translated as "thing".

onta, einai - being things.

With the "to ti aen einai" the thingness of things starts to appear in Aristoteles. Platon uses this term sparingly (385b) and he does not seem to differentiate very much between all the three terms.

Pythagorean Cosmology and the Alphabet:

The Stoicheia as used in Kratylos and Timaios

In most translations of Platon's works, **stoicheia** and **grammata** are treated as synonyms: meaning letters of the alphabet. But for Platon, there is a quite marked distinction: when he talks about **stoichea**, he talks about

spoken sounds, and when he says **grammata**, he means the **written** letter. The translation of Kratylos has to be treated with special care to yield any useful information of what Platon was talking about. The semantic field of stoichea is:

stoicheoma:	element, fundamental building block, first principle
stoicheoo:	to teach the basics
stoicheomata:	the 12 signs of the zodiac
stoicheon:	letter of the alphabet
stoichos:	the rod or stylus of a sundial that casts the shadow by which the time is indicated on the dial

It is easy to see that the term is heavy with connotations from ancient cosmology. This subject has been treated in another of Platon's dialogues: Timaios. The first meaning of **stoicheoma** denotes the idea of a first principle of the cosmos. This is also called the **archae**. The zodiacal signs can be clarified in connection with the sundial. The sundial was introduced in Greece by Anaximander. He is also connected with the original formulation of the ancient greek theory of the four elements and the **apeiron** (Hölscher 1989: 172). The following passage from Timaios gives us the connection between cosmological primitive elements and letters-of-alphabet:

Now we must go back to a second, and new, beginning (archae) which adequately befits our purpose, just like we did with the earlier subject. We must consider the true nature of the fire, the water, the air, and the earth for themselves, before heaven was created, and we have to consider their states before its creation. Because up to now no one has enlightened (illuminated) on their origin. Instead, as if we knew what really is the true nature of the fire, the water and the others, we talk about them as the origins (archai), in the way that we equate them with the letters (the **stoichea** or original components) of the cosmos. But it is not adequate that the amateur may even compare them with the form of the syllables.¹⁸⁸

The four elements as Timaios describes them in the quotation, are also called **stoichea**. Anaximander had brought the sundial from Babylon. The dial is partitioned in 12 sections, like any modern clock is, corresponding to the 12 hours of the day. The 12-scheme of the hours corresponds to the 12-scheme of the months of the year and the 12 zodiacal signs which are all of babylonian (or chaldean) origin. In the world of antiquity, if one wanted to learn about astronomy/astrology, one went to Babylon, because here were the first and foremost experts of all the oikumene on that subject. Timaios, who is the fictional narrator in that monologue, has been introduced to the group in 27a as the one who is the most expert of them on Astronomy/Astrology. Obviously Timaios must have been in Babylon to learn the basics (or **stoicheoma**) of the story he is telling in Platon's "Timaios", just like Anaximander before him.

We now have one detail left to clarify: Why and how might the word stoichea have acquired the meaning of letter-of-alphabet which is usually denoted by the word **grammata**? Let us create a mental image of a sundial: We see a rod, or stylus, the sun shines, and the stylus casts a shadow. Then we call into memory another memorable fable of Platon, the **cave parable**. There, Platon talks about a big cave where miserable humans are chained fast to their seats so they cannot move and only watch the shadows dancing on the cave walls, forever entertaining themselves guessing what these shadows mean and what they stand for. The connection to the stoichea becomes immediately clear. The symbols of the alphabet are viewed as the shaped holes through which the pure light of the divine logos shines. The shadows that are cast on the dial of the sundial or the cave walls are the meanings of those symbols as we perceive them from our lowly perspective. Platon talks in Phaidros, 276a of the **grammata** as the shadow pictures of the living, animated logos. He uses a very subtle word-play here, the opposition of **eidotos** (true knowledge) and **eidolon** (shadow image).

@:EIDOTOS

Ton tou eidotos logon legeis, zonta kai enpsychon, ou ho gegrammenos eidolon an ti legoito dikaios

You mean the living, ensouled speech, the **logos**, of the truly knowledgeable, of which the written version can only be looked at as shadow image.
(Platon, Werke, Vol. V, 276a)

We also find a statement in the same vein in Platon's revealing (and ominous) seventh letter. With all these indications and examples from different works, it is sure worth trying to find an explanation for Platon's interesting speculation.

The Kratylos examples are taken from greek epic tradition

When we look at the examples Sokrates gives for the similarity of name and thing, we quickly see that Platon was careful to choose mostly words that have no physical referent. He derives his terms mostly from mythology and other greek terms of the ethical domain. He starts out with Homer as one of those people who are **daemiourgon onomaton**, the master in the art of forming *words* (390e). This is highly significant because we find a direct correspondence to the **daemiourgos** of the Timaios, who is creating the *world*.¹⁸⁹ Then he goes through an assorted list of greek gods and heroes. He follows the genealogy list as given by Hesiodos, and in 409, he comes to the planets and stars, the four elements, and the four seasons. In 411 he talks about abstract and ethical terms like virtue, righteousness, etc. This gives an indication that Platon did not have the intention to show us the relations of names for physical objects but rather, to the thought and association structure contained in the greek epics, cosmologies, and mythologies. And here, it makes much more sense to speculate about a connection between the thing and the name, and the sounds of the names: This archaic thought structure was preserved and transmitted by the ancient aoidoi, as the poets, singers, and bards of greek antiquity were called.

So there is no problem to relate them to the phenomena perceived. The greek gods and mysteries literally "lived" in the rhymes and metres of ancient greek epical poetry, and it would be impossible to extract them from there. Another indication for this is Platon's use of **pragma** to denote the "things". He doesn't talk about a thingness-in-itself as Kant may have postulated, but about a going-on. That is for example the reciting of an epic text. While the text was recited, the mental imagery unfolded in the inner vision of the aoidoi and his audience. So the examples Platon refers to, his **pragmata**, were for the ancient greek audience of epics a true process, of the nervous system, and not concepts. In this respect, we can perceive an **auto-poietic** element, as the sounds themselves create their meaning by rhythm, meter, and association. The rhythm and meter component cannot be treated here, so another work will be referred to which does an extensive discussion on that subject: J. Latacz (1979-1991).

¹ Safranski (1999): "Die Gegensätze bewirken eine Spannung, die das Lebendige zur Steigerung anreizt und nicht in einem Dualismus erstarren läßt. Licht und Finsternis sind solche Polaritäten, die zusammen die farbige Welt hervorbringen. Auch mit Gut und Böse verhält es sich so."

² (Strecker 1988: 217-219)

³ Metamorphose: Cassirer (1959: 175), Paglia (1991: 255); s.a. Goethes Methode des Dilettantismus, Stratmann (1995: 87); Einwirkungen von Heraklit auf Goethe: Heraklit 1976: 53-54.

⁴ Der Faust-Stoff vor Goethe: Erste Erwähnung in einem Brief des Johannes Trithemius, 20.8.1507, Spieß: 1587, Marlowes Faust (1604), und die Faust-Legende als Puppenspiel-Aufführung, das Goethe in seiner Kindheit sah. U.a. Referate: Dornach (1999); Campbell (1996, IV: 683-716), Spez. Faust: (1996, IV: 711-714). Weitere heutige Aktivitäten: Weimar 1999.

⁵ Cassirer (1994: 123)

⁶ Verbindung zu Ruth Benedict: Bateson (1979: 211-212); Metapattern: Volk (1995)

⁷ (Matth. 4, 17), s.a. die Verbindung mit *tropae* -> *en-tropie*; *tropae* (*trepo*): das Umwenden, Umkehr, Rückkehr, Wendung, Veränderung.

⁸ Heidegger (1976b: 203): Die "Lehre" eines Denkers ist das in seinem Sagen Ungesagte, dem der Mensch ausgesetzt wird, auf daß er dafür sich verschwende.

⁹ Zur Verwendung von Wortspielen als konstruktives Prinzip.

¹⁰ Der Schmiedegott, *ho phainon*, ist der Meister der hellglühenden und glänzenden Metalle, und die Schläge seines Hammers auf dem Amboß bringen sie zum hell-erklingen. (Hier auch die Deutsche Verbindung von *hell* in Licht und Ton, das Hallen, sowie die Laut-Ähnlichkeit von *ling-*, *klang-*, und *glanz-*).

¹¹ S.a.: das *phainomenon*, Heidegger (1977a: 38-42), Peirces Begriff des "*phaneron*" Peirce (1931-1958): CP 1.284

¹² Eine weitere naheliegende Verbindung läßt sich zwischen *phaino-* und *nous*, *noein*, dem Erkennen im Lichte des Logos, ausmachen. Siehe dazu auch den berühmten Satz des Parmenides (B1, 1,21): "to gar auto noein estin te kai einai" (wahrlich, dasselbe ist Erkennen und Sein).

¹³ S.a. Heraklit B 54

¹⁴ S.a. Hölscher (1989), Kaiser (1980), Heidegger (1976b: 240): Hölderlin, Hymne "Wie wenn am Feiertage..." (III. Strophe); Gebser (1973: 15-16).

¹⁵ Gaia hat sichtbare, fruchtbringende Aspekte, die in den späteren Göttinengenerationen als *Demeter*, *Hestia*, etc. bezeichnet werden, und unterirdische, unsichtbare, verborgene, verderbliche, zerstörende Aspekte, die meist als *chthonisch* bezeichnet werden, bzw. *Persephone*, oder *Kali* im Indischen. Walker (1993): *Altes Weib, Demeter, Dreieck, Hestia, Kali Ma, Persephone*.

¹⁶ In der alchymischen Sprache des Dr. Faustus: *solve et coagula / diaballo, metaballo, symbollo*.

¹⁷ Bei der obigen Wortverbindung kommt nicht so sehr darauf an, ob sie etymologisch begründet ist, sondern welche Verbindung der *Aoide* (altgriechischer Ependichter / Sänger) in der Assoziation seiner Zuhörer projizieren kann. Es dreht sich hier um die Anwendung der gestalterischen Freiheit oder des Design in der *Gestaltung von Verbindungen*. Die *Gestaltung* und *Formung von Worten* war eine Hauptaufgabe der Sprachschöpfer der Antike, in dem Sinne, wie Platon in Kratyllos (390e) Homer den *daemiourgon onomaton* nannte. Und das ist nicht nur auf die graue Vorzeit beschränkt. Heidegger hat in seinen Werken viele solcher Kunstgriffe angewendet, und wir könnten dieses Verfahren ihm zu Ehren den *Heidegger-Operator* nennen. Mit einem kurzen Seitenblick in die Biologie: Wenn dort ausschließlich nur Regeln wie die der Etymologie angewandt werden könnten, wäre es unmöglich, einen Vergleich zwischen der Flosse des Haies und des Delphins zu machen, oder dem Auge des Wirbeltiers und des Polypen. Letztere entstammen von stammesgeschichtlich nicht verwandten Evolutionslinien. S.a. Portmann (1974: 52), Spengler (1980: 734-735, 743-744), Cassirer (1994: 114-115) zu der Rolle von Goethe in der Neuschöpfung in der deutschen Sprache.

¹⁸ Humboldt (1963: 41)

¹⁹ Anspielung auf das *hylae-morphae-* (*materia-forma-*) Prinzip des Aristoteles. *Mater* = *Mutter*. Materie ist weiblich, Form ist männlich. S.a. die modernen Vorstellungen von *In-Formation*. (Capurro 1978); (Hoffmeyer 1996: 62-67).

²⁰ s.a. Raible (1991: 172 ff.)

²¹ *Protogonos*, der *Erstgeborene*. Eine Ähnlichkeit besteht ebenfalls mit *Proteus*, dem Gott der immer wechselnden Formen (Meta-morphosis). s.a. Hesiodos, ln. 115: *hoti proton genet auton*.

²² (Encarta: Priapus): Priapus, in Greek mythology, god of fertility, protector of gardens and herds. He was the son of Aphrodite, goddess of love, and of Dionysus, god of wine, or, according to some accounts, of Hermes, messenger of the gods. He was usually represented as a grotesque individual with a huge phallus.

²³ Faust (1377): "Hätt' ich mir nicht die Flamme vorbehalten"

²⁴ Heraklit B 14, 15

²⁵ S.a. Klages (1981, III, 353-498): "Vom kosmogonischen Eros"; (Hesiodos 1978: 29, 30)

²⁶ zur Mythologie und Ethnologie der Doppel- (Mehrfach-) Geschlechtlichkeit: Baumann (1955)

²⁷ Das erinnert fatal an gewisse Charaktere aus der Apokalypsis des Johannes.

²⁸ *diaballo*, durcheinanderwerfen, verwirren.

s.a.: Stanford (1996), p. xv: "Christianity created the monster that became the devil."

²⁹ ->:SPANNUNGSF, p.

³⁰ S.a. Gumilev (1990: 346-353, 355). Bei Bachofen (1925: 301-422) ist das Thema des *Oknos* eine Darstellung, wie die Antike die notwendige Komplementarität von *Physis* (Natur-Schöpfung) und *Lysis* (Auflösung) deutlich machte. Daher wurde *Eros* auch der *lysimeles* (gliederlösende) genannt (Hesiodos 1978: 16, 29, 30, 53; ln. 121). ->:WEAVING, p.

³¹ Safranski (1999): "Natur als schöpferischer Prozess, das bedeutet Polarität und Steigerung. Das war Goethes dialektische Formel" ... "Zwischen Faust und Mephisto gibt es genau jene polare Spannung, die zur Steigerung führt." ... "Goethes Weltspiel zeigt, wie über längere oder kürzere Kausalreihen das gelingende Leben hier die Zerstörung von Leben dort zur Folge hat."

Thom (1975: 323): "Our models attribute all morphogenesis to conflict, a struggle between two or more attractors. ->:SPANNUNGSF, p.

Paglia (1991: 248-259): "All of Faust is a Walpurgisnacht, ... the great mix, of classical with Christian culture, tragedy and comedy, epic with lyric"... "sex change of Mephisto, as Phorkyas"

³² Die Verbindung von *tropae* zur *strophae* im musikalischen Bereich wurde schon erwähnt. Die griechische Bedeutung von *melos* erzeugt eine eher ungewöhnliche Assoziation, als: *Glied*, *Lied*, *Singweise*, *Melodie*, *Harmonie*. So ist der oben erwähnte *Eros lysimeles* derjenige, der nicht nur die *Glieder* löst, sondern auch

die *Lieder*, bzw. sie in ihre Wendungen bringt: {s}trop{h}ae -> en-strophia. Bemerkenswert ist hier die Ähnlichkeit, mit der der deutsche Begriff dem griechischen folgt.

³³ ->:THERMODYNAMIK, p.

³⁴ S.a. ->:DESIGN_ZEIT, p.

³⁵ S.a. Benedict (1934); Paglia (1991: 1-100); Lippe (1997: 76, 80, 104, 173-175).

³⁶ Apoll, der *phoibos* ist der Gott des Lichts: Ähnlich die Worte für Seh-Phänomene: *phos*, *photo-*, *phoos* und *phaos*. ->:PHAOS, p.

³⁷ ->:LOGOS, p.

³⁸ Stanford (1996)

³⁹ Siehe auch: Götzen-Dämmerung, Die "Vernunft in der Philosophie", 2. und: Faust (1377): "Hätt' ich mir nicht die Flamme vorbehalten"

⁴⁰ Das deutsche Wort "Muster" wird hier als Übersetzung des englischen Begriffs "Pattern" verwendet. *Pattern* weist in der genannten Literatur auf eine Gesetzmäßigkeit, und Regelmäßigkeit hin, die sich über alle Modalitäten der Wahrnehmung erstrecken kann.

⁴¹ Frei Otto: Naturverständnis, (1985: 27). p. 32: "Morphologie greift die Konstruktionsebene lebender Energiewandler ab."

Eine dynamische Morphologie in der Biologie wird bei Darcy Thompson (1966) entwickelt: "On growth and form". Portmann (1974) bezieht sich zentral auf die Goethesche Morphologie. Zu Wölfflins Gestaltbegriff in der Kunst: p. 151. Bezug zu J.v. Uexküll, p. 153.

Mit Bezug auf Bazon Brocks Konzept des *Generalismus* (Stratmann 1995: 85-89) können wir Morphologie auch die "*Systematik des Allgemeinen*" nennen. Ein *Morphologe* ist demnach ein *Spezialist für das Allgemeine*.

⁴² Weiteres Material zur biologischen Morphologie: R. Riedl (1990), Kauffman (1993: p. xxx)

⁴³ z.B. die von dieser Schule angefertigten globalen Verbreitungskarten kultureller Muster. Haberland (1973: 1-13). Da *Morphologie "die Lehre der Formen"* ist, sind inhaltliche Unterschiede nicht so gravierend. ->:MORPHOLOGY, p. , ->:GOETHE_MORPHOLOGY, p. , ->:KULTURMORPHOLOGIE, p.

⁴⁴ Fiedermutz (1990: 114), weitere Literatur: Bastian (1881), Bastian (1866-71), Bastian (1903), Jahoda (1992: 104-110), Schwarz (1909).

->:ADOLF_BASTIAN, p.

⁴⁵ Margret Mead und Gregory Bateson hatten in der Zusammenarbeit in ihrer Ehezeit auf ethnographischem Gebiet bahnbrechende Arbeit bei der Einführung des neuen Mediums der Fotografie für die Dokumentation visueller Phänomene in der Kultur geleistet. (Bateson 1972: 107-127).

⁴⁶ Wie er beschreibt, unter dem Einfluß von Benedicts Buch. Bateson (1979: 211-212).

->:MORPHOLOGY, p. , ->:CULTURE_PATTERN, p.

⁴⁷ Bateson (1972: 450-454)

(451): What is it in the territory that gets onto the map? ... in fact, [it] is *difference*, be it a difference in altitude, a difference in surface, or whatever. Differences are the things that get onto a map.

But what is a difference? A difference is a very peculiar

(452): and obscure concept. It is certainly not a thing or an event... if we start to ask about the localization of those differences, we get into trouble... Difference which occurs across time is what we call "change"... A difference, then, is an abstract matter.

(453): In fact, what we mean by information - the elementary unit of information - is a difference which makes a difference...

⁴⁸ ->:EXTRA_OBSERVER, p.

⁴⁹ Alter des Planeten Erde ca. 5 Mrd. Jahre, ab dann Einsetzen der molekular- chemischen Evolution, die zu den selbstreproduktionsfähigen, DNS/RNS gestützten Prokaryoten (Bakterien) führt, wie sie heute noch existieren. Älteste Bakterienfossilien ca. 3,5 Mrd. J.

⁵⁰ Umwandlung der Erdatmosphäre von Methan- Kohlensäure zu heutiger Sauerstoffkonzentration vor ca. 1 Mrd. J. durch Aktivität photosynthetischer Organismen (Cyanobakterien etc.) (Jantsch). Älteste Eukaryoten ca. 1 Mrd. Jahre. Älteste Großfossilien von Metazoen seit ca. 570 Mio J. (Spektrum d. Wissenschaft, Jun 1998, p. 27).

⁵¹ Aussterben der Dinosaurier vor ca. 65 Mio J., vermutete (umstrittene) Verbindung mit Asteroiden-Einschlag, Chicxulub-Krater in Yukatan. Nach anderer Hypothese Massensterben durch Ausbruch der Dekkan-Vulkane. FAZ 25.9.96, N6.

⁵² Lock (1996). Evolutionär ist die Trennung von den Schimpansen auf etwa -8 Mio Jahre anzusetzen (Waal 1995). Die ältesten Australopithecus-Funde und bearbeitete Steine sind ca. 2.8 Mio Jahre alt. Man muß noch die Zufälligkeit archäologischer Erhaltung von Funden einbeziehen, denn Reste von Fasermaterialien

tauchen normalerweise nicht in den fossilen Strata auf. So spricht sehr viel dafür, daß das älteste "Werkzeug" nicht der Stein, sondern die Baby-Trageschlinge war, aber das wird nie zu beweisen sein. (Taylor 1997: 39).

⁵³ meistbekannte Unterrassen: Neandertaler und *H. sapiens sapiens*.

Lock (1996), <http://history.evansville.net/prehist.html>

⁵⁴ Lock (1996: 478): *Homo erectus* of -400.000 had the capacity for speech.

⁵⁵ <http://history.evansville.net/prehist.html>

<http://www.insticeagestudies.com/readings/reptech/repmain.html>

⁵⁶ Die Übernahme des Alphabets vor etwa 2500 Jahren durch die Griechen koinzidiert zeitlich mit einem Muster, das Jaspers (1955) die *Achsenzeit* genannt hat. Ob ein Zusammenhang zwischen dem geistigen Aufbruch in Griechenland, und den etwa gleichzeitig stattfindenden Entwicklungen und Indien (Buddha, Mahavira), Persien (Zoroaster) und China (Lao Tse) hergestellt werden kann, ist natürlich fraglich. Tatsache ist aber, dass seit der Etablierung des Perserreiches die Landverbindung zwischen Indien und Griechenland passierbar war. Und daß Seide als begehrtestes Exportprodukt Chinas auch einen entsprechenden Handelsverkehr nach sich zieht, ist selbstverständlich. Die Mönche der buddhistischen Mission wanderten mit den Kaufleuten über die Seidenstraßen. ->:WRITING, p.

⁵⁷ Thom (1975: 322): "The fundamental reasons for the stability of matter are unknown".

Weiteres Material bei Straub (1990), z.B. p. 95, "Falks Ansicht metaphysischer Annahmen in der Physik"; oder: Die von der Physik fast vollständig aus der kulturellen Erinnerung gelöschte Theorie der Toroid-Atome von Lord Kelvin, und: Meyl 1990)

⁵⁸ Vernadsky (1997: 26), Vernadsky (1930)

⁵⁹ Dieses Bild entspricht in seiner Projektion auch der Ptolemäischen Darstellung der Kugelschalen-Gestalt des Kosmos. S.a. Spengler (1980: 621); Spektrum d. Wissenschaft, Jan. 1993, p. 84: Schädelsche Weltchronik von 1493.

⁶⁰ Gumilev (1987: 22)

⁶¹ Gumilev (1990: 265) spricht von einem möglichen kosmischen Einfluß beim Entstehen von "Drive".

⁶² Diese sind wesentliche klimatogene Faktoren, die auf Wüstenbildung und Eiszeiten Einfluß nehmen. Sowohl der Abstand der Erde von der Sonne, und die Exzentrizität der Erdumlaufbahn, sowie die Neigung der Erdachse, verändern sich periodisch mit Zyklen von mehreren 10.000 Jahren.

⁶³ Gumilev (1990: 215), Nach Vernadsky (1930) ist die Lithosphäre zu einem wesentlichen Teil das Produkt der chemischen Umformungen, und mineralischen Absonderungen und Ausscheidungen der Lebewesen (z.B. Stromatolithen, Muschelschalen oder Korallengerüste). *Geo*, 4/96, p. 174-175 zur Theorie der Entstehung der Dolomiten in den Alpen bzw. des Dolomit-Gesteins durch Bakterien.

⁶⁴ Vernadsky (1997: 16, 31, 32)

⁶⁵ Gumilev (1987: 23): "All these form a single system in which the key link is water."

Frei Otto: "Naturverständnis" (1985), p. 29: *Hydraulik* als essentielle mechanische Grundlage der Organismen.

⁶⁶ Lotman (1990: 123, 125), Hoffmeyer (1997) ->:SEMIOSPHERE, p.

Was Spengler (1980: 712-720) in diesem Abschnitt "Das Wesen der Sprache" (712) nennt, läßt sich heute als eine intuitive Beschreibung der *Semiosphäre* bezeichnen. Z.B.: "Mit dem Menschen darf eine Untersuchung der Sprache sicherlich nicht beginnen." "... daß nicht einmal einzellige Wesen ohne alle Sinnesorgane sprachlos gedacht werden dürfen." (714) "Die Weltsprachen hoher Zivilisationen sind nichts als äußerst verfeinerte Möglichkeiten, welche sämtlich schon in der Tatsache des gewollten Eindrucks einzelliger Wesen aufeinander enthalten sind."

⁶⁷ Gumilev (1987: 360): In this perspective mankind is regarded as a certain covering of the planet Earth or as part of the biosphere... the anthroposphere... the biomass of all people together with the products of their activity... domestic animals, cultivated plants... the anthroposphere is ... a mosaic [consisting of] ... collections of persons.

⁶⁸ Gumilev (1990: 175), (1987)

⁶⁹ Vernadsky (1997: 155), Hofkirchner (1997)

⁷⁰ Gumilev (1990: 268)

⁷¹ ->:BIBLIOSPHERE, p.

⁷² ->:GOETHE_FAUST, p.

⁷³ S.a. Heraklit, B 64

⁷⁴ Zu "das Unverborgene", siehe die Diskussion von *ho phainon*, oben. ->:MEPHAISTOS, p.

Alaetheia: Heidegger (1976b: 203-238), (1977b: 44-66); Wieder-Erinnerung, (*an-amnaesis*) z.B. Platon, Meno. ->:MNAEMOSYNAE, p.

- ⁷⁵ S.a. Gumilev (1990: 198), ->:IMMORTAL_SOUL, p.
Heidegger (1977a), § 42, p. 198: Worin das "ursprüngliche" Sein dieses Gebildes [homo] zu sehen sein, darüber steht die Entscheidung bei Saturnus, der "Zeit". Die... vorontologische Wesensbestimmung des Menschen hat sonach im vorhinein *die* Seinsart in den Blick genommen, die seinen *zeitlichen Wandel in der Welt* durchherrscht.
- ⁷⁶ Goethe (1972: 468-472)
- ⁷⁷ ->:IMMORTALITY_COMPLEX, p.
- ⁷⁸ Randaria (1992), Rangachari (1985)
- ⁷⁹ Wurde aber erst zwischen -586 bis -538 im Babylonischen Exil konsolidiert (das Pentateuch). Stanford (1996: p. 33).
- ⁸⁰ In der brahmanischen Zeitrechnung fällt der Beginn der gerade herrschenden Weltenepoche, des *Kali Yuga*, genau auf das astronomisch bestimmte Datum des 18. Februar 3102 v.u.Z. Dies ist auch der Todestag des Weltzeit-Avatars *Krishna* des vorhergehenden Weltenalters *Dvapara Yuga*. Das Mahabharata-Epos handelt von den Ereignissen unmittelbar vor diesem Datum. Thompson (1989: 19)
- ⁸¹ ->:CHINESE_WRT, p. , ->:CHINESE_ALTERN, p.
- ⁸² Spengler (1980); Campbell (1996: 724-778); Gebser (1973), ->:FAUST_BRITT, p.
- ⁸³ ->:SEMIOSPHERE, p.
- ⁸⁴ Im Sinne von Whitehead: ->:WHITEHEAD_SOCIETY, p.
- ⁸⁵ s.a. Gumilev (1990: 98-100), Gebser (1973: 15-16).
- ⁸⁶ Pöppel (1978-1995).
- ⁸⁷ S.a.: Hume: zu Kausalität und Induktion (Straub 1990: 139-146), Nietzsche, Götzen-Dämmerung, Die Vier großen Irrtümer
- ⁸⁸ Heidegger: (373): "Die vergangenen und erst ankommenden Erlebnisse sind dagegen nicht mehr, bzw. noch nicht 'wirklich'...
Das Dasein durchmißt die ihm verliehene Zeitspanne ... dergestalt, daß es, je nur im Jetzt wirklich, die Jetztfolge seiner 'Zeit' gleichsam durchüpft. Bei diesem ständigen Wechsel der Erlebnisse hält sich das Selbst in einer gewissen Selbigkeit durch."
(410) "An das Besorgte vielgeschäftig sich verlierend, verliert der Unentschlossene an es seine Zeit. Daher denn die für ihn charakteristische Rede: 'Ich habe keine Zeit'."
- ⁸⁹ Pöppel (1995: 77)
- ⁹⁰ Genauer: der materiellen, faktischen Spuren der vergangenen Ereignisse, denn Vergangeheit ist eine Projektion unserer Vorstellungsmechanismen.
- ⁹¹ ->:SELBST_ERINN, p.
- ⁹² ->:MUSTEREPOCHEN, p. , ->:GEOSPHAER, p.
- ⁹³ ->:BIOSPHERE, p.
- ⁹⁴ Kaiser (1980) ->:GOETHEFAUST, p. , ->:FAUSTVIRT, p.
- ⁹⁵ ->:GE_SCHICHTE, p.
- ⁹⁶ ->:MUSTEREPOCHEN, p.
- ⁹⁷ S.a. Gebser (1973: 15-16), ->:SPANNUNGSF, p.
- ⁹⁸ Faust (447-453), Bachofen (1925: 301-422)
- ⁹⁹ Dies weist möglicherweise auf die Anspielung hin, die Platon im Kratylos zu der Essenz der Bewegung im "*Rho*" gemacht hat: das "*panta rhei*" von Heraklit...
- ¹⁰⁰ *saltare*: Springen, Tanzen -> Lucianus: "De Saltatione"; *saltus* bedeutet auch *Schlucht* -> (gr.) *chao-* , *chasm-* -> *ar-chaë* -> Ur-Sprung / Ur-Tanz.
- ¹⁰¹ Z.B. Assmann & Assmann (1983-1995), Bergson (1919), Connerton (1989), Halbwachs (1985), Harth (1991), Loftus (1980), Norman (1970-1982).
- ¹⁰² ->:REKURRENZ_MUSIK, p.
- ¹⁰³ Roth (1996: 276), Schmidt (1991), Spitzer (1996)
- ¹⁰⁴ Harth (1991: 99)
- ¹⁰⁵ Wer erinnert sich noch an den speziellen Atemzug, den er vor 20 Jahren, am Sonntagmorgen, den x.x.xxxx, beim Aufstehen tat?
- ¹⁰⁶ S.a. "Nichtsprachliche performative Transmissionssysteme" und ->:CULTURAL_MNEMO, p.
- ¹⁰⁷ Aoidoi, CMB: ->:PRELIMINARY_DEF, p. , ->:AOIDE_HYPOTHESE, p.
- ¹⁰⁸ ->:WASMUSTER, p. , ->:NEURO_BRAIN, p.
- ¹⁰⁹ ->:PHEMEME_HYPOT, p.
- ¹¹⁰ Cassirer (1960: 161)

¹¹¹ In dem Sinne, wie Platon in Kratylus (390e) Homer den *daemiourgon onomaton* nannte. s.a. Cassirer (1960: 198-201), Cassirer (1994: 113-118). Zu der Rolle von Goethe in der Neuschöpfung in der deutschen Sprache. ->:EX_ARCHAE, p.

¹¹² ->:KRATYLOS_HYPOT, p.

¹¹³ ->:AOIDE_MODEL, p.

¹¹⁴ ->:DESIGN_ZEIT, p. , ->:DESIGN_NICHTSEIN, p.

¹¹⁵ ->:FORMSUBST, p. , ->:GOETHEFAUST, p. , ->:MEPHAISTOMORPHOSE, p.

¹¹⁶ The idea of a global networked system of organisms has been taken up and elaborated by Howard Bloom. It is available on the WWW under:

-> <http://www.heise.de/tp/deutsch/special/glob/default.html>

¹¹⁷ This interesting time-transcending capability of SEMsphere entities is also being touched in the discussion of the *immortality of the soul* and the property of cultural patterns as *immortality complexes*.

->:IMMORTALITY_COMPLEX, p. , ->:IMMORTAL_SOUL, p.

¹¹⁸ To make this more precise: there are a few limitations, one of them being the paper that holds the message. If the paper is gone, the message is gone also. That is the question of the durability of the CMM which will be treated later. The other limitation is of course, in order to partake in that shared SEMsphere reality, we must speak the same language and write and read the same (alphabetic) script. More on this under: ->:TECHNO_FACTOR, p.

¹¹⁹ ->:MEMETICS, p.

¹²⁰ ->:BIBLIOSPHERE, p.

¹²¹ The connection of the word *symbolon* with *syballein* is illustrated by this tale from ancient Greece: A group of friends prepared to arrange a confidential meeting of each other's friends of friends in a house in a different city. Since the "friends of the friends" didn't know each other, they chose the following method to keep the circle of trustees secure: they took a pottery vessel (a *krater*) and smashed it to pieces. Then they handed out these pieces to their respective friends. At the day of comm-union, those people who had received a piece of the broken vessel (a shard), handed it in to their (unknown) host in that house in that city. And as the broken and distributed (*diaballein*) pieces of the *krater* reassembled into a form that was once a whole, the common intention under which these pieces were distributed, could re-emerge also.

¹²² 4-d means a dynamic display systematically changing in time. This is also covered under the name of *kinemorphae* in the section on performative CMM.

->:KINEMORPHAE, p.

¹²³ To do justice to the scholastic tradition, the thousands of selflessly serving monks in the monasteries and countless small technical innovations and inventions during many centuries of hard, straining labor in the scriptoria, paved the ground to the cursory handling of words in books that Faust and the Renaissance were the heirs to. Illich describes this century-long process in (1988: 29-51).

¹²⁴ To which we might add that hypertext allows us to achieve yet one more level of interconnection over normal, linear text. See Landow (1992). See also: ->:WEAVING, p.

¹²⁵ Perhaps also to be applied to the school of Harold Innis.

¹²⁶ ->:BUDDHA_METANOIA, p. , ->:GESTALT_SWITCH, p. ,

->:TRIAD_SWITCH, p. , ->:METANOIA, p.

Matth (4,17), Matth (18,3),

¹²⁷ "Fiat lux", "let there be light", is the paradigmatic declaration of this tradition. (Genz 1994: 61). No questions may be asked as to where the switch is, or where the power for the light comes from.

¹²⁸ An extensive discussion of this break with the scholastic tradition is given by Campbell (1996,IV: 683-716), and the Faust theme is discussed on (1996,IV: 711-714). Historically, a person Dr. Johann Faust lived around 1480-1540. Campbell notes that one aspect of the immense popularity of the Faust theme had been the printing press. The first Faust book was brought out in 1587 by Johann Spieß, and immediately sold out, and was reprinted in four pirated editions (713).

¹²⁹ ->:KULTURMORPHOLOGIE, p.

¹³⁰ (Heidegger: Die Kehre).

¹³¹ ->:RITUAL_PATTERN, p.

¹³² "Was ist mit diesem Rätselwort gemeint?" (1337)

¹³³ Illich (1988: 5-6): Writing is not the only technique we know for making the flow of speech coagulate and for carrying clots of language along intact for tens of even hundreds of years.

¹³⁴ ->:SYMBOL, p.

¹³⁵ Illich (1988: 13): At the time when heaven still embraced the earth, when Uranus still lay with full-hipped Gaia, an aeon before the Olympian gods, the Titans were born and with them, memory,

or Mnemosyne. In the Hymns to Hermes, she is called the Mother of the Muses. She is the earliest of the goddesses, preceding even Apoll with his lyre. Hesiod mentions her as the goddess of the first hour of the world... When the god Hermes plays to the song of the Muses, its sound leads both poets and gods to Mnemosyne's wellspring of remembrance. In her clear waters float the remains of past lives, the memories that Lethe has washed from the feet of the departed, turning dead men into mere shadows.

About Mnemosyne as the mother of the muses, see also Hesiodos (1978: 47).

Hertha v. Dechend (1993: 257) asserts that *Hermes* is the Greek name for *Thoth* as he is called in Egyptian mythology

->:PLATO_PHAIDROS, p.

¹³⁶ I.e. this is the emphasis on the aspect of *space*, which Faust wants to conquer, only to be eventually defeated by *time*. (See Innis 1991).

->:INNIS_SPACETIME, p.

¹³⁷ Campbell (1996,III: 88-110, 165-214).

¹³⁸ v. Dechend (below) equates *Saturn* again with *Hephaistos*.

¹³⁹ See also: Bloom (1995). His book: "The Lucifer Principle. A scientific expedition into the forces of history" describes vividly the the luciferic principle of destruction in history.

->:PANETICS, p.

¹⁴⁰ See also: Kaiser (1980: 87 ff.).

¹⁴¹ Not to forget that we also tend to dim the lights when we go to bed with our lover, in order that our experience of *feeling* and *touching* is enhanced.

->:TACTILE, p. , ->:MARITAL_ART, p. , ->:SOMATIC_FACTORS, p.

¹⁴² Rost (1862,II: 632): *chaos*, the emptiness, the void, the immense unfathomable open space, the deep cave, the gaping, the yawning, the unstructured formless "substrate" out of which the cosmos is fashioned. The present meaning of *disorder* is only a subordinate theme in the ancient meaning. The meaning of "*immense unfathomable open space*" is identical to the core concept of Anaximandros: the *apeiron*. Rost (1862,I: 123).

¹⁴³ To which Goethe makes allusion in (7902-7920) where he lets Anaxagoras call the goddess of night: "Du! droben ewig Unveraltetete, / Dreinamig-Dreigestaltete, / Dich ruf' ich an bei meines Volkes Weh, / Diana, Luna, Hekate! / Du Brusterweiternde, im Tiefsten Sinnige", and 7990: "Die Parzen selbst, des Chaos, eure Schwestern". *moirae*: ->:MOIRAE, p.

¹⁴⁴ The element of *lysis* (dissolution) balances the creation of Nature (*physis*).

¹⁴⁵ (Encarta: Priapus): Priapus, in Greek mythology, god of fertility, protector of gardens and herds. He was the son of Aphrodite, goddess of love, and of Dionysus, god of wine, or, according to some accounts, of Hermes, messenger of the gods. He was usually represented as a grotesque individual with a huge phallus.

The phallus as "trademark" connects us back to the -pheles in *Mae-phisto-to-pheles*. And we see why he was called *Herm-Aphroditaes*. The *Dionysus* is treated further down.

¹⁴⁶ The sound is chaotic, non-melodic: Orpheus (1992: 64): "Dionysos, dem Lauttosenden, den Herrn der Gestirne rufe ich an", p. 84: "Verzückter, lautlärmender Bakchos, ... komm zu uns, Seliger, Reigenfreund, Bring allen die Fülle der Freude!"

¹⁴⁷ Apoll was called the *phoibos* (Rost 1862: 615) the clear, radiant.

Related words are: *phos*, *photo-*, *phoos* and *phaos*. More words of visual phenomena: *photisma*, *phoibos*: splendor, shining, sparkling, brilliant, luminous. *phoibasma*, *phoibetes*: prophet, oracle, mantics. *phoinos*: purple, phoenician, dark red (glowing). *phosphoros*: luck, fortune, rescue.

¹⁴⁸ Günther (1980: 86): Aber Raum und Zeit sind der Seele, die nach Ewigkeit und Vernichtung aller Ferne verlangt, im tiefsten Wesen unangemessen. Alle Heils- und Seelengeschichte strebt nach Vernichtung von Raum und Zeit.

¹⁴⁹ ->:IMMORTALITY_COMPLEX, p. , ->:CULTURAL_MNEMO, p.

¹⁵⁰ This may be the logical error that Mae-phisto committed: He as the lord of time and destruction wants to preserve something *against* time and *against* destruction. That doesn't compute.

¹⁵¹ He was a medical doctor, thoroughly founded in the classics, and he is considered the founding father of German ethnology.

¹⁵² ->:CMS_DEF, p.

¹⁵³ ->:CULTURE_PATTERN, p.

¹⁵⁴ Bastian (1881: XVII):

In den unendlich-klein dunklen Vorstellungen, aus denen das Bewußtsein erst hervorgeht, wird (nach Leibniz) die "Harmonie zwischen der materiellen und moralischen Welt"... zu erklären sein...

¹⁵⁵ Graebner (1927: X):

Der ganze Verlauf des Gedankenzusammenhangs von der Gesetzmäßigkeit des "harmonischen Kosmos" bis zu den religiösen und staatlichen Dingen erinnert an die "Idee zur Geschichte der Menschheit" von Herder. Der große weltanschauliche Zusammenhang, in dem er seine Ideen sah, ergibt sich aus der Widmung "Dem Gedächtnisse Alexanders. v. Humboldt, während der völkerpsychologische Inhalt dem Denken Wilhelms v. Humboldt näher steht. Interessant ist bei Bastians Gegensatz zur idealisierten Philosophie der formelle Bezug zu Schelling.

¹⁵⁶ ->:PATICCA_SAMUPPADA, p.

¹⁵⁷ ->:BORING_WOMEN, p.

¹⁵⁸ ->:SEMIOSPHERE, p.

¹⁵⁹ Rupert Riedl (1995): "Goethe and the Path of Discovery: An Anniversary".

<http://www.kla.univie.ac.at/Journal.html>

¹⁶⁰ In the bibliography referenced under the Free Press edition date (1969). See also: ->:WHITEHEAD, p. .

¹⁶¹ ->:GOETHE_MORPHOLOGY, p.

¹⁶² ->:SEMIOSPHERE, p.

¹⁶³ Erdheim (1984: 10): "Unbehagen über eine Ethnologie wie die von Frobenius, die die 'Seele des Negers' verstehen wollte."

¹⁶⁴ ->:LIT_CULTMEDIA, p. , ->:TECHNO_FACTOR, p. , ->:INNIS_SPACETIME, p. ,

¹⁶⁵ Also: Innis (1972: 1, 3).

¹⁶⁶ <http://www.uni-wuppertal.de/FB5-Hofaue/Brock/Lehrbetr/MUEHLMAN.html>

¹⁶⁷ ->:EXTRA_OBSERVER, p.

¹⁶⁸ ->:BORING_WOMEN, p.

¹⁶⁹ ->:WHITEHEAD, p.

¹⁷⁰ ->:MEMETICS, p.

¹⁷¹ ->:IMMORTAL_SOUL, p.

¹⁷² Turner and Pöppel: "Metered Poetry, the Brain, and Time" in Rentschler (1988:71-90).

¹⁷³ Unfortunately, Platon himself must not have taken his own words too seriously since he left us with the largest volume of written material produced by any individual up to his time. For his defence it could be mentioned that he probably never wrote anything himself. Platon was an aristocrat und thus still bound up with the class struggle against writing. As Havelock has noted, the greek aristocracy resisted for very long time the writing introduced by the lowly people: the merchants and craftsmen. The aristocracy considered the epic tradition the only culture befitting them. Nevertheless, Platon allowed his scribes to note down his diatribes that have been handed down to us well-preserved over 2400 years.

¹⁷⁴ CAPS for distinction of the generic world-encompassing principle of AOIDE mental functioning from any actual historical incorporation, like the greek *aoidoi* whom we know as *Homer* and *Hesoidos*.

¹⁷⁵ ->:ABORIGINES, p.

¹⁷⁶ This term is used to denote ways of using our brain in some ways that are outside of the normal modes we call *thinking*.

¹⁷⁷ *onoma-* = name, *saema-* , *saemeion* = sign, meaning, *phona-* = sound. short form: *semaiophonic*

¹⁷⁸ Which can be viewed as a special interpretation of the *phememe* model by Mary LeCron Foster (1996).

¹⁷⁹ In Greek: *plexis*, *synapsis*. The plural of *nexus* has a long "u" and is properly written with a bar over the 'u', but this character doesn't exist in the Win standard charset, so will be written *nexus*.

¹⁸⁰ ->:STOICHEA, p.

¹⁸¹ The strange indication given by Chatwin, that Australian songlines are easily transferred between the different Australian languages, means that there must be a sound-principle of meaning.

¹⁸² The exact connection of this study to Whitehead's philosophy would take an inordinate amount of time and effort to discuss thoroughly. To outline the principle in a few words: Western philosophical notions of ontology are {pervaded / tainted / burdened} by the effects of the primary CMM, the alphabetic principle, fixating the living sounds of speech, the *stoichea*, into the *grammata*. If we want to get an alphabet-neutral ontology and epistemology, we have to backtrack to the Heraklitean philosophy of *dynamics* and *relation* (which was concurrently formulated as the principle of *paticca samuppada* by the Buddha). The modern western philosophical application of the buddhist principle was essentially presented by Whitehead (in a somewhat difficult to interpret form).

¹⁸³ Due to the different usage and context, the conventional term could lead to misleading impressions, especially that the present subject matter could be treated with linguistic or etymological methods.

¹⁸⁴ See: W.H. Calvin (1996a): The cerebral code.

¹⁸⁵ See also the works of Marius Schneider.

¹⁸⁶ Kratylus 434a, Platon, Werke, Vol. III, engl. transl. A.G.

¹⁸⁷ They may be sufficient to impress his sparring partner Hermogenes, but we can be quite sure that Protagoras himself would have torn them to shreds.

¹⁸⁸ Timaios 48b , Platon, Werke, Vol. VII, engl. transl. A.G.

¹⁸⁹ This connection even evokes the English similarity of the two terms: *the world* and *the word*. The creator of both the *world* and the *word* are thus related through the sounds of the language.