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GENERALIZED SCIENCE OF HUMANITY SERIES

総合人間学叢書

Vol. 1

PUBLICATION OF *GENERALIZED SCIENCE OF HUMANITY SERIES*

BRIEF COMMUNICATIONS

HIDEAKI NAKATANI

- Pour la science généralisée de l'homme

- Note sur la science généralisée de l'homme

ARTICLE

MICHAEL WITZEL

Out of Africa : The Journey of the Oldest Tales of Humankind



TOKYO July 2006



Research Institute for Languages and Cultures of Asia and Africa

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Research Institute for Languages and Civilizations of Asia and Africa

3-11-1, Asahicho, Fuchu, Tokyo

Generalized Science of Humanity Series, Vol. 1

Tokyo, July, 2006

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PUBLICATION OF *GENERALIZED SCIENCE OF HUMANITIES*

The generalized science of humanity (= GSH) is a new field which we are now endeavoring to elaborate as one of the disciplines of human sciences. Its objective is to examine the fundamental conditions for a better planning of a future society appropriate for all humans.

This is not, as is often thought, an easy task. In fact, we should, first, take into account the nature of humankind which has been formed over a long period of time, probably more than several hundred million years; second, we should understand, without prejudice, the traditional mind set of various civilizations; third, we should have a clear understanding of the new scientific results, for example, of neuroscience, genetics, nanotechnology, financial engineering, etc.; fourth, we should have a good grasp of the political, economical and social situation of all regions of the world.

The task, which is to be performed with due efficacy, seems to exceed by far the capacity of an individual, if consideration is given to the velocity of scientific developments and to the magnitude of the transformation of global societies caused by them. Therefore, we propose a collaboration of specialists of all the main fields of human, social and natural sciences. Through direct dialogue, specialists of the humanities working as core investigators in the GSH will swiftly accumulate the required information and arrive at a good understanding of it, and they will be able to undertake a reconsideration of their own intellectual paradigm, a reconsideration indispensable for the planning of a better future society.

We also propose a new procedure that should be followed in order to establish the proposed new field of human and social science. Modern humanities attach great importance to obtaining evidence for truth or otherwise of results, as do the natural sciences. However, we will attach equal importance to ascertaining the significance for human welfare of the information obtained. The answer to the question of what constitutes welfare obviously varies from one civilization to another, or to be more precise, from one person to another. However, we will regard the human evaluation of information as important as the establishment of truth, even if, eventually, there will be multiple criteria for such evaluation¹.

¹ To this effect, Nakatani has put forward a proposal for a generalized science of humanity, 'Invitation to a generalized science of humanity', in the *SCJ Forum*, an organ of the Science Council of Japan, October 2004, pp.51-54.

For two years, we have conducted discussions in regular meetings and in the two international symposia held by the Joint Research Project “Research on new conceptions of the world and humankind: pursuit of values and a moral, appropriate for the age of world civilization”, which is organized at the Research Institute for Languages and Cultures of Asia and Africa (ILCAA), Tokyo University of Foreign Studies².

We have decided to publish continuously the text of the conferences and papers read at these meetings or symposia in the *Generalized Science of Humanity Series*.

The first volume contains the article of Michael Witzel (Harvard), read at the first international symposium of GSH (Tokyo, 2005; you will find the program on page 3) and the two minor papers of H. Nakatani (ILCAA) read at meetings held at the Maison des Sciences de l’Homme (Paris, 2005; 2006). These two papers have a historical nature as well, documenting developments of ideas in each stage.

In principle, we add a Japanese translation to the text, except for those written in English.

We will publish two volumes a year.

We hope that our attempt will meet the warm reception and support of scholars from all fields involved.

Hideaki NAKATANI, Tokyo, July 15 2006.

² The members of the Project are: Hideaki NAKATANI (chief investigator), Makoto MINEGISHI (sub-chief investigator), Shintaro ARAKAWA, Koichi HANEDA, Masato IIZUKA, Chiyuki ITO, Kazuhiko MACHIDA, Koji MIYAZAKI, Koji SHIBANO, Jun TAKASHIMA, Ikuya TOKORO. (All listed above are investigators at ILCAA); Toshifumi GOTO, Jiro GYOBA, Yonsuke HARA, Nobuo HAYASHI, Momoko HAYASHI, Toshitaka HIDAHA, Michitaka HIROSE, Koichi HIROTA, Minoru HOSHIYAMA, Hiroshi ICHIKAWA, Kazuhisa IKEDA, Yukio IKEMOTO, Satoru IKEUCHI, Tsuneyo ISHIDO, Kiichiro ITSUMI, Ryusuke KAKIGI, Kiyoto KASAI, Syoryu KATSURA, Nobumasa KATO, Tokuharu KAWAI, Tsuyoshi KOJIMA, Akira KURODA, Goji MATSUO, Toru MARUYAMA, Masahiro MIKI, Masakatsu MURAKAMI, Akio MORIYA, Yasuhiko NAGANO, Hideto NAKAJIMA, Takahiro NAKAJIMA, Masahiro NISHIKAWA, Yukihiro NOBUHARA, Noburu NOTOMI, Toru OHTSU, Hajime OKAYAMA, Masahiro OGAWA, Seizo SEKINE, Kazunari SHINGU, Ryoko SHIOTSUKI, Morihiro SUGISHITA, Yoshio SUGIMOTO, Izaya TESHIMA, Kosuke TSUIKI, Keiichi TSUNEKAWA, Motomitsu UCHIBORI, Katsutoshi UCHIYAMA, Tamaki YANO.

Peaceful World and Enriching Human Lives

The Pursuit of a Generalized Science of Humanity.

- First international Symposium of the Generalized Science of Humanity organized by:
Research Institute for Languages and Cultures of Asia and Africa (ILCAA),
Tokyo University of Foreign Studies
- Tokyo, 21 March 2005.
- International Conference Hall, The Tokyo Chamber of Commerce & Industry, 3-2-2
Marunouchi, Chiyoda-ku, Tokyo 100-0005, Japan.

10:15 **Welcome Remarks** by Fumio HASHIMOTO, Director, Tokyo University of Foreign Studies.

10:30 Hideaki NAKATANI, Professor, ILCAA.

Creation of the Generalized Science of Humanity, a New Field of Human Sciences.

10:45 Tsutomu NAKADA, Professor, University of Niigata.

Homo Sapiens defined by Brain Science.

13:00 Toshitaka HIDAKA, Director General, Research Institute for Humanity and Nature.

Humankind as an Animal: Ethological Point of View.

14:15 Michael WITZEL, Professor, Harvard University.

Out of Africa: The Journey of the Oldest Tales of Humankind.

15:45 Yoshio TOGAWA, Chairman of the Board of Directors of the Toho Gakkai.

“Rites-Music” Culture of China and East Asia.

17:00 Panel Discussion.

Panelists: T. NAKADA, T. HIDAKA, M. WITZEL, Y. TOGAWA,

Jane COBBI (CNRS), Moderator: Hideaki NAKATANI

17:50 **Closing Address** by Koji MIYAZAKI, Director, ILCAA

『総合人間学叢書』の発刊について

人文・社会科学の新領域、「総合人間学」の目的は、すべての人々にとってのよりよい未来社会を構想するための諸条件を確定することである。

東京外国語大学アジア・アフリカ言語研究所共同研究プロジェクト「地球文明時代の世界理解と新しい倫理・人間観の研究」は、2004年度より、この新学術領域の構築に従事してきた¹。

未来社会の構想は、容易な営為ではない。そのためには、第1に、数億年以上かけて形成されてきた人間の本性を理解すること、第2に、種々の文明の精神伝統を偏見なしに理解すること、第3に、脳神経科学、遺伝子学、ナノテクノロジー、金融工学などの先端科学の研究成果と展望を正確に把握すること、第4に、世界の諸地域の政治的、経済的、社会的状況をよく掌握すること、が必要であろう。

科学技術の加速度的進展、ならびにそれによって地球上に生起している諸地域社会の巨大な変容を考慮するなら、以上の4点のすべてを適切な有効性をともなって遂行することは、個人の能力を遥かに超えると考えられる。そのゆえに我々は人文・社会・自然のすべての主要分野の研究者の直接対話による共同研究を提案する。直接対話によってこそ、総合人間学を中核において遂行する人文・社会科学の研究者は、必要な情報を迅速に収集して正確に理解することができ、自身の知の体系を組み直すことができるであろう。この知の再編こそ、よりよい未来社会の構想に不可欠なのである。

また我々は、この新学術領域を確立するため、いまひとつの原則を提案する。近代人

¹ 共同研究への参加者は次のとおり。中谷英明（主査）、峰岸真琴（副査）、宮崎恒二、芝野耕司、羽田亨一、町田和彦、高島淳、飯塚正人、床呂郁也、荒川慎太郎、伊藤智ゆき（以上 AA 研所内共同研究員）、朝倉尚、逸身喜一郎、石堂常世、市川裕、池本幸生、池田知久、池内了、内山勝利、内堀基光、大津透、丘山新、小川正廣、柿木隆介、笠井清登、加藤進昌、桂紹隆、河井徳治、黒田彰、小島毅、後藤敏文、行場次朗、塩月亮子、杉下守弘、杉本良男、新宮一成、関根清三、手島勲矢、立木康介、恒川恵市、中島隆博、中島秀人、長野泰彦、西川昌弘、納富信留、信原幸弘、林信夫、林もも子、原洋之介、日高敏隆、廣瀬通孝、広田光一、寶珠山稔、松尾剛次、丸山徹、三木雅博、村上征勝、守屋 彰夫、矢野環（以上 AA 研所外共同研究員）

文科学は、他の科学と同じく、真偽の判定を最も重視してきた。しかし、ある情報が「人の幸せにとってどのような意味があるか」を、「真か偽か」と等しく重視することとしたい。もちろん何が人の幸せであるかは、文明ごとに、あるいは最も厳密に言えば、人ごとに異なる。しかしながら、時に多数の評価基準があるにせよ、それぞれの情報の、人にとっての意味を問うことそのものは、真偽の区別と等しく重視されなければならないと考える²。

2年来、上記プロジェクトでは研究例会や2度の国際シンポジウムを通じて議論を深めてきた。その講演や発表を順次継続的に、この『総合人間学叢書』において公刊してゆきたい。

第1巻である本巻は、第1回総合人間学国際シンポジウム（東京、2005年3月。プログラムは6ページ参照）における Michael Witzel 教授（Harvard 大学、AA 研外国人研究員（当時））の講演と、Maison des Sciences de l'Homme で中谷が行った発表（パリ、2005年、2006年）の小文を掲載する。これら2小文はそれぞれの段階における構想の発展を録する歴史文書的性格も有するものである。

なお、本叢書は年2巻を刊行し、また原則として英文以外の文には和訳を添えることとする。

あらゆる分野の研究者がこの試みを暖かく迎え入れ、ご支援を下さるよう心からお願い申し上げます。

2006年7月

中谷英明

東京外国語大学 アジア・アフリカ言語文化研究所

² 以上の趣旨に沿い、中谷は先に日本学術会議機関紙において総合人間学を提案する一文を発表した。「総合人間学のすすめ」『学術の動向』pp.51-54、日本学術会議・2004年10月。

東京外国語大学アジア・アフリカ言語文化研究所主催

総合人間学 の創出にむけての 国際シンポジウム

平成17年3月21日(月)

東京商工会議所 国際会議場

〒100-0005 東京都千代田区丸の内3-2-2 TEL: 03-3283-7500

総合司会 石井 溥 (東京外国語大学・AA研前所長)

10:20 開会の辞 橋本文男 (東京外国語大学理事)

10:30 21世紀の新学術としての総合人間学
中谷英明 (東京外国語大学・AA研)

10:45 [講演1] 人間の条件－脳科学の知見から
中田力 (新潟大学・統合脳機能研究センター長)

13:00 [講演2] 動物としての人間－動物行動学の視点から
日高敏隆 (総合地球環境学研究所長)

14:15 [講演3] アフリカを出立して
－人類最古の神話群の悠久の旅
Michael WITZEL (ハーバード大学教授/AA研客員教授)

15:45 [講演4] 中国、そして東アジアの「礼楽」文化
戸川芳郎 (東京大学名誉教授・東方学会理事長)

17:00 パネル・ディスカッション

[パネリスト] 中田力、日高敏隆、Michael WITZEL、
戸川芳郎、Jane COBBI (CNRS)

[司会] 中谷英明

17:50 閉会の辞 宮崎恒二 (東京外大・AA研所長)

* 入場無料

* 日英・英日同時通訳付き

[問い合わせ先]

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人にとつて
豊かな生とは何か

Peaceful World and Enriching Lives

POUR LA SCIENCE GÉNÉRALISÉE DE L'HOMME, UN NOUVEAU DOMAINE DES SCIENCES HUMAINES

HIDEAKI NAKATANI

Research Institute for Languages and Cultures of Asia and Africa,
Tokyo University of Foreign Studies

Nécessité de la science généralisée de l'homme.

Les technologies scientifiques du 20^e siècle se sont grandement développées dans de multiples secteurs, tels que médecine, agriculture, génie civil, architecture, transport, communication, science de la vie, informatique, etc.; elles ont ainsi remarquablement contribué à maîtriser les famines, désastres naturels, maladies, et à assurer la sécurité ainsi que la vie matérielle et culturelle assez riche des peuples. Néanmoins, en même temps, ces technologies ont été aussi la source, soit directe soit indirecte, de sérieux malheurs: deux guerres mondiales, conflits nationaux et internationaux, massacres ou famines en pays totalitaires, accroissement de la population classée dans la catégorie de la «pauvreté absolue», destruction de l'environnement, sida, etc.

Si ces problèmes sont restés sans solution ou presque, ce serait dû, pour la plupart des cas, aux incapacités de la politique et à l'inertie de la morale. Jusqu'ici, cependant, la société humaine ne semble pas avoir fait suffisamment d'efforts pour en trouver la solution, tout en s'endormant sur une prospérité relative et éphémère. Cette incapacité qu'on pourrait désigner comme une «acratie», si elle est laissée telle quelle, amènerait de graves conséquences à la génération présente et future¹.

Il est important, dans ces conditions, de trouver une nouvelle échelle des valeurs qui puisse diriger convenablement le monde actuel de mondialisation et de bouleversement, échelle prenant conscience du fait que l'humanité est une communauté des destins. La plupart des nouvelles pensées qui ont formé les valeurs de diverses civilisations contemporaines faisaient leurs apparitions vers le milieu du premier millénaire avant Jésus-Christ. Les crises mondiales d'aujourd'hui montreraient que ces valeurs des civilisations sont, en totalité, dans une impasse pour la première fois depuis leurs apparitions. Maintenant donc, il faudrait établir une nouvelle échelle mondiale des valeurs qui, tout en respectant les valeurs traditionnelles de chaque civilisation, par suite, acceptables pour sa peuple, servira de principes morales et politiques. Il en faudrait un quart de siècle ou plus, puisque les valeurs actuelles se sont faites sans communs du peuple, principes de la société ou axes de la politique durant déjà plusieurs mille ans. Mais l'essentiel, ce serait de faire un pas maintenant pour que ce ne soit pas trop tard.

Il est à remarquer, en effet, que la vitesse des transformations du monde actuel s'accélère en progression géométrique. Les connaissances en physique quantique, sciences de la vie, neurosciences, etc., ou les phénomènes sociaux, politiques ou économiques (augmentations prodigieuses de la population, de la production, de la consommation énergétique, de la capacité meurtrière des armes, des financements spéculatifs internationaux, ou de la capacité

¹ Sur une observation générale, voir, pour n'en citer qu'un ouvrage, Michel Beaud, *Le basculement du monde. De la Terre, des hommes et du capitalisme*. La Découverte, 2000.

de transport, de communication ou d'informatisation), toutes ces nouveautés ont changé totalement le monde ainsi que notre vision du monde.

Cette nouvelle échelle des valeurs devrait, par conséquent, s'établir, en prenant pleinement conscience des trois acquis qui sont: (1) les nouvelles connaissances des sciences et des technologies, (2) les états actuels des régions du monde, (3) les traditions spirituelles des diverses civilisations.

Jusqu'aujourd'hui, les philosophes ont eu pour tâche d'avoir du monde et de l'humanité la connaissance la plus exacte possible, qui sert de base à une science réfléchissant à l'orientation de la société humaine. Cependant, compte tenu de l'accélération des changements d'ordre économique, social, scientifique, écologique qui risquent de rompre l'équilibre de notre monde physique et spirituel, il paraît souhaitable ou plutôt nécessaire que cette tâche soit accomplie aujourd'hui en collaboration avec des chercheurs de diverses disciplines.

A cette fin, nous proposons de créer un nouveau domaine des sciences humaines, dénommé *science généralisée de l'homme*. Cette science, qui, jadis aurait été appelée *philosophie*, et qui peut-être le serait aussi de nos jours, en diffère cependant sur les points suivants:

(1) Les recherches seront effectuées en collaboration, par un groupe de chercheurs.

(2) Le noyau en sera constitué par les chercheurs de tous les principaux domaines des sciences humaines, notamment des études classiques (textes classiques gréco-latins, bibliques, islamiques, indiens, chinois, japonais...);

Plus concrètement, les recherches seront conduites comme suit:

(1) Les chercheurs en sciences humaines (philologues, historiens, philosophes, sociologues, psychologues, anthropologues, éthologues etc.) dialoguent entre eux pour approfondir leur connaissance de l'humanité.

(2) En même temps, ils collaborent avec des économistes, sociologues, anthropologues, politologues d'une part et, d'autre part, avec des chercheurs en sciences naturelles, afin d'avoir une connaissance générale du monde actuel.

(3) Ainsi, ils étudient la possibilité de renouveler en profondeur la connaissance de l'humanité et du monde, lesquels sont en voie de désintégration et de réorganisation perpétuelles, et dont tous les éléments sont interdépendants (::complexité). L'étude ne visera donc pas à construire des systèmes fixes, mais à «dialoguer avec l'incertitude». «Il n'est pas de recette, il n'y a qu'une stratégie toujours recommencée.» (Edgar Morin)

(4) Néanmoins, ils parviendront (quoique de manière relative, car il faut constamment recommencer) à un consensus qui, en éliminant tous les préjugés éventuels, fournira les bases d'une nouvelle science qui est la *science généralisée de l'homme*. Tout en se gardant de l'universalisme facile comme du relativisme paresseux (François Jullien), elle devrait permettre une communication efficace des idées entre nous, même si nous relevons de cultures très différentes, et, par la suite, permettre de réfléchir en commun à l'orientation de l'humanité.

Préparations et avancement.

(1) Sur le plan national:

Pour réaliser la création de ce nouveau domaine des sciences humaines, nous avons formé à l'ILCAA (Research Institute for Languages and Cultures of Asia and Afrique, Tokyo University of Foreign Studies), depuis le mois d'août 2004, une équipe de cinquante-six chercheurs, appartenant à tous les principaux domaines des sciences humaines, sociales et naturelles, neuf d'entre eux constituant un comité exécutif.

Les chercheurs participant au projet se regroupent en cinq sections, selon les princi-

paux thèmes de recherche suivants:

I. Cognition de la nature.

1) Univers et vérité scientifique.

II. Cognition du monde (communautés).

2) L'individu et le monde: régimes traditionnels et la démocratie.

III. Cognition de l'humanité.

3) Compréhension réciproque des hommes:

Particularités des communications linguistiques et non-linguistiques.

4) Contrôle d'un homme en tant que 'nature', sur le plan privé ainsi que public.

5) Vies riches et satisfaisantes d'un homme: recherche de vies 'naturelles'.

Participent à ce projet les chercheurs dont les spécialités, outre les études classiques, sont les suivantes: philosophie, éthique, psychologie, littératures européennes contemporaines, politologie, droit civil, législation romaine et chinoise, économie, sociologie, anthropologie sociale, psychiatrie, physiologie, neurobiologie, éthologie, écologie, astrophysique, mathématiques, statistique, informatique, histoire des sciences, etc.

(2) Sur le plan international:

Invité à Paris par la Maison des Sciences de l'Homme au printemps 2004, Hideaki Nakatani en a discuté avec les chercheurs suivants:

Maurice Aymard (Administrateur, MSH), Colette Caillat (études indiennes, Académie des inscriptions et belles lettres), Gérard Fussman (histoire de l'Inde, Collège de France), Carlo Ossola (littérature néolatines, Collège de France), Maurice Godelier, Jean-Claude Thivolle, Jean-Claude Galey, Dominique Fournier, Salvatore d'Onofrio, Jane Cobbi (sociologue, anthropologie, MSH), Jean-François Sabouret (MSH, directeur du Réseau Asie). Pierre Judet de la Combe (études classiques, MSH), Michel Beaud (économie, Paris 7), Dominique Lester (éthologie, ENS), Brian Stock (études augustiennes, Toronto), Alain de Mijjola (psychiatrie), Jean-François Rischard (vice-président, Banque mondiale).

Nakatani souhaite que les chercheurs français constituent en France une équipe qui effectuera les recherches conjointes avec celle du Japon.

À cet effet, une convention de coopération scientifique entre l'ILCAA et la MSH concernant la science généralisée de l'homme sera conclue au mois de juin 2005².

En outre, ladite équipe de recherches à l'ILCAA a organisé au mois de mars 2005 à Tokyo un colloque international dont le thème et les conférences que voici:³

1) Thème: Le monde paisible et des vies enrichissantes de l'humanité: la recherche d'une science généralisée de l'homme.

2) Conférences:

- Homo Sapiens defined by Brain Science (Tsutomu Nakada).
- Humankind as an Animal: Ethological Point of View (Toshitaka Hidaka).
- Out of Africa: The Journey of the Oldest Tales of Humankind (Michael Witzel).
- 'Rites-Music' Culture of China and East Asia (Yoshiro Togawa).

(Paris, le 17 mai 2005)

² La convention a été effectivement conclue comme prévue.

³ Le programme du colloque se trouve à la page 6 de ce volume.

総合人間学のために

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1. 総合人間学の必要性

20世紀の科学技術は、医学、農業、土木・建築、運輸・通信、生命科学、情報科学等の多数の分野において急速に発達し、飢饉・災害・疫病の克服、人々の安全と豊かな物質的および文化的生活の実現に大きく貢献した。しかしまた同じ科学技術は、2次の世界大戦や国際・国内紛争、全体主義国家等における虐殺や飢饉、「絶対的貧困」とされる貧困層の拡大、環境破壊、新疫病等、重大な問題の、直接、間接の源ともなった。

これらの問題の多くがいまだ解決に至っていないのは、おおかたが政治の力不足と、その根底にある倫理的怠慢のゆえであろう。今日に至るまで人類社会は、つかの間の凡俗な繁栄に浸って、問題解決のための努力を十分してこなかったように見える。しかしこの「統治欠如態」とも呼ぶべき不全状態の放置は、深刻な結果を、現世代だけでなく未来世代にまでも及ぼすことになるのではなかろうか。¹

このような状況において重要なことは、グローバル化時代の激変する現代世界を適切に導く、地球運命共同体を自覚した、新しい価値観を確立することである。今日の多様な文明の価値観を形成した新思想の多くは、紀元前1千年紀半ばの数世紀間に現れた。現代世界の危機的状況は、諸文明のこれらの価値観が、その出現以来初めて、全体として行き詰まったことを示すものであろう。従って今こそ、個々の文明伝統の価値観を尊重する、従ってすべての人に受け入れられ政治と倫理の原則として機能する、世界の新しい価値軸を見出す必要がある。今日の価値観が人々の常識、社会の規範、政治の理念として既に2千年以上継続してきたことを思えば、これを行うには数十年を要するかも知れない。しかし肝要なことは、時既に遅しとなる前に、今ここで一步を踏み出すことである。

注意を払うべきは、現代世界の諸変化が幾何級数的に加速している事実である。量子物理学、生命科学、脳神経科学等における科学的知見や、社会、政治、経済の新事象（人口・生産・エネルギー消費の増大、兵器殺傷力の向上、投機的国際金融の簇生、運輸・通信・情報処理技術の飛躍など）は、世界を急速に変容させ、人々の世界認識を一変させつつある。

したがって新しい価値観は、次の3事実を十分考慮して確立されなければならない。すなわち（1）科学および科学技術の新知見、（2）世界諸地域の現況、（3）諸文明の多様な精神伝統、である。

今日に至るまで哲学者は、世界と人間に関する可能な限り正確な認識の獲得をその

¹ 全体的展望については、一つのみを上げるとすれば、ミシェル・ボーの次の書を参照。『大反転する世界－地球・人類・資本主義』筆宝康之・吉武立雄訳、藤原書店、2002年（Michel Beaud, *Le basculement du monde. De la Terre, des hommes et du capitalisme*. La Decouverte, 2000.）

務めとしてきた。その認識が人間社会の進むべき方向を考察する学術の基礎となってきたのである。しかしながら、人々の物質界および精神界の均衡を喪失させる恐れのある、経済、社会、科学、環境分野における近年の変化の加速を考慮するならば、この仕事は諸種の学術に従事する研究者の共同作業として行われることが望ましい。というよりはむしろそれは必須である。

このゆえに我々は、「総合人間学」と称する新しい人文科学の一領域を提案する。かつて哲学と呼ばれ、今日なおそう呼ばれてよいかも知れないこの学術は、しかしながら、次の点において哲学とは異なる。

- 1) 研究が研究者集団によって共同で成されること。
- 2) その中核が人文科学の主要領域、とりわけ古典学（ギリシア・ローマ、聖書、イスラム、インド、中国、日本等の古典）の研究者によって構成されること。

具体的には研究は次のように実施されるであろう。

- 1) 人文科学（文献学、哲学、歴史学、社会学、心理学、人類学、動物行動学等）の研究者が互いに対話し、人間に関する知識を深める。
- 2) 同時に彼らは、一方では政治学者、経済学者と、他方では自然科学者と共同して現代世界を概括する知識を獲得する。
- 3) このようにして、恒常的に解体と再編を繰り返しそのすべての要素が相互依存している（「複雑系」としての）人間と世界に関する知を、根底的に刷新する可能性を考察する。この考察は、従って、固定的体系の構築を目指すことなく、「不確実さとの対話」を目指し、「処方箋はなく常に作り直される戦略しかない」（エドガー・モラン）ものとなるであろう。
- 4) とは言え彼らは、その時々あらゆる偏見を排した一つの合意に、（常に作り直すのであるから相対的なものではあるにせよ）到達するであろう。これが「総合人間学」という新しい学術の基盤をなすのである。安易な普遍主義と怠惰な相対主義とをともに警戒しつつ（フランソワ・ジュリアン）、総合人間学は、たとえ我々が互いにまったく異なる文化に属していようとも、我々の思想の実質的な疎通を成り立たしめ、従って、人類の進路について共同して考察することを可能とするであろう。

2. 準備と進捗状況

(1) 国内において

この人文科学の新領域創出の実現に向けて、我々は東京外国語大学アジア・アフリカ言語文化研究所（AA研）において2004年8月以来、人文、社会、自然科学のすべての主要分野に属する56人の研究者からなる共同研究プロジェクト（うち9人を執行部とする）を実施してきた。

参加研究者は主要研究課題に従って次の5部に分けられる。

I 自然の認識

1) 宇宙と科学的真理

Ⅱ 世界（共同体）の認識

2) 個人と世界：伝統体制と民主主義

Ⅲ 人間の認識

3) 人間の相互理解：言語的および非言語的意思疎通の諸特性

4) 「自然」としての人間の制御：私生活と公共の場とにおける

5) 人間の豊かで満足できる生活：「自然的な」生活の研究

参加研究者のうち古典研究者以外の専門は次の通り。哲学、倫理学、心理学、現代ヨーロッパ文学、政治学、民法、中国・ローマ法制史、経済学、社会学、文化人類学、精神分析学、生理学、神経生物学、動物行動学、環境学、天文物理学、数学、統計学、情報科学、科学史等。

(2) 国際的に

2004年春にパリの人間科学館に招聘された中谷は総合人間学に関して次の研究者と討論した。

モーリス・エマール（人間科学館館長）、コレット・カヤ（インド学、碑文文学学士院会員）、ジェラルド・フスマン（インド史、コレージュ・ド・フランス）、カルロ・オッソラ（後期ラテン文学、コレージュ・ド・フランス）、モーリス・ゴドリエ、ジャン＝クロード・チボル、ジャン＝クロード・ガレ、ドミニク・フルニエ、サルバトレ・ドノフリオ、ジャヤンヌ・コッビ（以上、人類学、社会学、人間科学館）、ピエール・ジュデ・ド・ラコンブ（古典学、人間科学館）、ミシェル・ボー（経済学、パリ第7大学）、ドミニク・レステル（動物行動学、哲学、高等師範学校）、ブライアン・ストック（アウグスティヌス学、トロント大）、アラン・ド・ミジョラ（精神分析医）、ジャン＝フランソワ・リシャール（世界銀行、副総裁）

中谷はフランスの研究者がフランスに研究グループを作り、日本のプロジェクトと共同研究を行うことを願っている。この目的に沿って、AA研と人間科学館の学術協力協定が2005年6月に締結される予定である。²

また上記AA研共同研究プロジェクトは2005年3月、東京において国際シンポジウムを開催した。そのテーマと講演題名・講演者は次の通り。³

第1回総合人間学国際シンポジウム「人にとって豊かな生とは何か」

- 人間の条件－脳科学の知見から（中田力、新潟大学・統合脳機能研究センター長）
- 動物としての人間－動物行動学の視点から（日高敏隆、総合地球環境学研究所長）
- アフリカを出立して－人類最古の神話群の悠久の旅（Michael WITZE、ハーバード大学教授）
- 中国、そして東アジアの「礼樂」文化（戸川芳郎、東方学会理事長）

（パリ、2005年5月17日）

² 予定通り、総合人間学に関する両研究所の学術協力協定(5カ年計画)は2005年6月に締結された。

³ プログラムは本書6ページに掲載した。

NOTE SUR LA SCIENCE GÉNÉRALISÉE DE L'HOMME

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La science généralisée de l'homme est une nouvelle science visant à établir un savoir sûr et créatif approprié au monde contemporain par des réflexions générales et approfondies sur le savoir humain.

* * *

Un être qui a acquis le premier sur terre la faculté de se reproduire soi-même, ou le premier être vivant, n'a pas tardé à posséder également la faculté de détecter son environnement et celle de conserver ces informations. La faculté de les exprimer et les communiquer à d'autres êtres vivants en a découlé.

Ce système du savoir des êtres vivants qui consiste en trois parties principales entrée - conservation - sortie des informations, à savoir connaître le monde environnant, conserver ses informations et les communiquer, peut être reconnu invariablement dans le savoir des êtres vivants depuis les arthropodes, bien que ces trois parties aient évolué ou aient dégénéré selon les espèces et selon les périodes.

Une fois que le développement du savoir des êtres vivants aura été retracé ainsi, nous comprendrons mieux la particularité du savoir humain. Les éthologie, anthropologie, neuroscience, génétique, linguistique générale, biologie évolutionnaire, psychologie évolutionnaire, etc., en effet, ont dévoilée celle-ci ou sont en train de la dévoiler, en la comparant avec celles très diversifiées des autres animaux. Elles éclairciront notamment les formations et fonctions du langage humain et celles de la zone préfrontale du cerveau humain, qui se sont développées particulièrement chez l'homme. Le langage lui a permis d'avoir une intelligence très complexe, bien que tous les êtres vivants vivent plus ou moins avec un savoir de même nature. La zone préfrontale du cerveau humain, quant à elle, permet d'avoir une émotion proprement humaine (prévenance, sens des responsabilités, maîtrise de soi, etc.), alors que, au cas où un homme a perdu cette zone dans un accident, il ne perd pas la moindre faculté de langage.

Voilà, par exemple, une observation pour ainsi dire de l'extérieur du savoir humain.

* * *

Quant au contenu même du savoir humain, nous pouvons reconnaître ce que l'homme a le plus anciennement senti, a pensé, ou a exprimé, à l'aide d'une mythologie comparée nouvellement développée par Michael Witzel (Harvard Univ.). En effet, dans ces dernières années, il a essayé de démontrer que des mythes le plus anciennement créés en Afrique (il y a environ cent mille ans), qui seraient le plus ancien savoir humain reconnu sous forme de langage, ont été transmis le long du bord de la mer en Océanie (il y a cinquante mille ans) et, plus tard, diffusés dans toute l'Eurasie (il y a trente mille ans).

Pour une période plus récente, à savoir pour les derniers cinq mille ans, les sentiments

et les pensées transmis chez des peuples oralement, par écrit ou sous forme de divers arts ou rites religieux peuvent être éclaircis par les études classiques, historiques, anthropologiques, etc. Le savoir - ces sentiments et pensées - d'un groupe d'anciens, accumulé avec le temps a acquis en fonction du cadre géographique ou historique, des particularités par rapport à ceux des autres groupes pour former finalement un sens commun propre à une civilisation.

C'est ainsi que la mythologie et la civilisation peuvent être considérées comme deux éléments principaux qui constituent le savoir humain avant les temps modernes.

* * *

Au seuil des temps modernes, Descartes a souligné la gigantesque force potentielle de la physique qui pourrait exploiter la nature; c'est alors que s'est déclenchée une époque dite de science qui est la nôtre avec application de la physique ou de la science. Désormais les caractéristiques de la nature sont mesurées en quantité pour être utilisées au profit du bien-être de l'humanité.¹

Comme la quantité est l'information la plus facile à détecter, conserver et communiquer, les technologies scientifiques soutenues par les faits positifs quantitatifs ainsi que par leur logique ont bientôt fait un grand bonheur à l'homme, en même temps qu'elles le menacent par leur forces mêmes (bombe atomique, problèmes de l'environnement, influence sur la spiritualité humaine, etc.).

Etant donné l'énorme pouvoir des technologies modernes, il n'y aurait jamais eu une époque où la conception du futur monde soit pour l'humanité aussi cruciale qu'aujourd'hui. Mal employées, elles la tueront, alors que proprement employées, elles lui apporteront un bien-être inimaginable.

* * *

Maintenant, donc, il est d'une importance primordiale de former un nouveau savoir sûr et approprié au monde contemporain.

Il faudrait commencer par approfondir les connaissances du monde environnant, comme c'est de tradition chez les êtres vivants. Connaître ce qui se passe dans le monde actuel, ce serait se rendre compte de situations économiques et sociales (opulence et pauvreté, famine, épidémies, finances internationales, etc.), de dynamiques politiques (conflits, démocraties, despotismes, partis politiques, etc.), et de problèmes de l'environnement, de tous les coins du monde. En d'autres termes, ce serait réexaminer à fond ce que les technologies ont apporté et surtout celles de pointe (neuroscience, informatique, génétique, nanotechnologie, etc.) va apporter au monde actuel où de diverses traditions spirituelles des civilisations sont encore vivantes.

D'autre part, il faudrait aussi redéfinir ce qui est la vie ou les vies souhaitable(s) pour nous tous. C'est bien entendu ce qui est nécessaire pour trouver le bon chemin d'un monde souhaité.

Quels étaient exactement d'ailleurs ces divers bien-être vifs et riches que les civilisations ont conçus? Quelles valeurs peuvent-ils garder aujourd'hui, compte tenu à la fois de

¹ Sur la formation en Europe depuis 13^e siècle des conceptions du monde basées sur la quantification, voir, *The measure of reality : quantification and Western society, 1250-1600*, by Alfred W Crosby, Cambridge University Press, 1997.

l'histoire totale du savoir des êtres vivants et de situations du monde actuel?

Les méthodes et les concepts des sciences sociales et humaines devraient être révisées, d'autant plus que depuis 15^e siècle, celles-ci ont accumulé toutes les informations venant du monde entier pour en former un savoir organisé presque uniquement du point de vue européen². Pour ne pas laisser tomber les autres, il est nécessaire que les diverses valeurs de toutes les civilisations soient minutieusement réexaminées par une coopération d'un groupe de chercheurs qui, sous forme de dialogues directs, approfondiront leurs connaissances des valeurs de civilisations et des bien-être que les civilisations ont apporté ou prétendent avoir apporté.

D'autre part, l'adoration de l'autorité de la science moderne a engendré une idée erronée telle que seuls ceux qui sont mesurables en quantité sont significatifs pour notre vie.

Ou encore, il est à craindre que des vérités pseudo-scientifiques, censées absolues, règnent notre vie intellectuelle, religieuse, ou civile (des consommateurs), alors que la science authentique, en fait, ayant pour principe de se renouveler incessamment, n'admet qu'une vérité relative et temporelle.

Chose plus importante encore, la neuroscience et la génétique obtiendront bientôt la capacité de manier nos sensibilités ou notre personnalité même. La biologie moléculaire se donnant à la fabrication d'organes, y compris le cerveau, la prolongation de notre vie jusque' à l'éternité, ou presque, n'est plus un rêve.

Finalement, est-ce une vie éternelle de satiété et de volupté dans une serre aseptique que nous souhaitons? Ou au contraire, faut-il retourner à une vie simple des hommes primitifs dépendant entièrement de l'arbitraire de la nature environnante (comme c'est souvent proclamé par certains des écologistes ou des religieux)? Ou bien encore, y-a-il une troisième vie qui est équilibrée, enrichissante et digne de vivre et qui ne s'écarte pas tellement des valeurs traditionnelles des civilisations?

Il nous faudrait y bien réfléchir. Ce sera seulement après cette réflexion et sur la base de sa conclusion que nous pourrons imaginer une société future à réaliser.

* * *

En fin de compte, ce qui est nécessaire actuellement, ce serait:

- 1) Reconsidérer le savoir humain de l'extérieur et de son contenu, à savoir, d'une manière bio-historique et historique. La reconsidération relève en particulier, d'une part, de fonctions du langage et de la zone préfrontale du cerveau humain, de l'autre, de la mythologie et des civilisations.
- 2) Se rendre pleinement compte des situations actuelles du monde entier et des acquis des sciences, notamment celles de pointe.
- 3) Rechercher ce qui constitue la vie qui mérite de vivre, en tenant compte à la fois des dites reconsidérations et informations, et notamment de ce qui sera réalisé par les sciences de pointe. Ces recherches nous permettront de réviser l'eurocentrisme des sciences humaines et sociales d'aujourd'hui ainsi que l'omnipotence imposée à la science moderne et, du même coup, de concevoir une future société globale convenable pour

² Maurice Aymard a souligné la nécessité de 'déseuropéaniser les sciences sociales et humaines' au 2nd symposium international de science généralisée de l'homme, tenu à Tokyo les 22, 23 octobre 2005, dans sa conférence 'Reconsidering States and Citizens of Europe for a Reformulation of the Methods and Concepts of Human and Social Sciences'.

toute l'humanité.

Vu la vitesse du développement du monde et de la science ainsi que l'urgence de besoins, nous ne pourrons réaliser à temps cette tâche de reconsidérations et de synthèses sans une coopération de chercheurs de toutes les disciplines concernées. Voilà donc la nécessité d'établir un nouveau champ de recherches des sciences humaines et sociales, que nous appellerons 'science généralisée de l'homme' (SGH).

Il est possible que la conception ainsi produite de la future société soit à renouveler à la limite à chaque instant; néanmoins, la SGH définira une méthode pour sa conception.

Une fois que les principes seront ainsi établis dans un but de réaliser un monde idéal, il nous sera possible de prendre des mesures pour faire face aux problèmes mondiaux d'une manière la plus convenable et harmonieuse (efficace, mais avec les effets secondaires, s'il y en a, les plus minimes).

La SGH accorde de l'importance particulière au dialogue des chercheurs, parce qu'elle le considère comme le moyen le plus sûr et prompt; dans cinq ans, elle s'établira elle-même comme une discipline assurée.

Basée sur nos connaissances exhaustives de l'humanité (avec des observations de l'extérieur et de l'intérieur), la SGH est un savoir sûr. En créant des nouvelles conceptions de la vie, elle est aussi un savoir créatif, comme c'est de tradition aux êtres vivants et surtout à toutes les civilisations humaines.

(Tokyo, le 15 mars 2006)

総合人間学覚書

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総合人間学は、人間の知の包括的かつ根本的な見直しによって、現代世界にふさわしい確実に創造的な知の確立を目指す新しい学術である。

* * *

自己を複製するものとして初めて地球上に現れた存在すなわち最初の生物は、ほどなく周囲の環境を感知する能力、そしてそれらの情報を蓄積する能力をも持つに至った。そこからさらにその情報を表現し仲間の生物に伝達する能力が現れる。

環世界を認識として取り込み、それを記憶し、表現して他者に伝えるという、情報の「入－蓄－出」から成る「知」のこの基本的三部構造は、各部の機能が種により時期によって発達や退化をしたものの、例えば昆虫からヒトに至るまで一貫するものと捉えることができる。

このような構造を持つものとしての知の進展を生物史において俯瞰した時、ヒトの知の特性がよりよく理解されるであろう。事実、動物行動学、霊長類学、脳科学、遺伝子学、一般言語学、進化生物学、進化心理学等はヒトの知のあり方を生物の極めて多様な知と対比して明らかにしつつある。とりわけ、ヒトの知として格段に発達した言語機能や大脳前頭前野の機能の形成過程と特性が明らかになりつつある。言語は、他の生物も多少なりとも同様の知を有しないわけではないが、ヒトにきわめて複雑な知力をもたらした。他方、ヒトの脳の前頭前野はヒトに固有の感情（思い遣り、責任感、自己抑制等）を作り出すが、他方、事故で前頭前野を失った人の言語能力にはなんら支障が見られない。

例えばこれらが、謂わばヒトの知の、外部からの観察である。

* * *

これに対し、最も古くヒトが何を感じ、考え、表現していたか、すなわちヒトの知の内容そのものが具体的に判明するのは、言語から成る世界認識の表明として最も古い、世界各地に残される神話を通じてである。近年ミヒャエル・ヴィッツェル教授（ハーバード大学）らが開拓しつつある比較神話学は、およそ10万年前に作られた最古の神話が海沿いにオセアニアに伝えられ（5万年前）、少し遅れて（4万年前）ユーラシア全体に流布したようすを明らかにしつつある。

他方、より新しい時代すなわち最近の5千年に関しては、諸文明の古典学、歴史学、人類学等が、口承や書写によって、あるいは芸術や宗教儀礼として伝承された人々の感情・思考を明らかにしている。一つの集団に蓄積された感情と思考、すなわち「知」は、やがて地理的、歴史的枠組みに応じて他の諸集団のそれとは異なる個性を持つようになり、遂には一つの文明に固有の常識を形成する。

このように神話と文明は、近代以前の人々の知を構成する2つの主要な要素と言える。

* * *

近代の冒頭、デカルトは自然を利用し得る自然学（physique）の、人類の福祉に対する巨大な潜在力を指摘した。こうして自然学すなわち科学の応用によって科学の時代と呼ばれる今日の時代が始まった。これ以降、自然の特性は数量的に計測され、人類の福祉に利用されることとなった¹。

「量」という情報は最も探知・蓄積・伝達が容易であり、計量による実証と論理に支えられた科学および技術は、人類にとって巨大な福祉を実現すると同時に、現代では人類自身の存在を脅かすほどの力（核爆弾・地球環境問題・人間精神への影響等）も持つに至った。

人類の知が卓越した科学技術力を獲得した現代世界ほど、未来社会の明確な構想が重要な意味を持つ時代は、かつてなかったと言える。使い方を誤れば自身を抹殺しかねない。適切に用いれば想像を絶する福祉が実現される。

* * *

従って今こそ、現代世界にふさわしい確実な新しい知を形成することが枢要事なのである。

未来社会の構想は、生物の伝統に則って、先ず環世界の認識を深めることから始めるべきであろう。現在、世界で何が起きているかを具に知るということは、世界諸地域の経済・社会状況（奢侈と貧困、国際金融、飢餓、疫病、災害等の状況）、政治状況（紛争、民主主義、専制主義、政党等）、地球環境問題などの概要を知ることである。言い換えればそれは、種々の文明の精神伝統が息づいているこの世界に、科学技術が齎したものの、またとりわけ先端科学（例えば脳科学、情報科学、遺伝子学、ナノテクノロジー等）が齎そうとしているものを見極めることに他ならない。

一方ではまた、我々すべてにとって望ましい生の種々のあり方を明確にしなければならないであろう。言うまでもなくそれは、望ましい世界に向かう正しい道を見出すために必須である。

そもそも諸文明が構想した、生命力に溢れた個性的で豊かな生の多様なあり方は如何なるものであったのか。それらは生物の知の歴史の総体ならびに現代世界の諸状況と付き合わせる時、今日において如何なる意味を持ち得るか。

大航海時代以来、西欧が一手に世界の情報を収集し、それをほとんど西欧のみの価値観によって体系立てて一つの知と成してきた近代人文科学の方法と概念は見直されなければならない²。他の諸文明の視点を看過しないよう、すべての文明の多様な価値が、研究者の共同研究によって綿密に再検討される必要がある。彼らは直接対話を通じて、諸文明の諸価値と諸文明が実現した、あるいは実現したと称する福祉について知識を深めるであろう。

他方、近年における科学技術力への過信は、「計量され得るもののみが我々の生にとって意味を持つ」という偏った考え方を広めている。

あるいは、ほんらい常に自己を超越し続けるものであって相対的かつ時限的な真実

¹ 「数量化」による世界観が13世紀以降ヨーロッパに確立されてゆく過程については次の書参照。アルフレッド・W. クロスビー著、小沢千重子訳『数量化革命：ヨーロッパ覇権をもたらした世界観の誕生』紀伊國屋書店、2003年。

のみを容認する科学を現時点において固定化し絶対視して、それ以外のものを非科学的とする非科学的科学主義が、その「絶対的真理」によって我々の知的、宗教的生活、ひいては（一消費者としての）市民生活そのものを支配することも危惧される。

さらには、より重要なことであるが、脳科学や遺伝子学はほどなく人間の感性や人格さえ変え得る段階に達しようとしている。分子生物学は脳を含む器官の生成に取り組んでおり、人間の寿命が半永久的となる日もすでに夢物語ではなくなりつつある。

究極のところ、我々は無菌の温室中での永遠の飽食と逸楽を望むのであろうか。あるいは逆に周囲の自然の力に任せた昔ながらの簡素な「古代人的生活」に回帰すべきであらうか（環境保護主義者や宗教者は時にそう主張するように見える）。そのどちらでもない、より均衡の取れた、生きるに値し、しかも諸文明の多様な伝統的価値観にもあまり違背することのない「豊かな生」はあるのであろうか。

我々はよく考察しなければならない。この考察の後に、そして考察の結果を踏まえて初めて、実現すべき未来社会を構想することができるのではあるまいか。

* * *

結論として、いま必要なことは、次の3点である。

- (1) 人類の知のあり方を外観と内容において、すなわち生物史のおよび歴史的に、再考察すること。再考察はとりわけ、一方では言語と大脳前頭前野に関わり、他方では神話と文明に関わるであらう。
- (2) 現代世界の諸状況と科学、とりわけ先端科学の成果を把握すること。
- (3) 上記の再考察と諸情報、とりわけ先端科学が実現しようとしていることを考慮に入れて、生きるに値する生とは何かを考究すること。この考究によって今日の人文社会科学のヨーロッパ中心主義は是正され、また近代科学に擬せられた全能性は修正される。そして人類すべてにとってふさわしい、全地球的な未来社会の構想が可能となるであらう。

世界の諸状況の変化と科学の進展の速さ、ならびに迅速な対策の必要を考慮するならば、この再考察と総括の作業は、すべての関係諸学術の研究者の共同なしには、間に合わないであらう。これが「総合人間学」と我々が称する人文・社会科学の新研究領域が必要な理由である。

未来社会構想そのものは、極端に言えば時々刻々更新されなければならないほど可変的なものとなると予想されるが、しかし、総合人間学は構想の「方法」を確定するであらう。

理想的世界の実現を目的とする諸原則が確定されて初めて、我々は世界の諸問題に対処する最も適切かつ調和的な（効果的な、たとえ副作用があるとしても最も小さい）

² 人文社会科学の脱ヨーロッパ化の必要性については、人間科学館(仏)=アジア・アフリカ言語文化研究所(日) 学術協力協定締結記念第2回総合人間学国際シンポジウム「諸文明から未来世界を構想する」(東京・2005年10月22日・23日、東京)におけるモーリス・エマール氏の発表「ヨーロッパの国家および市民のあり方再考—人文・社会科学の方法と概念の再構築のために」参照(要旨はAA研『通信』117号、2006年7月、2ページ以下にある)。

手段をとり得るであろう。

総合人間学は「専門家の直接対話」をとりわけ重視する。それが最も信頼でき、かつ迅速な方法と考えるからである。5年以内に総合人間学は確固とした学術としての地歩を築くであろう。

総合人間学は、人間に関する（内部ならびに外部からの観察による）包括的な知に基づくから、確実な知である。また生き方の新しいイメージを創り出すから、創造的な知である。それは生物の伝統、とりわけ人類のすべての文明の伝統を継ぐことなのである。

（東京、2006年3月16日）

OUT OF AFRICA: THE JOURNEY OF THE OLDEST TALES OF HUMANKIND

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Summary

This paper deals with the comparison of ancient and modern mythological cycles, even with that of the *complete* mythologies of tribes and peoples. As such, it proceeds beyond the common approach of comparing individual myths, and establishes an underlying pattern that is found in most of Eurasia and in the pre-Columbian Americas (Laurasia). This pattern is characterized by a unique *story line*, from the emergence of the world and of humans to an eventual destruction and a hoped-for new world.

The Laurasian pattern was established by some of the early emigrants *out of Africa*, some 50,000 years ago. After its discovery (Kyoto, 1990¹), several fields of the sciences and humanities have developed approaches that overlap with the proposed scenario: the dynamic development of human genetics (Cavalli-Sforza, 1994, etc.) and of long-range linguistic comparisons (Ruhlen 1994, etc.).²

The three fields of mythology, linguistics, and genetics, are further supported by archaeology and by the study of the oldest and as well as the geographically most isolated modern texts available to us. They all indicate an early spread of present *homo sapiens* out of Africa, along the shores of the Indian Ocean up to Australia (Gondwana); this was followed by another wave which brought the Laurasian pattern to most of Eurasia and the Americas. It can now be correlated with certain genetic markers (mtDNA M,N,R descendants; Y chromosome haplogroups V - X) and certain language families (Nostratic, Sino-Tibetan, Austric, Amerindian, etc.)

Consequently, the field of historical comparative mythology lends itself perfectly to the new approach discussed in this symposium: cooperation and combination of the humanities and the sciences.

Comparative mythology is also important for the other central topic of the symposium, that of a "peaceful world and enriching human lives". Humans apparently cannot live without myths, of whatever nature. The Laurasian pattern underlies the mythologies of most modern peoples, by now also of most parts of Africa and of Australia. Laurasian mythology thus guides people --and politicians-- whether they are aware of it or not. Even some of our scientific ideas about the cosmos and living beings follow the pattern closely.

The study of our shared mythologies will allow us to perceive our common spiritual origins and to discover our underlying common patterns of thought, which will help us, it is hoped, to understand each other better.

¹ See Witzel, Kumano kara Woruga made. *Zinbun* 36, 1990, 4-5

² Ruhlen, M. 1994a, b.

Mundi origo.

Before the ocean and the earth appeared--
 before the skies had overspread them all--
 the face of Nature in a vast expanse
 was naught but Chaos uniformly waste.
 It was a rude and undeveloped mass,
 that nothing made except a ponderous weight;
 and all discordant elements confused,
 were there congested in a shapeless heap.
 As yet the sun afforded earth no light,
 nor did the moon renew her crescent horns;
 the earth was not suspended in the air
 exactly balanced by her heavy weight.

P. Ovidius Naso, *Metamorphoses*

At the time when the light of the sun was subdued
 To cause light to break forth
 At the time of the night of Makalii (winter)
 Then began the slime which established the earth,
 The source of deeper darkness,
 Of the depth of darkness, of the depth of darkness,
 Of the darkness of the sun, in the depth of night,
 It is night, so it was born.

Kumulipo, (Hawai'i), transl. by
 Queen Liliuokalani

§ 1. HISTORICAL COMPARATIVE MYTHOLOGY

Unlike the papers in this volume devoted to the sciences, the present paper will deal with a *prima facie*- very "fuzzy" topic, mythology.

Fairy tales, folklore, legends, sagas, and epics are known to shift in style and content over time, and the same can be said about myths: they have primarily been transmitted orally, by word of mouth, from father to son, and from mother to daughter. Like all oral literature, no constancy in content and preservation of form is expected. However, as I will try to show, with regard to myth, this is misleading. In addition, myths have been given a multitude of contradicting interpretations (see below).

Keeping these problems in mind, one may justifiably ask how can one even begin to talk about humanity's oldest tales, as the title of this paper announces. However, as we shall see, mythology is a topic that has links to several fields in the humanities and the sciences: genetics, archaeology, linguistics and textual studies (philology). Thus, it ideally fulfils the parameters for the new field of "generalized sciences."

In addition to archaeology, anthropology and genetics, all of which have already delivered important results for the reconstruction and understanding of the earliest somatic forms of humans, their behavior, their culture and their speech, I propose to add the study of the earliest forms of mythology³ as well.

A brief definition of myth may run like this: Myths are highly regarded, more or less standardized, non-secular tales dealing with questions of the origin, nature and ultimate destiny of the world and its human beings, including those of their societies, rituals and festivals. There

³ This section is based on the results of my still unpublished book, *Origins*, much of it originally written --on renewed direct experience and contact with Japanese religion, myth and folklore-- in 1990, during a sabbatical at the Institute for Research in Humanities (*Jimbun Kagaku Kenkyujo*) of Kyoto University, expanded and revised later on, during a Sabbatical at Tokyo Gaikokugo Daigaku (TUFS, AA-Kenkyujo) in 2004/5. These results have been used (and tested) in classes at Harvard 1990-2000, and in some public lectures (June 30, 1990 at Kyoto University, in March 1993 in a conference on mythology organized by Phyllis Granoff at McMaster University, in Feb. 1998 in the century-old *Shop Club* at Harvard, where we "talk shop" about our own fields of study), at the 2004 Leiden conference 'Myth and the disciplines,' as well as in several talks in Japan (Sendai, Tokyo, Kyoto) in 2005.

are many other formulations; however, a very comprehensive and useful definition has recently been given by W. van Binsbergen.⁴

Although myths have been studied for a long time, ever since the Ancient Greeks, Indians and Chinese, and in modern Europe for the past 330 years,⁵ comparative studies of myths have not yet yielded a cogent system of relationships.⁶

Comparative mythology

Previous interpretations have usually been restricted to *one* myth, or variants of it. If similarities between certain myths in various cultures have been noticed they were explained in various fashions, the two most current ones being those of diffusion and of archetypes.

Diffusion entails that the similarities in widely distributed myths are due to a gradual dispersal of such motifs from a known or reconstructed center.⁷ In most cases, however, we can no longer follow the trail of such myths or myth complexes. 'Classical' shamanism with its myth of the shaman's death, recomposition of the body, ascent to the heavens, etc., is spread over a wide area, from Siberia to Nepal and from Lapland to the Americas but we do not know how it spread and when, or whether it really was the predecessor of certain mythologies and religions now existing in Eurasia. The same holds for individual myths such as the Orpheus myth which is found in Greece, Japan, N. America, etc.⁸

The other currently common theory that aims at explaining such similarities is based on C.G. Jung's psychology. According to his explanation (followed by J. Campbell and others), certain motifs, or their composite parts, the archetypes, are *universally* human. The image of the Mother/mother deity, the Goddess, is supposed to be one such archetype. Since archetypes

⁴ van Binsbergen, W. paper at the Conference 'Myth and the disciplines' Leiden Dec. 12, 2004, see:

http://www.shikanda.net/ancient_models/leopard/leopardwww.htm, cf. also

<http://www.shikanda.net/topicalities/kyoto/kyoto.htm>. A myth is

- a narrative (told or recited at certain special occasions)
- that is standardised (to some extent)
- that is collectively owned and managed (often by specialists)
- that is considered by its owners to be of great and enduring significance
- that (whether or not these owners are consciously aware of this point) contains and brings out such images of the world (a cosmology), of past and present society (a history and sociology) and of the human conditions (an anthropology) as are eminently constitutive of the life society in which that narrative circulates, or at least: circulated originally.
- To this we may add that, if this constitutive aspect is consciously realized by the owners, the narrative may be invoked (aetiologically) to explain and justify present-day conditions)
- and that therefore is a powerful device to create collectively underpinned meaning and collectively recognised truth (regardless of whether such truth would be recognised outside the community whose myth it is).

⁵ See Feldman, B. and R. D. Richardson 1972; and cf. Kazuo Matsumura, presentation at the IAHR Conference, Tokyo March 2005.

⁶ There is a long list of interpretations of myth, from the antique (Xenophanes, Heraclit, Plato, Euhemeros) and the Renaissance stance (Vico) regarding them as allegorical or euhemeristic, from Max Müller's disguised nature myths to astral mythology, from ritual to Malinowski's social charter, from Freud's theories of repression to Jung's universal psychic archetypes, from myth as disguised history to Lévi-Strauss' binary, structural analysis supposedly reflecting the structure of the human mind.

⁷ Well attested cases, however, are those of Judaeo-Christian, Islamic or Buddhist myths, which have swept large parts of the globe well before the age of European discovery and colonialization.

⁸ The spread of such myths has been studied especially by Stith Thompson and his school.

are universal, they can appear in dreams, visions and myths, and are supposed to re-emerge even in areas where they have traditionally not been prominent, such as in certain European societies.⁹ However, if this were correct, we would expect that such motifs, archetypes and myths based on them would indeed turn up in *all* parts of the globe. This, however, is not the case.

The Laurasian Theory

In order to substantiate this view, we will have to take another look at comparative mythology in a wholly new way. This is not done in the old Frazerian way, certainly not in the manner of the diffusionists such as Frobenius and Baumann, nor with the Indo-European-centered method of Dumézil, not to mention the various psychological approaches of Jung, Campbell, and others, or the structuralism of Lévy-Strauss and his followers. Instead, the approach proposed here reminds of the 19th century historical and comparative method. Indeed, the present proposal and methodology has recently, albeit unwittingly, been called "essentially romantic"¹⁰ as it looks for and points toward a *common source* that certainly "may no longer exist," as W. Jones put it with regard to the Proto-Indo-European parent language.

Just as in historical comparative linguistics, I *do not compare randomly* materials from all over the world, but only those mythologies that follow *a certain narrational scheme*. The problem with the earlier types of explanations of myth proposed so far¹¹ is that they fail to address the central, but generally *unnoticed* problem: the comparability of *whole systems of myths*; or, to use the linguistic simile, the comparison of whole grammars, not just of particular words, forms, declensions/conjugations or syntactical features. When comparing *whole systems of myths* it can then be noticed --though this has not been done so far-- that whole mythologies, such as the Vedic Indian or Maya or Japanese one, do not only have similar contents (individual myths with similar motifs/archetypes) but that these items are also *arranged* in similar fashion. Indeed, a fairly large number of these mythologies exhibit the narrational scheme of a *common story line*.

This scheme encompasses, in succession, the ultimate of origins of the universe and

⁹ Conveniently forgetting about the pre-Protestant image and worship of Mary, mother of Christ, which is mythologically very complex: Mary as mother, immaculate virgin, ruler of the world, and as a sort of heavenly bride, -- all under the guise of a very important Christian saint (cf. on Amaterasu, K. Matsumura, "Alone among Women" 1998: 42-71).

¹⁰ As W. Doniger chose to call it in *The New York Times Book Review* (July 14, 1991: 3, 26): "Given cultural convergences the theoretically possible explanations are: (a) diffusion, (b) derivation from a common source (c) derivation from structural characteristics of the human mind. [Ginsburg] rejects the idea of a common source because he rejects a model which is Romantic even before it is positivist: that of the genealogical tree." However it is precisely this model that has been successfully used by comparative historical linguistics, palaeontology, and -- visible in popular accounts since the Fall of 1990-- in the very influential genetic studies (cf. Witzel 2001). Incidentally, in her review, Doniger had many of the facts in hand that would have allowed her to observe the opposition between Eurasian (Laurasian) and sub-Saharan African (Gondwana) mythology that is detailed in this paper, but due to the engrained 'path dependencies' (Farmer *et al.* 2000) of psychological interpretation from Freud onwards, she failed to draw the obvious conclusions discussed here and in earlier papers. Recent advances in human genetics lend additional support to this scenario; such results (especially the early, Paleolithic emigration from Africa along the coasts of the Indian/W. Pacific oceans) will be dealt with separately.

¹¹ See W. Doty, *Mythography* 1986.

the world, the subsequent generations of the gods, an age of semi-divine heroes, the emergence of humans, and the origins of noble or "royal" lineages. It frequently includes a violent end to our present world, sometimes with the hope for a new world emerging out of the ashes. Ultimately, the universe is seen as a living body, in analogy to the human one: it is born from primordial incest, grows, develops, comes of age, and has to undergo final decay and death.

The currently fashionable explanations in terms of general human universals cannot explain the extraordinary amount of similarities and congruities across many myths, whether their authors suppose binary structures of arrangement of mythological items (Lévi-Strauss), or psychic archetypes (Jung, Campbell), or of diffusion (Baumann, Stith Thompson). For, these congruities are found in large areas of the world, but they are *not found* on all continents nor are they *evenly distributed*.

The new comparative approach proposed here has been developed over the past decade.¹² The steps undertaken include first to look at the common (story line) features, then to take account of the whole extent and structure of the various local mythologies, and finally to reconstruct a coherent mythology for much of Eurasia, North Africa and the Americas. Its designation, *Laurasian Mythology*, is derived from the geographical term, Lauretania, in Canada, and that of Eurasia.

As indicated, this new approach and the steps taken are in fact similar to the well tested methods of historical linguistics. First, a general reconstruction of the complete mythological structure is made, based on a number of obvious similarities,. This structure is characterized by a narrational scheme from the ultimate origins of the universe and the world to its violent end.

In passing it might be mentioned that some of the mythological comparisons seem to overlap even with linguistics proper. For example, in the mythologies of old Japan (*Kojiki*) and earliest India (Rgveda), the male deity who opens the primordial cave is described or even named in the same semantic though linguistically unrelated terms, i.e., an 'arm-strong' demiurge (O. Japanese *Ta-jikara*, Vedic Skt. *tuvi-grābha*, *ugra-bāhu* [Indra]); or, in both mythologies the deities of fire are male, and those of water are female.¹³

To the Laurasian mythologies belong the ones of the Uralic, Altaic, Japanese, Indo-European, Austric (S.E. Asian and Polynesian) speaking populations as well those of the old Egyptian, Mesopotamian, and Chinese peoples. The American Indian mythologies (Athabaskan, Navajo, Algonkin, Aztec, Maya, Inca, Amazon, etc.) are closely related as well (see figure 4).

Once the main outline and geographical extent of Laurasian mythology have been established, we can proceed in several further ways:

¹² See Witzel 2001.

¹³ See Witzel, Vala and Iwato (*EJVS* 12-1. 2005, 1-69). It must be stressed that Japanese myth (in its recorded form, of 712/720 CE, going back at least to first half of the first millennium CE), has no direct connections with (Vedic) India (1500-500 BCE) before the introduction of Buddhism around 500 CE. An explanation must be sought elsewhere (see *EJVS* 12).-- Many other incidental, isolated, unexpected details and (poetic) motifs could be adduced, such as that of the Vedic Indian fire god, *Mātari-śvan* 'growing inside the mother', and the archaic Japanese fire god *Ho-musubi* 'growing (as) fire (inside his mother)', who at his birth burned his mother Izanami so severely that she died. Or, there are such isolated motifs as that of the Vedic deity Uṣas exposing her breasts as greeting to her close friends (the poets), a feature also found with the unrelated Gilyaks in the Siberian Amur region; or, Father Heaven and Mother Earth are called by the little understood term *Rodasī* in Vedic, which term is well explained by the Polynesian (Maori) myth that lets Heaven cry (as rain) about his forced separation from Earth; the latter motif is found in the Vedas, too. *Rodasī* thus can be derived from *rud* 'to cry': *rodas* 'crying, *rodasī* 'the two cryings', i.e., with elliptical dual, that of Heaven and the other (Earth).

(1) noting the "regional" (sub-)varieties, for example the Indo-European or the Near Eastern myth families,¹⁴

(2) exploring their historical development by setting up a family tree of (sub-)groupings,¹⁵

(3) concentrating on individual mythologies and exploring in how far they represent the reconstructed Lurasian type, what they miss and what can be reconstructed by internal comparison; further, delineating the influence from the surrounding areas, and by contrast, some purely local developments.

Such reconstructions will fill the gap between, say, the reconstructed Near Eastern branch and the individual local mythology, e.g. that of the Sumerians or Hurrites.

Even though this is a large scale project, possible only with the help of many specialists in the fields of individual cultures involved, the project cannot stop here. Instead, initial exploration, carried out over the past few years, has indicated that Lurasian mythology, though covering very large parts of the globe, is not the only one in existence, and that it is not isolated among the several other existing types. However, let us first look at the underpinnings of Lurasian mythology in some detail. Since the present symposium takes place in Japan, I select a few topics from the Kojiki and Nihon Shoki.

Iwato and Vala: the Myth of the Hidden Sun

This¹⁶ myth relates the disappearance¹⁷ of the sun (or the deity of the sun) in a cave or some other enclosure, and its re-appearance (often as Dawn) after the intervention of a group of gods (and others), creating or restoring light and prosperity to the world. It is found in various forms in Vedic Indian, Greek, Japanese, Ainu, Amerindian and South-East Asian sources, and in one version even with the Hawai'ians.¹⁸ *Prima facie*, thus, the myth of the hidden sun might be regarded as a prime candidate for the concept of a supposed general human facility to generate similar myths, independent of the time and place of their creation.¹⁹ However, in the light of the theory of Lurasian mythology, its distribution is significant. The myth is found precisely in the areas labeled as Lurasian, irrespective of geographical distance from the pole or equator;²⁰ but, it is not found in Australia and sub-Saharan Africa.²¹ Also, the structure of this

¹⁴ Including their mutual interrelations, and mutual secondary influences upon each other.

¹⁵ Always keeping in mind that secondary influences may have changed the picture, as in the case of the close cultural interaction of pre-classical Ancient Greece, Anatolia, and Syria-Palestine.

¹⁶ This section is adapted from Witzel, *EJVS* 12-1, 2005.

¹⁷ There are some versions elsewhere that see the creation of light differently: there was no sun, it had to be released from the netherworld (in Maya myth, etc.). The Indian and Japanese version presuppose the existence of light/sun. However, another old version in the Veda has eternal daylight, and the gods first had to create the night (Yama/Yamī, *Maitrāyaṇi Saṃhitā* 1.5.12). Once, I read a Czech version of the myth, written for children, that was very close to the Indian version.

¹⁸ It is matched in more "southern" civilizations by a myth of a "(midday) standstill of the sun," e.g., Hebrew Bible: by Joshua at Jericho, Polynesia: bound with cords by Maui, Aztecs: the sun is generally immobile, but moved by blood offerings; Incas: the sun is tied to a sacred rock near the cave of its emergence, for example at Machu Pichu; a Yabarana myth (S. America) is similar.

¹⁹ Cf. Thompson, *Motif Index* 1932-6.

²⁰ Important, as one may regard it as a myth of the northern, temperate zone. Cf. Schmidt (1968) on the disappearance of the myth in post-RV India.

myth is very similar in all its versions.

Its classical Indo-European form is found in the Vedic literature of oldest India, from the Rgvedic hymns onwards. According to these poems that are meant for praise of the gods, the early morning sun, is regarded as a beautiful young woman (*Uṣas* "Dawn").²² One of the most prominent myths connected with *Uṣas* is that of a "first" *Uṣas* who - for reasons to be further detailed below - was hidden in a cave found on an island in the middle of the stream, the *Rasā*,²³ at the end of the world. The cave is opened²⁴ by the strong warrior god Indra, who is accompanied by poets and singers, the *Aṅgiras*.²⁵ They recite, sing, shout, and make a lot of noise outside the cave that is blocked by a robust lock (*phaliga*). The 'strong-armed' (*tuvi-grābha*, *ugra-bāhu*) god Indra smashes the gate with his weapon (*vajra*). He is helped by the recitations and the noise made by his *Aṅgiras* friends. Assisted by their various, combined efforts, he opens the cave and the "first dawn" emerges, illuminating the whole world. It brings with it not only life but also riches in the form of cattle, the reddish cows that are identified with the reddish dawn, and also with poetry,²⁶ which, in the Indian conception, holds this world together. Hence, both cows and poetry are highly coveted by early Indian poets and priests (*brahman*, Witzel 1991).

In the light of such metaphoric usage, it is not appropriate to employ the approach of 19th century nature mythology. However, the yearly experience of the "disappearing sun" during the long temperate zone and subtropical winters must have left a deep impression. The days get shorter and shorter while the sun's rising point moves southwards each day, until winter solstice, when it comes to a three day halt. This time of the year was regarded as crucial and dangerous by many peoples who wondered whether the sun may ever start moving again, or whether the dark and cold winter would remain forever. They must do something about it, and, with the proper rituals, such as staged fights, verbal competitions,²⁷ and horse races around a turning point, the sun indeed returned towards its northward course, late in December.²⁸

However, this yearly event is referred to by the Rgveda in the context of cosmogony, as having occurred at the *beginning* of time. The initial, primordial act is repeated each year during the dangerous period around winter solstice and year's end, when nature and society

²¹ A counter-argument may be represented by the possibility indicated above: that the myth is too closely linked to natural phenomena, such as Dawn. But then, we would expect similar spontaneous myths in S. America, S. Africa and Southern Australia where the dawn is as long and as pronounced as in the more northern parts of Europe, Asia, and North America. They are not found and this argument thus does not hold.

²² Etymologically = Greek *Eōs*, and cf. Latin *Aurora*, Germanic *Ostera*, Engl. *Easter*; cf. Lithuanian *Sáule* and Latvian *Saule*, derived from the word for 'sun'.

²³ Which the Greeks still knew as *Rha* = North Iranian/Scythian *Raha*, the Volga.

²⁴ For the myth see H.-P. Schmidt 1968.

²⁵ Cf. Greek *angelos*, 'messenger' (and the loanword from Persian, *angaros* 'mail rider').

²⁶ Vedic *dhī* is connected by popular etymology with *dhenu* "milch cow", and in Old Iran. with *daena* 'thought > religion'; cf. further Witzel 1991.

²⁷ Very clear in Iranian and Vedic texts, see Kuiper 1960/1983, Witzel, *Hinduism* (forthc. 2005).

²⁸ In addition, the *Vala/Vara* pen for cows can easily be explained as a stable which is necessary for cows to survive the cold northern winters. Indeed, similar structures have been found in Bactria, dating from the mid-3rd Mill. BC up to the Achaemenid period, and which are reflected in the Avesta (*Vidēvdād* 2).

dissolve.²⁹ However, the reasons for the sun's initial disappearance are not immediately clear in the Indian context, but they are so outside Indo-European myth.³⁰

The closest parallel to this foundational myth of the Vedic Indians unexpectedly comes from the other end of Eurasia, from early Japan. If one reads the Veda in comparison with the Kojiki³¹ or Nihongi one will be strongly reminded of the myth of the sun goddess Amaterasu hiding in the cave of the heavenly river (B 1 sqq; Kojiki 1.15). It is mirrored here on earth at Ama.no Kaguyama in the Yamato plains south of Kyoto, and at least since mid-first millennium CE, at Amaterasu's shrine at Futami.ga Ura near Ise in Central Japan (and also elsewhere).

Amaterasu literally means "(she who) shines from heaven." She hides in the *Iwa[ya]to* cave ("stone [house] door") as she had been insulted in many ways by her unruly younger brother Susa.no Wo, originally the god of the ocean, after he had climbed up to heaven.³² Amaterasu enters the cave and slams its rock gate shut behind her. The world is thrown into darkness, and the gods assemble in the bed of the heavenly river Ama.no Yasu-Kawa to deliberate what to do. They decide to use a trick. They prepare a ritual and festival in front of the cave, complete with music and dancing. One goddess, Uzume, dances an erotic dance, lowering her garments and exposing herself. This makes the other gods shake with laughter.

Amaterasu is plagued by curiosity, opens the gate a crack and peers out. She is shown a mirror, Snow White-like,³³ and sees a "more eminent" deity than herself. This competition makes her come out of the cave. The god *Ta-jikara* ("arm-strong"), hiding next to the door, immediately seizes her and another god, Futo-tama, puts a string (*shimenawa*)³⁴ behind Amaterasu so that she cannot go back into the cave. The world is saved from eternal darkness.

As in Vedic India, this myth is told in the context of early cosmogony. The connection with New Year, however, is obvious in Japan as well. The *Oho-Nihe/Daijōsai*, (the first fruit offering) festival in the 11th month precedes the major New Year rituals, the *Chinkonsai* (or *Tama-shizume*, *Tama-furi*, "spirit pacifying") and the *Mitama-shizume.no ihahi* (spirit enshrining), held in the 12th month. These rituals can be linked to the Iwato myth, and indeed have often been linked by Japanese scholars. The sighting of the first sun on New Year's day still is celebrated today.

²⁹ For a good account of this yearly period, see Schärer 1963, 1966, on the Dayak in Borneo; note that their carnival period at year 's end surprisingly lasts for two months; this apparently 'northern' custom is continued in the tropics.

³⁰ Note the Aśvin's attack on Uṣas's chariot, and Dyaus' pursuit of Uṣas. --Further Indian motifs include: Indra and the cave, the five Indras (mentioned at Mahabhārata 1. 2.87; cf. 5.80.22).

³¹ Apparently, not done even by Japanese Vedic scholars or, vice versa, western Indologists who can read Japanese.

³² Instead of his brother Tsuku-Yomi, the moon, (also *tsuku* in the 8th c. Manyōshu) who disappeared from the further Kiki accounts early on, as is the case in many Eurasian mythologies. As in Indo-European, **mēs*, the Moon, that 'measures' the months; other etymologies are derived from from *tsuku* "to lighten a lamp", *tsuku* "to get tired"; note *tsuku* "to beat rice" in the myth of the hare in the moon (also found in N. America) that beats *o-mochi* rice paste. For details on the substitution of the Moon, see a future paper.

³³ Note the fairy tale of Snow White and the seven dwarfs: the motifs of long sleep, the mirror, etc.

³⁴ Still used in private houses and shrines at New Year. It expresses the irreversibility of the deliverance of the sun (cf. below on Amerindian myths). For the opposite (summer solstice custom of tying the sun to a rock) in the Inca realm, at the pole at Machu Pichu.

In other parts of Laurasia, similar myths, or echoes of it, are found in abundance. Only some of them can be described and listed here.³⁵ The Ainu, along with the Koryak, Kamchadal and other N.E. Siberian peoples, tell that the sun goddess was taken captive and all the deities and human beings died from excessive sleep.³⁶

Among the peoples of S.E. Asia, the Miao (Hmong) speak of the "long crying birds" (cf. the same expression, *naga-naki-dori*, in the Kiki), the roosters. They were made to cry to summon the sun at dawn, after she had concealed herself for two years.³⁷ Or they tell that an archer shot down 9 of 10 suns,³⁸ so that the sun concealed herself. On hearing the rooster cry, she became curious and went to look for it from an eastern summit and the world became bright again. This myth has several similarities with the Japanese Kiki myth (curiosity of the sun, rooster); however, the archer myth is close to the Chinese version;³⁹ the sun's red dress reminds of the Indian Dawn (Uṣas; the red cows); the motif of sending out animals to find the sun, too, closely matches the Indian versions (Rgveda, Jaiminīya Brāhmaṇa (2.440-2)).

Similarly, on the borders of South East Asia, for the linguistically unrelated Khasi and Nāga in Assam, the Sun goddess hides in a cave. The Anganmi-Naga stress that the rooster made the sun move up to heaven and shine on the whole world, and the Khasi tell of a beautiful young woman hiding in a cave until a boy showed her flowers, slowly pulled her to the opening, and married her.⁴⁰ This myth adds the Japanese motif of drawing out the Sun Goddess: not by force as in the Indo-European myths, but by temptation.

Importantly, the Japanese myth, though closest to the Vedic version, takes an intermediate position between the Indo-European and the South-East Asian versions of this myth. The motif of opening the gate of a cave is found in all versions, but the methods differ: force or treachery in the Indo-European versions, but stirring the Sun's curiosity in S.E. Asia and in Japan, where otherwise major "Indo-European" echoes have been retained: opening of the gate of the cave by a strong male deity, sexual exhibition by a female deity in a carnival outside the cave; the sun retreats into the cave because of sexual assault by a relative; (cf. also on the dragon motif, below). Such regional variations of Laurasian myth are an important topic to be investigated further⁴¹.

³⁵ For details see my forthcoming book on Laurasian mythology, *Origins*.

³⁶ See Kindaichi 1923: 113 (cf. Philippi 1979: 81, n. 3). Note the Brothers Grimm fairy tale of *Schneewittchen*/Snowwhite, the sleeping beauty.

³⁷ T. Matsumura 1954-58, III, 71 -73; Kindaichi 1923: 113; cf. Philippi 1959: 82, n. 8. for the red crown of the rooster, mentioned in the Miao myth, see also RV Khila 5.22.

³⁸ Note the corresponding old Chinese myth of shooting down nine of the tens suns (archer Yi); cf. the great archer Apollo, and cf. below on Amerindian myths. Note also the Avestan and Rvedic archers, and the inverse version of 'bow shooting' in the Vedic Pravargya myth: Rudra is killed by the severed string of his bow that cut off his head, which becomes the blazing sun (details in Witzel 2004, introduction).

³⁹ Like several famous old Chinese myths (such as that of the world giant, Pangu) it may have an origin among the Austric peoples. Cf. other archer myths in Iran, the Hindukush, India, the Indus Civilization and in Meso-America.

⁴⁰ Maenche-Helffen thought that this variant of the myth of the hiding sun resembles the Japanese one, including the mirror and Susa.no Wo's birth from Izanami's purification ceremony (*misogi*): he and Amaterasu are siblings. However, cf. also the Meso-American myths (Kekche, etc.), below.

⁴¹ The various layers of Japanese mythology (and language, see Beckwith 2004) are in urgent need of study as to explain what has commonly called a 'mixture' of northern and southern elements. For example, the Oogetsu myth of the origin of food (K. 1.17) fits better a planters' or an agricultural society (cf. the Indian version in Vādhūla Brāhmaṇa) than a pastoral one; the myth clearly is isolated inside the Kojiki, and '...there is a view that the myth of

The Americas are a continuum of Eurasia, having been settled out of N.E. Asia only fairly recently (by c. 11,500 BCE).⁴² As such, the Amerindian myths, notwithstanding some local developments, offer a welcome means of countercheck for the period *before* that date. The Vala/Iwato cave myth can be found in at least three different varieties.

- (A) The sun is hidden in a box or basket
- (B) The (underground ceremonial) chamber of the Sun or the first dawn (in the so-called Emergence myths)
- (C) Marriage of Sun and Moon (several suns are brothers)

The basic structure of the Amerindian stories is quite similar to those of Eurasia. However, in Meso-American myth, the sun is usually delivered, not from a cave or a house, but from *below* the surface of the earth. This also is the home of the ancestors of humans,⁴³ where they lived in semi-darkness, and it also is the spirit world of the departed ancestors. These concepts provide a close link to some features only hinted at in Eurasian myth (Jaiminiya Br., Nuristani versions). Japanese scholars have often stressed that the sun in the Iwato cave has really died and is reborn at New Year or, at the first occurrence, in primordial times. The *Vara* myth of Iran shares some of these features, too: the sun, and all other sources of light, have retreated into the underground *Vara* fortress, and the sun released from there only when Yima's terrible winter has passed. In such Zoroastrian versions, the new world, another golden age, will start only at the end of the present age, and the same is hoped for in Old Norse myth (*Edda*)⁴⁴ or in Wichita myth (Bierhorst 1986:173).

While the topic of death and rebirth of the sun is not directly expressed in Eurasian myth but clearly present in the annual and daily rebirth of the sun, it is expressively affirmed in Meso-American myth. The future sun has to die in an oven and has to be reborn out of fire.⁴⁵ The oven is a likely emblem for transforming something by fire or into fire, that is the equivalent of the sun all over Laurasia. In some myths, ashes are accompaniments or substitutes of fire, as in the Kekchi myth (Guatemala), where ashes emerge from a killed deer (a common Amerindian symbol of the sun). Both in the formalized Quiché Maya myth (Tedlock 1985) as well as in a more popular Huichol one (Bierhorst 1990), the sun can only be reborn after five days, apparently the 5 and 1/4 days that are in excess in the year of 12x30 days.⁴⁶

the murder of the food goddess is reflected in the custom of destroying [Jōmon] clay figurines,' (K. Matsumura 2003) which would lead back to early prehistoric times.

⁴² Or much earlier, in some scenarios: Valverde finds in Chile, 35,000 BCE. There also are new theories of immigration by boat along the west coast of North America; note the thesis by Von Sadowsky 1978 about the Uralic origin of the Wintu in the California valley, and the Ice Age immigration of the W. European Solutrian people, c. 18,000 BCE, to the American East coast via the ice sheet, Iceland and Greenland (found at Topper on the Savannah River and Cactus Hill in Virginia.).

⁴³ The emergence of humans from below is mixed with emergence from a tree, which is prominently found in Iceland, Japan, Taiwan, Australia, and Africa, see below.

⁴⁴ Theoretically, we can think of --and investigate-- whether the Icelandic idea has been borrowed 'back', via the Ukrainian Goths, from Northern Iranian tribes, such as the Scythians/Sauromatians. In that case, corroborating evidence is required, say, a description of the cave of the sun (not found), or of the search for the sun. Cf. the later Indian myth of the four ages (González Reimann 2002) and similar first mill. CE Zoroastrian concepts.

⁴⁵ Note the Egyptian and Greek myth of the phoenix (*bennu*), who arises out of fire and ashes.

⁴⁶ Note that this feature of the myth is found as far south as with the Houarochirí Quechua, along with a New Year carnival motif, see Bierhorst 1988: 224; just as in Quiché Maya myth (*Popol Vuh*), this motif is accompanied by that of a revolt of the cooking utensils, in short, a sort of primitive carnival at the five day period at the end of the

The sun must then be fed by blood as, in the beginning, it was too weak to rise properly and had an unsteady, wobbling course. It could only be strengthened by something of its own color, by red human blood. Maya kings and others pierced and cut themselves, and offered their blood, just like their mythical ancestors had done. In Quiché myth, humans are sacrificed when fire, the symbol of sunlight, was first distributed among the various tribes. (The Quiché demanded human sacrifice from the other tribes before they shared fire with them.) However, the concept of a "wobbling sun" has its parallels or antecedents in Eurasia. According to the Vedic Indian text, *Pañcaviṃśa Brāhmaṇa* (25. 10.11), the sun at first could not stay up in the sky; the gods had to support it. As usual in old India, they did so with a ritual, and got additional help from the Sarasvatī river (= Milky Way, Witzel 1984). That is why both the heavenly and the mundane Sarasvatī are meandering, "bent" as the text says, because they could not fully support the sun.

In most Meso-American cases dealt with so far, the sun was unable to emerge, rise or stay up in the sky. All of them reflect the re-emergence of the sun at winter solstice, when it has to make the difficult turn around the southeastern bend of its yearly course north and south. It seems, therefore, that Mexican myth has preserved an ancient topic, otherwise lost.⁴⁷

Occasionally, however, the sun stops altogether, in mid-sky, such as is seen in a South American (Yabarana) in other (sub-)tropical myths, for example in Hawai'i (Maui myth), with the Incas (stone pole in a temple, to which the sun is tied), or in the Hebrew Bible (Joshua).⁴⁸ This refers to a summer solstice myth which is contrasted to the temperate climate myth of winter solstice (Indo-European, pre-Yayoi Japan, etc.). It has to be dealt with in detail, separately.

In sum, even Meso-American mythology, aberrant at first sight, appears to be closely linked to the ancestral Eurasian one. It has transformed some features, apparently due to local environment, new social and economic configurations, and especially in the emerging large chiefdoms and states, due to the stress on maize agriculture (with myths of origins of humans from maize). Due to the isolation of the Americas and the early date of Amerindian immigration from Northeast Asia (11,500 or 35,000 BCE), the extent variations provide a good test case, even a prime example, of what can happen to ancient Laurasian myth: how it can be transformed independently, but also how we can retrieve many of its old features once we start comparing data *all across* Laurasia.

Reconsidering the features of the Laurasian myths dealing with the emergence of the Sun, we must recall the difference between *first emergence* of the sun in Meso-American myth and the *(re-)emergence* of the sun/dawn in the myths of the Indo-Europeans, Japanese, Miao, etc.⁴⁹ Within the general framework of the Laurasian Four Ages, there is either

- emergence, in Central America, with the increasingly *positive* nature of each

year; cf. the 13th month of Vedic calendar and the European '12 Nights' around Winter solstice and New Year.

⁴⁷ Cf. also the snake motif: the plumed serpent or the shadow of a snake, slithering down the steps of the Maya pyramid of Kukulcan at Chichen Itza, at equinox.

⁴⁸ For details see a further paper (presentation at a conference at Tainan, Taiwan October 2005) on the Laurasian myths of Summer solstice.

⁴⁹ The emergence from a tree is prominently found in Iceland (*Askr* and *Embla*), Japanese folktales (Kaguyahime), non-Chinese (i.e. Austronesian) Taiwan, etc., and also in Australia, C. Africa. This seems to be one of the oldest motifs of human mythology, much older than Laurasian myth itself; see my book, *Origins* (forthc.)

succeeding world,⁵⁰ or

- first dawn, with the Indo-Europeans and in the greater Near East, with the increasingly *negative* aspects of declining "goodness/righteousness" of each of the Four Ages.

We can now describe its *earliest traceable* form of the Laurasian myth of the Hidden Sun:

1. - sun/dawn/light has not (yet) appeared / is hidden in a receptacle, frequently because of older gods, and often annoyed due to (sexual) molestation
2. - gods/trickster try to remedy this, often in association with early humans
3. - they send animal/human-like messengers to explore and to entice the keeper of sun
4. - they approach the place of the sun and use tricks, magic, poetry, and force to succeed
5. - the receptacle (cave/chamber/box) containing the sun is opened
6. - sun comes out (often out of curiosity)
7. - sun is hindered to go back permanently / or does so only periodically (days, seasons)
8. - sun light appears; life becomes possible
9. - the owners/keepers of the sun are defeated and an exchange is arranged

These basic features are played out, time and again, in the various parts of Laurasia, with some secondary regional variants:

- sun as cow (Indo-Europeans, Chinese) or deer (Americas), hiding because of molestation (Indo-Europeans, Japan); mostly though, sun is simply shut up;
- sun is delivered by combined magic/powerful speech/heroic force (Japan, Indo-Eur.), own curiosity (Japan, S. China, S.E. Asia) or that of the messengers (N./S. America), though most commonly by trickery;
- sun must be 'revived' after the stay in the cave (Japan, Indo-Eur.), or must actually be reborn from fire (Meso-America, which is based on an old Laurasian motif: fire = sun);
- previous owners are beaten off (Indo-Eur.), offenders of sun are punished (Japan, Cherokee, Maya), agreements are reached (S. America, Veda); more generally, a balance of forces is achieved.

The investigation of this myth establishes and connects many features, from the Indo-Europeans to the Mayas, that help to establish its original Laurasian form. However, it also provides a good test case of the emerging regional features that transgress language borders, in case the emergence, around 20000 BCE, of a Central Eurasian subregion of Laurasian mythology that united the Indo-Iranians with other, eastern steppe people such as the ancestors of the Koguryo-Japanese speakers (cf. Beckwith 2004).

Quite similar findings can be made when investigating the Egyptian, Mesopotamian, Indo-European, Chinese and Japanese myth of slaying the primordial dragon; however that would lead to far here and must be postponed to another paper. However, a brief synopsis is appended below. Again, just as in the case of the myth of the hidden sun, the Japanese and Indo-Iranian versions are closely related and can be traced back to a Central Asian prototype that was part, around 2000 BCE, of this subregion of Laurasian mythology.

⁵⁰ An exception are the Hopi who tell of a flood that was avoided, after two previous destructions, cf. Thompson 1932-36: A1018.

Many other comparable myths cannot be discussed here. They include that of the four ages or generations of the gods, the flood myth, etc.

EGYPT	MESOPOT.	GREECE	INDIA	JAPAN	CHINA
Seth (god of thunder	Marduk <new year myth>	Python; Kadmos & the dragon	Indra	Susa.no Wo	Nügua
attacks dragon of the deep, kills & dismembers him each night (Apophis)	attacks Apsu & monsters: dismembered		dragon ahi/ aži slain , dismembered	Yamata.no orochi slain, dismembered	Black Dragon killed
gets drunk by red beer			Soma invigorates Indra	Sake is given to dragon is killed ;	gets drunk and killed
			[Iran/Georgia: St. George/ virgin	virgin Kushinada Hime is saved	

Story line

Once these and similar myths have been collected and ordered according to the Laurasian story line, we recognize some 15 items:

- 1primordial waters /chaos
- 2primordial egg / giant
- 3primordial hill / island
- 4Father Heaven/Mother Earth
- 5Heaven is pushed up; creation of the Milky Way
- 6incest of Heaven and his daughter/dawn; the hidden sun
- 7the current gods defeat/kill their predecessors
- 8Sun is the ancestor of mankind, especially of chieftains or kings; royal rituals
- 9first humans and their (or semi-divine) first evil deeds; incest problem
- 10heroes and nymphs/Apsaras/Valkyries
- 11killing the dragon / use of the heavenly drink
- 12bringing of fire / food / culture
- 13spread of humankind / local nobility (“kings”)
- 14final destruction of humans, the world, and the gods (a variant of the Four Ages theme, see below)
- 15new heaven and a new earth

In most Indo-European (and Meso-American) myths, these topics are arranged according to

the concept of the four/five ages.

(1) There is a vague, undefined, unordered and a-sexual beginning, as found in the various mythologies of Eurasia: chaos/non-being (Skt. *a-sat*)/darkness, male/female waters or a primordial ocean, or the universe is derived from two halves of an egg or from a dismembered primordial giant, or found by an animal diving into the ocean and bringing up the earth.⁵¹

(2) This stage is followed by the emergence of the ordered cosmos (Skt. *sat*), evolving over several 'ages' (as in Greek, Indian, Meso-American myths) or in generations of deities, who are all defined sexually, and in terms of family relationship.

(3) The primordial deities (Father Heaven/Mother Earth)⁵² have two sets of children, the 'demonic' Titans (Kronos etc., the Germanic giants, Japanese *kuni.no kami* 'mundane deities') and the 'Olympian' gods (Zeus, the Germ. Valhalla or Aesir gods, Japanese *ama.no kami* 'heavenly deities').⁵³ (In the Bible, the Elohim gods have children 'in their likeness', good and bad). A variation of this theme are the Germ. gods of Asgard and Vanaheim: Aesir/Vanir, or the Indian Asura/Deva, two moieties in constant competition who nevertheless also cooperate (cf. the Biblical angels and the devil).

Both groups do not only act in similar fashion, they also intermarry. Importantly, they act just as human brothers and cousins would behave when it comes to dominance and inheritance.⁵⁴ Thus, the Greek gods of the 'Titan' and 'Olympian' ages are not really from different generations, but the Olympians take over and either kill or disperse the 'Titans', a feature that is perhaps most clearly visible in Vedic India, where the Devas and the Asuras are in constant competition. Their primordial victory is re-enacted at winter solstice by a general collapse of time and society (Indian Mahāvratā and other widely found 'carnivals'), where the two moieties of society clash and order is reestablished (Witzel 1997a, 1997c; 2004).

(4) The leader of the present gods⁵⁵ kills his father and (as Indra/Trita, Herakles, Susa.no Wo, etc.) also kills various Titanic monsters. There are myths of primordial incest between twins (Yama/Yamī), closely related beings (Izanagi/Izanami, Adam and Eve) or siblings (Indra and Uṣas, Amaterasu and Susa.no Wo⁵⁶), and by Father Heaven and his daughter Dawn.

The gods, notably the Sun deity, are the ancestors of humans, who are similar to, but in many respects also the opposite of the deities: they are not immortal but have to day, eat and

⁵¹ In India this is a boar (Paippalāda Saṃhitā 6.7, Kāṭha Saṃhitā 8.2, cf. also Taittirīya Saṃhitā 7.1.5.1, Taittirīya Āraṇyaka 1.10.8, Śatapatha Brāhmaṇa 14.1.2.11), while the standard animal in North Asia and North America is the musk rat or a diver bird. The substitution by a boar seems to go back to pre-Vedic ideas (as seen in Andaman mythology, Radcliffe-Brown 1922, and in Andaman archaeology, Campbell 1988: 122 sq.). Finnish mythology (Kalevala) unites several of these themes in its introductory section (primordial ocean, diver bird, split primordial egg).

⁵² Oberlies (2000: 373, n. 32) denies the Indo-European age of 'Mother Earth' as the wife of Heaven, but see below on RVKh 5.5.5 and cf. various Polynesian myths.

⁵³ These concepts are perhaps best seen in RV 3.38 (a hymn later assigned to Indra): the androgynous 'older bull' (*vr̥ṣabha*) Asura (cf. Iranian myth), the 'great hoary' bull, gives birth to/creates the world; he is in part identified with Heaven and Earth (Rodasī), who were later separated; the (*younger) bull, Heaven/Sun, is also called Asura Viśvarūpa; Mitra and Varuṇa (?), the grandsons of Heaven, reign, served by the wind-haired Gandharvas.

⁵⁴ Cf. the Kaurava/Pāṇḍava cousins of the Indian epic; and e.g., the fight among Manu's sons and Nābhānediṣṭha, or in the Kojiki, the two brothers Howori and Woderi.

⁵⁵ The Japanese counterpart, Izanami, just dies and is buried in Awaji.

⁵⁶ See now K. Matsumura 1998.

drink different food (*surā* : *soma*, cf. *mead*, *ambrosia*, *sake*) and have a somewhat different language (Güntert 1921, Elizarenkova 1995, Watkins 1995⁵⁷) that is in part used by Indo-European poets.

(5) Primordial incest of deities leads directly to the emergence of humans, Vedic *Yama/Yamī* : *Yima/*Yamī* > *Jam/Jai* in Iran, cf. Deukalion and Pyrrha in Greece, Izanagi/Izanami in Japan; or due to incest prohibition, the emergence of humans via Yama's brother Manu (cf. Germ. Mannus) and a substitute wife (Idā, made of ghee), or by the symbolically enacted incest of Amaterasu and Susa.no Wo (Kojiki 1.15).

Creation myths

Creation myths, which are typical for Laurasian mythology, answer the question: How did the world and human beings originate? As mentioned, these accounts begin with primordial creation and close with a violent end of our present world. Some accounts, such as the oldest Indian text (Rigveda 10.129), ask whether the gods were in existence at the time of first creation or whether even they do not know about it, as they emerged only later. Original creation, thus, often is shrouded in mystery. The Rgveda shows several approaches to this question and the poets of the time have proposed several solutions such as waters, chaos, primordial giant, egg, earth diver. The same is true for the Hawai'ian Kumulipo (see above), or the oldest Japanese text, the Kojiki (1.1.) and especially so, the contemporary Nihon Shoki (1.1-3), that lists many versions, as follows.

"The divine beings were produced between them... when the world began to be created, the soil... floated about..."; ... in one writing it is said, "when heaven and earth began, a thing existed in the midst of the void..."; another, "of old, when the land was young and the earth young, it floated about.."; another, "when heaven and earth began, there were deities produced together..."; another "before heaven and earth were produced, there was something ... a cloud floating over the sea,⁵⁸ a thing was produced shaped like a reed shoot / existed in the midst of the void... the soil of the young earth floated about..."; or "when heaven and earth began, a thing was produced in the midst of the void..."; and in the Kojiki (1.1.)

At the time of the beginning of heaven and earth, there came into existence in Takama.no hara a deity called *Ame.no Minaka-nushi.no Kami*, next *Taka-mi-musubi.no Kami*, next *Kami-musubi.no Kami*. These three deities all came into existence, as single deities, and their forms were not visible. Next when the land was young, resembling floating oil and drifting like a jellyfish, there sprouted something like reed-shoots (*ashikabi*).⁵⁹

In China, there is mention of primordial waters, but also one of Chaos or emptiness.

In a time when Heaven and Earth still were without form, was called the great

⁵⁷ Also found with the aboriginal Va'atan and Nanwang Ami people of Taiwan in their rituals.

⁵⁸ Is there some Chinese influence? Cf. "Then breaths were born from space and time. What was light moved and formed the sky (easily); what was heavy, the earth..." (Huainan zi), see below.

⁵⁹ This has found many explanation. Hirata thought of light, that later became the sun, which rises from a cloud (cf. one of the Nihon Shoki variants); the new floating 'earth' is *Ama.tsu Kuni* or *Takama-hara*. -- Or: A descending object which later separates from this and becomes the moon... cf. Herbert 1977: 28; note that in this version Heaven and Earth seem to exist before or at the same time as the birth of the first gods.

beginning. The *dao* began in the immense emptiness. ...Then breaths were born from space and time. What was light moved and formed the sky (easily); what was heavy, the earth... this process was difficult. (Huainan zi).⁶⁰

There are many similar myths (such as in Greece, Mesopotamia, Egypt, Meso-America, etc.) that cannot be dealt with here. ⁶¹

The reasons for these multiple creation myths still escape our understanding.⁶² The following points can be observed, nevertheless:

1. In Sub-Saharan African, Papua and Australian mythology, there is no creation myth, as the earth is regarded as eternal. In Laurasian mythology, however, we find the following topics.

2. Primordial giant. Myths such as the carving up of an primordial giant apparently represent an older stage of the Laurasian mythology, going back to Neolithic hunter times. The giant stands for the animals carved up in a similar way after hunting as is seen in the recent North Asian bear cult (Lapps, Ainu). The bones of hunted or slaughtered animals must be preserved as to allow their rebirth. Through the dismemberment of the primordial giant, his body parts make up the universe, such as his skull becomes the heaven above us. Famous examples are Ymir in the Icelandic Edda, Puruṣa in Vedic India, Pangu in S. China,⁶³ who is believed to derive from a Southern, thus Austro-Thai myth.⁶⁴ While Germanic and Vedic myths go back to ancient Indo-European mythology, the southern Chinese version represents quite another tradition. Both versions no longer are those of ancient hunters nor do they represent agricultural/planters' mythology such as represented in the Melanesian Hainuwele myth.⁶⁵ Nevertheless, they are retained in Laurasian mythology.

To be compared also is the Indo-European version (Lincoln 1986⁶⁶) of a primordial bull/cow such as in Icelandic myth the cow *Audumla*, in Iranian myth the primordial bull, and in a few passages in Vedic myth⁶⁷. If this should indeed be Indo-European it could represent a later version of the primordial giant myth, typical for a mainly pastoral people like the early Indo-Europeans. Note that in the Icelandic myth it is a primordial cow (*Audumla*) which licks the primordial giant (*Ymir*) out of the eternal ice (Snorri's Prose Edda).

3. The myth of a primordial egg (sometimes found in the waters) is more widespread.⁶⁸ The universe develops from it, the upper half of its shell becoming the sky.⁶⁹ It could it be an outcome of the earth diver myth (cf. the combined Finnish version, below).

⁶⁰ Mathieu, Paris 1989: 27. (*Huainan zi* is an early Taoist text, c.150 BC).

⁶¹ See Witzel, Creation Myths, presentation at the 7th ESCA Round Table, Kyoto June 2005.

⁶² For details see my forthcoming book, *Origins*.

⁶³ Note also the killing by Romulus of his brother Remus (< *Yemus, like the Indian Yama) and by Cain of his brother Able, and in Japan the brothers Howori and Woderi.

⁶⁴ See Mathieu 1989.

⁶⁵ Cf. A. Jensen, 1968, G. Hatt, 1951, Lincoln 1986: 173 n.1.

⁶⁶ Lincoln 1986: 39 sqq.: Dionysos of Halicarnassus, Empedokles, Herodotos 1.131 (Iran) , etc.

⁶⁷ See Lincoln 1986: 65 sqq, esp. 73.

⁶⁸ In the Kujiki, "Of old, the original essence was a chaotic mass. Heaven and Earth had not yet been separated, but were *like an egg*, of ill-defined limits, and containing germs. Thereafter, the pure essence, ascending by degrees, became thinly spread out, and formed Heaven...." (Aston 1896: 2 n. 1).

⁶⁹ In some versions, such as with the Munda and Khasi, humans come from such eggs.

4. The floating earth / earth diver myth is found in N. Asia, early India, and the Americas (but also in Australia). These myths relate that the world was fished out of the primordial waters by a bird or some other aquatic animal, or by god(s) sitting on a raft (or in Polynesia also by fish hooks); cf. also the earth churning myths (Indian gods and Asuras in the Indian Rāmāyaṇa, Izanagi and Izanami, etc.).

5. The primordial salty waters,⁷⁰ from which the earth emerges: as primordial hill in Egypt or Vedic India; or lifted by the earth diver⁷¹. These motifs are very widely spread and are 'logically' linked to the Floating Earth Myth; cf. also the first chapter of the Hebrew Bible, Genesis (1Mose2.1-2): "As to origin, the gods (*Elohim*) created these skies (or air or clouds) and this earth. . . And a wind moved upon the face of the waters."

Some of these concepts also appear in combination, such as in the Finnish version (Kalevala) where the daughter of Heaven floats on the primordial ocean, a bird lands on her knee and lays three eggs, from which the sky, etc. develop.

6. Closely related is the creation out of chaos, night, etc. We find primordial darkness (*Po* in Polynesia; or in the Maya's Popul Vuh⁷²), or Chaos (Greece), or most 'philosophically' expressed, primordial *non-being* (*a-sat*, in the Rgveda, which is not necessarily 'nothingness'), and similar concepts in early China.

Thus, fairly frequently there are *several* creation myths next to each other, even in a single mythology. In Northern Asia and the Near East, creation from the waters seems to have been more popular. It is a question of future research to determine whether all of them are of equal age or some of them, such as the dismemberment account, are older, in how far they can be combined (as in the Kalevala version), and which ones are later, quasi-philosophical speculation will be investigated elsewhere.⁷³ However, it can even now be stated that the myths of a primordial giant, egg, and earth diver go back to earlier, pre-Laurasian stages of mythology.

Further stages

In a variety of ways, primordial asexual creation --we should rather speak of 'emergence'⁷⁴-- gives 'birth' to the first male/female entities, Heaven and Earth, who frequently are described or depicted as a pair in sexual union (Egypt, Indo-Europeans, Polynesia).⁷⁵ After the universe has thus been created, there is the need to firmly establish the earth and its *oikumene*. In early Indian myth, for example, the earth, just risen from the bottom of the ocean still is an unstable island, floating on the ocean. A demiurge, Indra, has to fix the earth with mountains. He also is the actor in another major creation myths, found from Greece and India to Japan and Polynesia, that of stemming apart heaven and earth, and of pushing up the sky. The god who does so is typically called 'pole' (*toko*) in Polynesia, or Atlas in Greece, or

⁷⁰ Sometimes, as in Mesopotamia, salty male and sweet females waters.

⁷¹ By musk rat or diver bird in Siberia and N.America; however, by boar in India.

⁷² Cf. the *fiat lux* of the Bible and the primordial non-distinction of day and night in Maitrāyaṇi Saṃhita 1.5.12, as well as the half-darkness in the Quiché Maya's Popol Vuh, etc.

⁷³ Witzel, Creation Myths (presentation at the 7th ESCA Round Table, Kyoto 2005), *Origins* (forthc.).

⁷⁴ As in the Sanskrit verb *srj* 'let flow,' or very elaborately in the first generations of Japanese myth in the Kojiki: they are asexual at least down to the 7th generation (Uhijini, Suhijini).

⁷⁵ Cf. the stone age sculpture at Laussel in S. France (see Campbell 1988, I.1: 67), and the ambiguous masculine/feminine nature of much of the early creator deities such as Puruṣa and Prajāpati.

it is the heroic Indra. Polynesian myth (and rarely so the Veda, Śatapatha Brāhmaṇa) describes his action as necessary because the children of Heaven and Earth had no space to live in the darkness between the two parents. The two are thus forever parted and Heaven now cries bitter tears (the rain, see above n.13). In Egyptian myth, the opposite is seen, however, from the point of view of the night sky: the female night sky overarches a reclining male.⁷⁶

After the separation of Heaven and Earth, other actions are necessary to turn the young world into a livable space (*oikumene*). First of all, light. We are most familiar with the biblical account of “*fiat lux!*” by which the Elohim created light, but the same is expressed in many other mythologies in a similar way. In the Popol Vuh of the 16th Quiché Mayas, primordial semi-darkness hovers above the ocean, just as in the Bible, but in Vedic India, Iran, Hindukush (Kafirs) and in Old Japan, the hidden light (of the dawn or sun), with the Indo-Europeans depicted as a reddish cow, has to be released from her primordial rock prison, as described above.⁷⁷ This myth is found in many forms in the Americas (as sun shut up in a house, basket, etc.), from the Inuit (Eskimo) to the Meso-Americans.⁷⁸

Still, the new earth is not ready for living beings. It has to receive moisture, whether (sweet) water or the blood of a primordial creature. In many traditions, it is the latter. The primordial gods’ children, the Greek Titans, Indian *Asura* or Japanese *Kuni.no Kami* (‘gods of the earth’) are depicted, as monsters who have to be slain or at least be subdued by their younger and victorious cousins: the Olympian gods, the Indian Devas or the Japanese *Ama.no Kami* (‘heavenly gods’). Most prominent is the slaying of the primordial Dragon by the Great Hero, a descendent of Father Heaven. In India, it is Indra who kills the three-headed reptile, just like his Iranian ‘cousin’ Thraētaona kills a three-headed dragon, or as their distant counterpart in Japan, *Susa.no Wo*, kills the eight-headed monster (*Yamata.no Orochi*). In the west, in England, it is Beowulf, in the Edda it is Sigurd, the Siegfried of the mediaeval Nibelungen Epic (used by Wagner for his opera), who perform this heroic feat. We may also compare Herakles’ killing of the Hydra of Lerna, and in Egyptian myth, the slaying ‘the dragon of the deep’ by the victorious Sun when it passes underground, each night, back towards the east, to rise again. There are even echoes as distant as in recent Hawai’ian, earliest Chinese and in Maya myth. It is only after the earth has been fertilized by the Dragon’s blood that it can support life.

Now it is time for the humans to emerge as well. Normally, they are somatic descendants of the gods themselves, in most Laurasian mythologies those of the deity of the sun.⁷⁹ This is found from Egypt to India, Japan, and Hawai’i, and to the distant Mayas and Incas. In some cases, such claims of descent have been restricted, in historical times, to the

⁷⁶ Certainly due to the night time form of the myth. In day time, Father Heaven would overspread a reclining earth. Note that this is typically found on coffin lids *ṛj* representing the nether world of the dead.

⁷⁷ In Greece we have the opposite in Herakles’ bringing back the cows from the western “Redland” isles in the Atlantic.

⁷⁸ For details, see Witzel 2005 (*EJVS* 12-1).--- Its opposite, typically in more southern climes, is seen in the Bible (Joshua), with the Hawai’ians (Maui) and the Incas, where the wandering sun has to be fixed in the sky. The Aztec and Mayas effect this by blood offerings and human sacrifice that invigorate the young, wavering sun.

⁷⁹ This may be the sun itself (usually male, but female in Germanic, Baltic, some Siberian and in Japanese traditions, cf. now K. Matsumura 1998), or its representation: Vivasvant/Vivaēhuuant (m.) in India and Old Iran, Amaterasu (f.) in Japan who nevertheless has many male characteristics of behavior and comes in (male) warrior’s armor.

ruling lineage only (e.g., in Egypt, Japan, Polynesia, Inca realm)⁸⁰ -- a development conditioned by the respective evolving societies.

Looking for an understanding of the myth complex

The larger narrative framework, that is the sections after the emergence of heaven and earth, cannot be dealt with here in any detail; As mentioned, the development leads from original creation (or conception) and birth of the world to its inevitable end, reflecting the life cycle of a human being, along with the old human hope for an eventual return and rebirth. In other words, the earliest Laurasian shamans⁸¹ saw the world, not entirely unexpectedly, in analogy to the human body and human experience. Those who conceived this scheme also found a convenient way to arrange their newly formulated myths, such as first creation, four generations of gods, the end of the world; however, they also included some older (African, etc.) stories, such as the flood myth, all along their new, 'logical' story line.

The early shamans' concept of *birth-death-rebirth*, familiar to their contemporaries from observance and experience of nature, has struck such a profound cord with the people coming *Out of Africa*, that, due to the very early path dependencies⁸² set by Laurasian myth, it is still followed by the great majority of humans.

Gondwana mythologies

Unlike the Laurasian mythologies, those of the Australians, the Papuas, the Andamanese, some refuge populations such as in highland Taiwan, as well as of most of sub-Saharan Africans represent distinctly different types. It is significant that certain important Laurasian motifs are altogether missing in this, the *Gondwana* belt.⁸³ Typical examples are the lack of creation myths that tell the origin and end of the world or of its four ages, as well as features such as female witches.⁸⁴ One may also add details such as a 'literary' phenomenon, the preference for improvised magical spells combined with the disregard of the power of "true", well-formulated, and secretly transmitted magical poetry, making use of the 'language of the gods' so typical of much of Laurasia (e.g., Indo-Europeans, Taiwan aboriginals, Shaman's language).

While Laurasian mythology is highly interested in origins, especially the origins of the universe, the Gondwana mythologies generally do not ask these question and confine themselves to descriptions of the emergence of humankind in an already existing world.⁸⁵

⁸⁰ Some isolated relic versions let humans be produced from clay, as in the Bible, old Egypt (with clay and beer), with the Kafirs; or from maize (Mayas, etc.). Similarly, the descent from trees (Kaguyahime in Japanese folktales, Askir/Embla in Norse myth, are Gondwana relics.

⁸¹ More about these early spiritual leaders, in a Laurasian context, in my book *Origins*.

⁸² On this term, see Farmer *et al.* 2000.

⁸³ The name is again, like Laurasia, taken from geography, where it includes, however, not only Africa and Australia but also India, Madagascar and South America.

⁸⁴ Cf. for Europe and N. Asia, C. Ginzburg 1991.

⁸⁵ See, for example, the evidence from Congo, in Hochegger 2005: "... Congolese creation myths *do not seek to explain*, for example, *the creation of heaven and earth* (cosmology)... There is *hardly any notion here of an ancient source* of all things, placed *at the beginning* of a long history understood in linear fashion." (my italics).

Obviously, the various Gondwana mythologies must be investigated more carefully and their types, structure and development must be established, as far as the latter is visible at all in cultures that do not have a long term written record. The very geographical isolation of some Gondwana mythologies may help, as is the case in those of Australia, the Andaman Islands, or the highlands of Taiwan and New Guinea.

We must also study the relationship with and mutual influence, if any, of the Gondwana mythologies and Laurasian mythology. In the case of West, East and Southeast Africa, for example, certain northern (Sahel, northeast African) influences have long been established by Africanists. They seem to have overlaid the older Gondwana patterns. Even then, Afro-Australian mythologies are different both from each other, as well as, genuinely so, from the Laurasian type.

Barring further discoveries, the extent of Gondwana mythologies and the very general, hypothetical area of the emergence and the subsequent spread of Laurasian mythology (probably along with Aurignacian tools) may be represented in the following map. It must be noted that the spread into Central Asia and into Northern E. Asia still is much disputed by geneticists (Metspalu 2005).⁸⁶

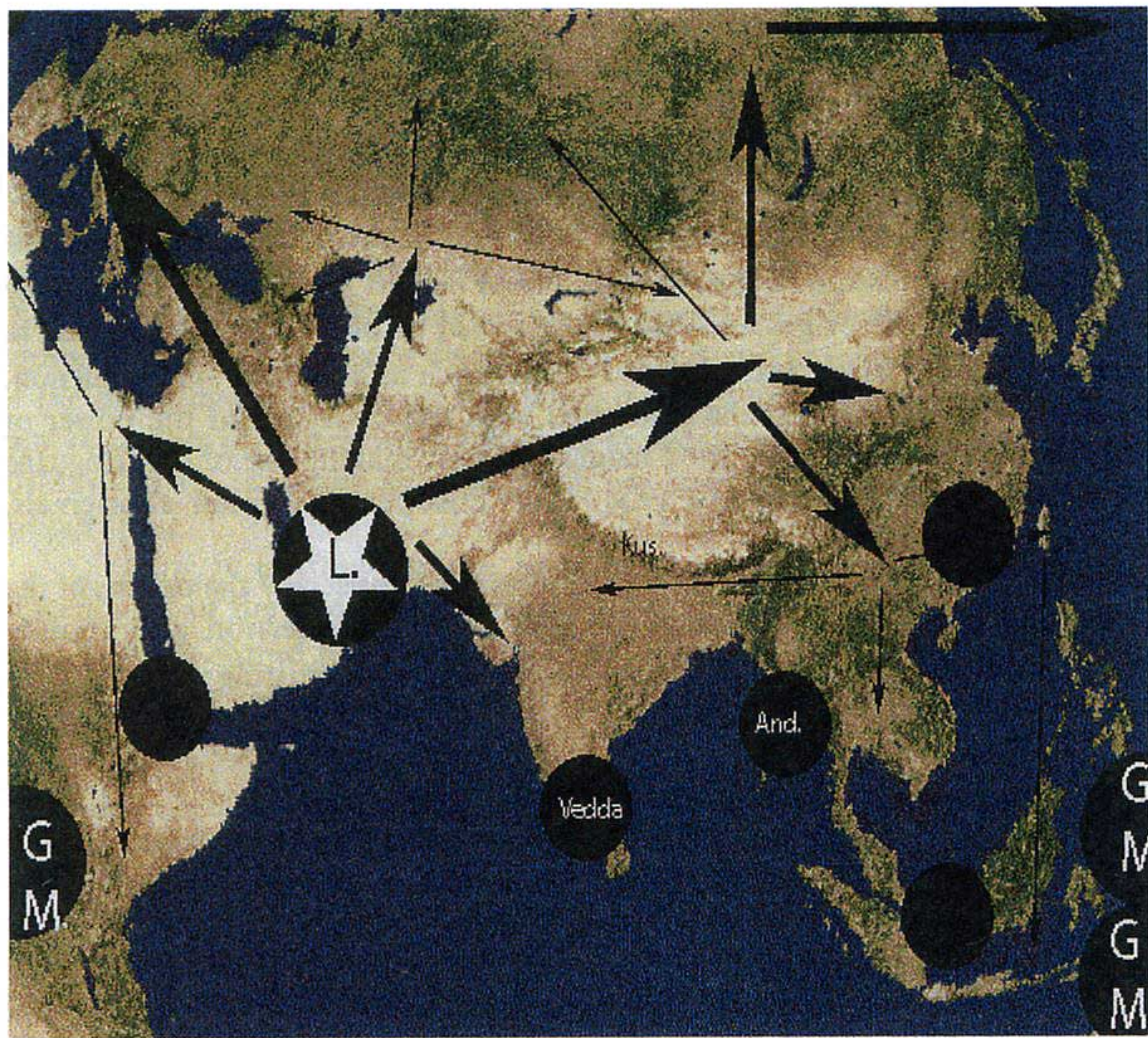


Figure 1. Spread of Gondwana mythology (GM) out of Africa (c. 60,000 BCE, marked by black circles) and that of

⁸⁶ The popular maps by Oppenheimer are wrong for the period before c. 60,000 BCE. as people have move Out of Africa only around 60,000 BCE, not, as he will have it before the explosion of the Toba volcano at 74,000 BCE, see: <http://www.bradshawfoundation.com/journey/>

Laurasian mythology (L.), out of a hypothetical Greater Near Eastern area at c. 40,000 BCE (marked by arrows that indicate the origin and direction, though not the actual paths of movements).

First myths

The implications of the project do not stop here. Initial exploration has brought out the surprising fact that certain individual motifs and myths (such as that of the origin of humans from trees) occur across all mythology types, the Sub-Saharan African, Andamanese, Papuan, highland Taiwan, Australian and the Laurasian one. While this might speak, *prima facie*, for the Jung-Thompson proposal, the facts receive a new interpretation in the light of the Laurasian theory. As described above, Laurasian myth is characterized by a coherent story-line, while this is missing in Gondwana mythology, though there are *some* Afro-Australian ones that have a primordial High God, the creation of humans, their hubris and punishment, and often by a great flood. However, the initial sections (creation, origin of the gods, the four ages) of Laurasian mythology as well as its end are ordinarily missing.

More importantly, what is significant about the few newly emerging, truly universal motifs is not just their world-wide spread, rather, that these universals also occur, but are *isolated* fossils in Laurasian myth. They often go against its grain, and are 'superfluous' variants of topics treated comprehensively and systematically elsewhere in Laurasian myth. Frequently, these variants are not part of the "official" local story line but occur as isolated myths, generally in form of folk tales or *märchen*. For example, the origin of humans from trees or from tree trunks is neither normal nor common in Laurasian myth. Yet, it occurs in Icelandic and Japanese myth: in Iceland as a minor part of the main story line (*Askr/Embla* 'ash/elm'), but in Japan only as folk tale (*Kaguyahime* emerging from a bamboo) which is not part of the 'official' mythology in the *Kojiki/Nihon Shoki*. The motif is otherwise prominently found in Austronesian Taiwan, in those parts of Central Africa not influenced by Laurasian traits, and commonly in isolated Australia which has been cut off, like Taiwan, for *at least* some 8000 years, while initial Australian immigration is put at c. 40,000 (or even 60,000) B.C. What we have here are fragmentary *remnants* of a Pan-Gaeon tradition that *precedes* the individual five or six types of mythology briefly described above.



Figure 2. Spread of Gondwana mythologies; parallel to that of the quick spread of humans Out of Africa, (see figure 9).

It thus appears that Laurasian mythology is an offshoot of the older Gondwana type that underlies the Sub-Saharan African and Andaman, Papua, Australian mythologies. Based on these five types, the still earlier *Pan-Gaeon* type might be reconstructed for the period before the Out of Africa event at c. 60,000 BCE. It includes a distant, otiose High God, his direct or indirect creation of humans, their hubris and their punishment by mortality and a great flood, as well a series of demiurges or tricksters that establish human culture. This only fragmentarily preserved scheme has been extensively altered and expanded by Laurasian mythology, where the High God is substituted by (Father) Heaven. He is preceded by the primordial creation of the universe and he is just part of four generations of deities. Humans are the descendents of one of his children, the sun deity. He or other late-born deities function as a demiurge and killer of monsters. An end of the world also is frequently envisioned. In short, a long and complicated story line has been added to and supersedes the disparate Pan-Gaeon tales.

The new theory presented here clearly is worth of being tested by a larger group of specialists of the various cultures, literatures, languages and religions involved, and it can be counterchecked by archeologists, climatologists, paleontologists and geneticists. Such close cooperation will lead to many new insights, whether my initial proposal of a mono-local origin of all human myths and its several subdivisions proposed here will be maintained or not. The pursuit of Laurasian and Gondwana Comparative Mythology establishes a new approach in our endeavor to discover the nature of early *Homo Sapiens sap.* culture and thought,⁸⁷ next to those of language comparison, archaeology, paleontology and genetic study.

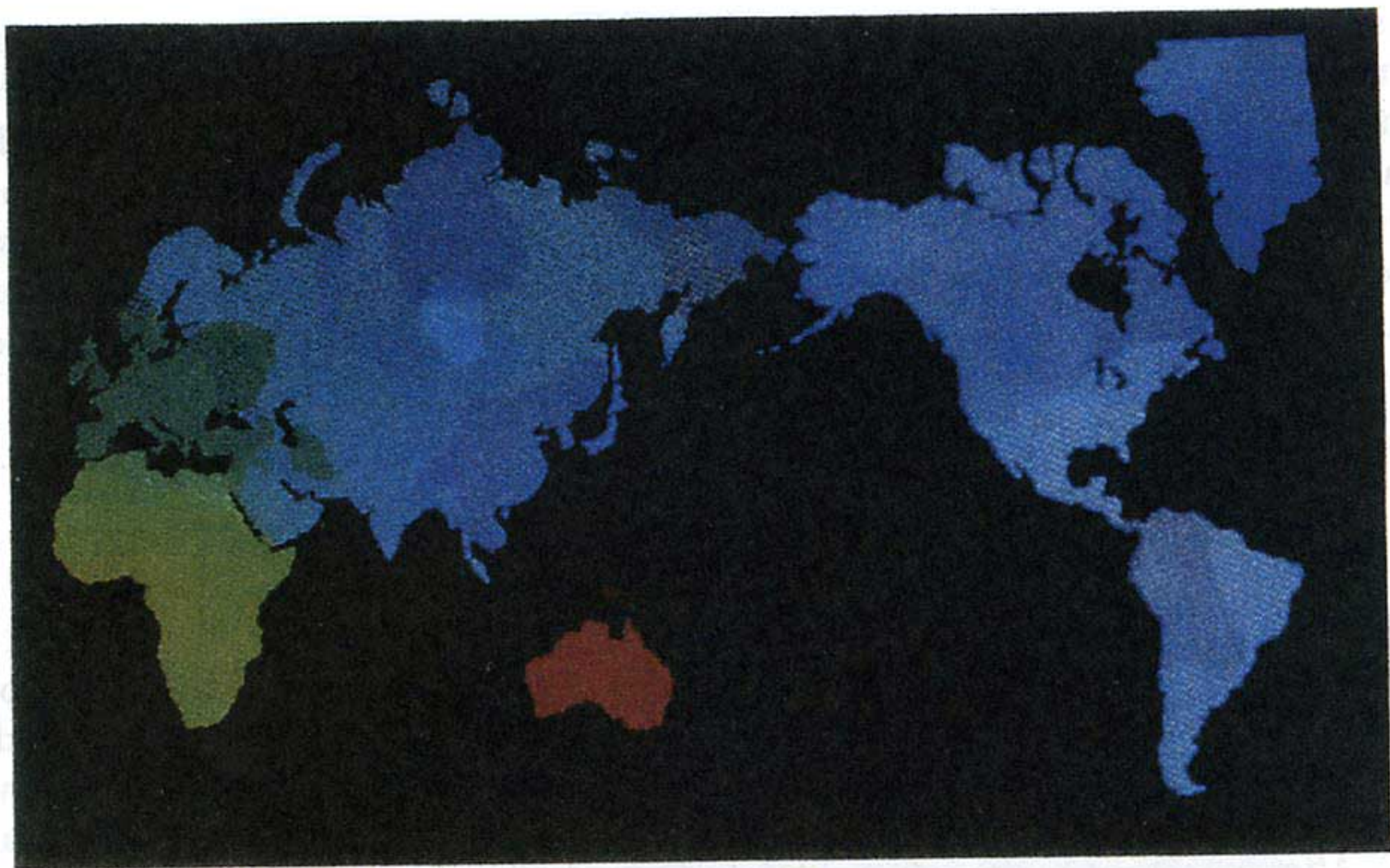
⁸⁷ Also, gestures, preference for certain musical scales or rhythms, choice and combination of colors, see below.

In sum, Laurasian mythology is the *first novel*, and the Pan-Gaeon myths are the *oldest tales* of humankind. At least, they are the oldest ones that actually can be discovered, barring any new insight about Neanderthal speech and ritual. And this is their fascination. The Laurasian and Gondwana project will take us back beyond all written literature that is only some 5,000 years old, and beyond most cultural data encapsulated in individual languages or reconstructed for the various language families. It will enable us to take a glimpse at the human condition as experienced by our most distant ancestors, both before and after they moved out of Africa.

§ 2. THE SCIENCES

As mentioned in the beginning, comparative mythology has links with genetics, archaeology, linguistics and, obviously, with textual studies (philology). However, when I began my studies during a year-long, blissful stay at Jimbun Kagaku Kenkyujo of Kyoto University in 1990, I was not fully aware of the recent advances made by human genetics (“African Eve” 1988; Cavalli-Sforza 1994). After my return to Boston, these discoveries drew public attention after a series of articles in *US News and World Report*, *The Scientific American*, *The Atlantic* (Fall of 1990/Spring of 1991). They all underlined the *African Eve* and *Out of Africa* theories which entail that modern *Homo Sapiens sapiens* originated in (East) Africa some 160,000 years ago and that one group left East Africa for Yemen and Asia beyond around 65,000 BCE.

However, even in Cavalli Sforza *et al.* (1994), the scale and bandwidth of comparison of genes was still very approximate. Based on a large number of molecular and mtDNA data, and using complex mathematical formulas (multivariate analysis) to process them, he devised seven “principal components” of our genetic materials. The aggregated result looked like this (Cavalli-Sforza *et al.* 1994)

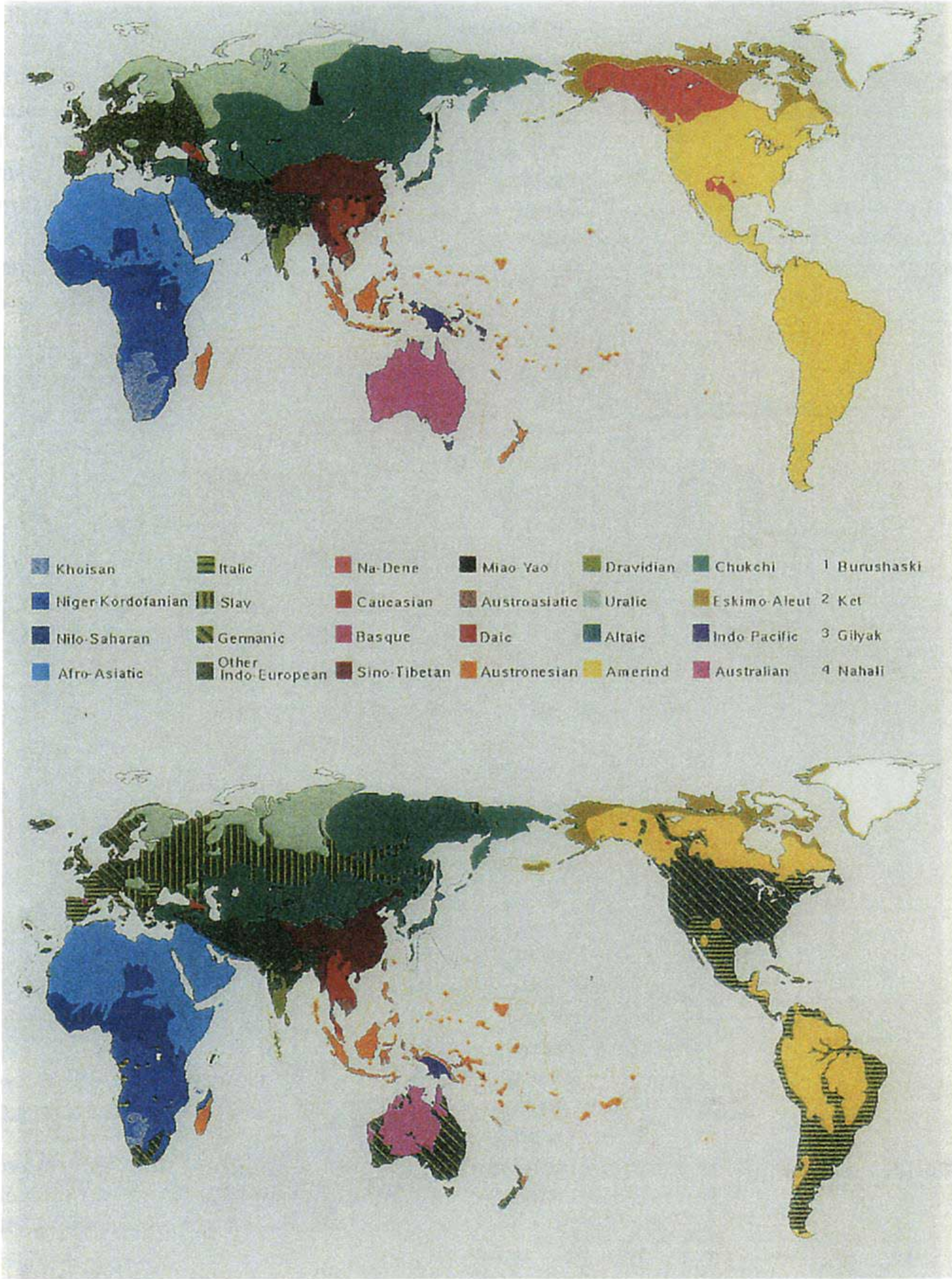


1. World Four major ethnic regions are shown. Africans are yellow, Australians red and Caucasoids green. Mongoloids show the greatest variation retaining some similarities with Europeans on one side (a light brown greenish tinge in middle Siberia) and with Australians on the other (a pinkish color in parts of America and on the way to it). The extensive gradients due to admixtures between Africans and Caucasoids in North Africa, and between Caucasoids and Mongoloids in middle Asia, are clearly visible. (See Chapter 2.)

Figure 3. Cavalli-Sforza *et al.* 1994: distribution of principal genetic components

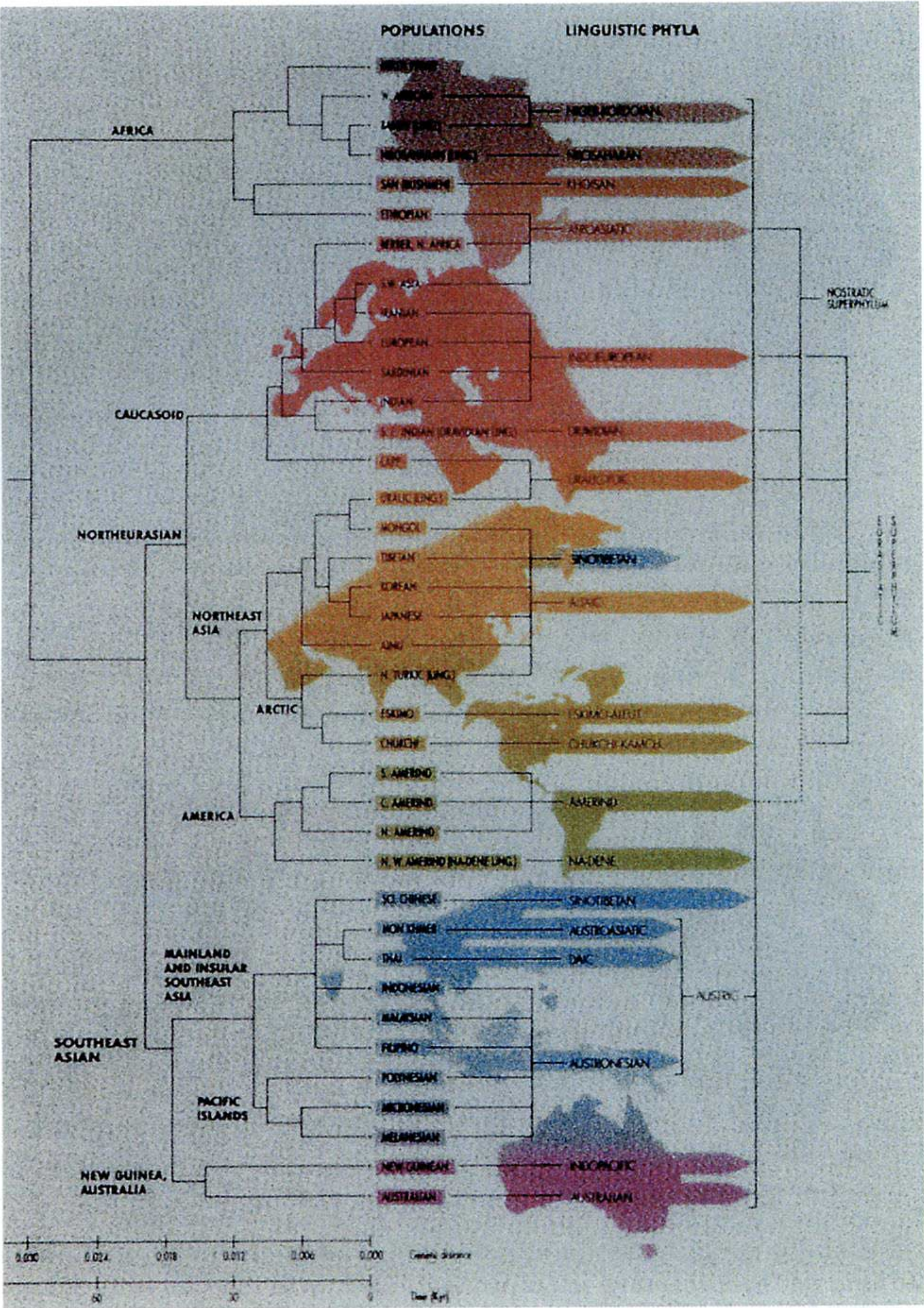
However, teaching at Stanford, he established contact with an unconventional linguist, M. Ruhlen, who was then engaged in re-classifying all human languages and in investigating the linguistic (macro)families that they belong to. His study resulted in some 15 major families (Ruhlen 1994); he actually claims to have discovered some words that seem to be present in all of them, and thus go back to the language of the African Eve (Ruhlen 1994, *Mother Tongue I* sqq).

Ruhlen's and Cavalli-Sforza's discussions persuaded the latter to posit a close relationship between his genetic classifications and the linguistic ones made by Ruhlen. This, he discussed in his 1994 book and expressed it in the tables inserted below. The first map shows the major language families before the European expansion of the past 500 years and after it, that is, as they are found today. The second table shows the perceived correspondences between language families and genetic subgroupings of humans. It is well known, however, that language is learned afresh by every child and is *not* genetically inherited; basically, language and genes are unrelated. For example, present day America has native English speakers who belong to virtually *all* genetic groups found in the world today; or, children of foreigners living in Japan learn to speak perfect Japanese. However, during the Stone Age spread of humans, language and genes will often have traveled together, as this spread involved only small bands of people. Several of the major language families, and a number of isolated remnant languages are remnants of such early movements.



7. Geographic distribution of linguistic families and isolated languages, according to Ruhlen (1987). In the upper figure only indigenous populations are shown; in the lower figure modern populations have been added. The distribution of the latter is taken with modifications from the *Times Atlas of the World* (1989). Four branches of Indo-European languages have been given different shadings, as indicated in the key. The color for "Other Indo-European" is used for all Indo-European languages in the upper map.

Figure 4. Distribution of language families.



8. A comparison is made between the genetic tree discussed in chapter 2 (figure 2.3.2A) and language families and superfamilies as in figure 2.6.2. Different colors are used to distinguish the continents (outlined under *populations*) and within each continent the different color shades correspond to the *linguistic phyla* defined.

Figure 5. Correlation of genetic classification and that of language families (Cavalli-Sforza 1994)

mtDNA data

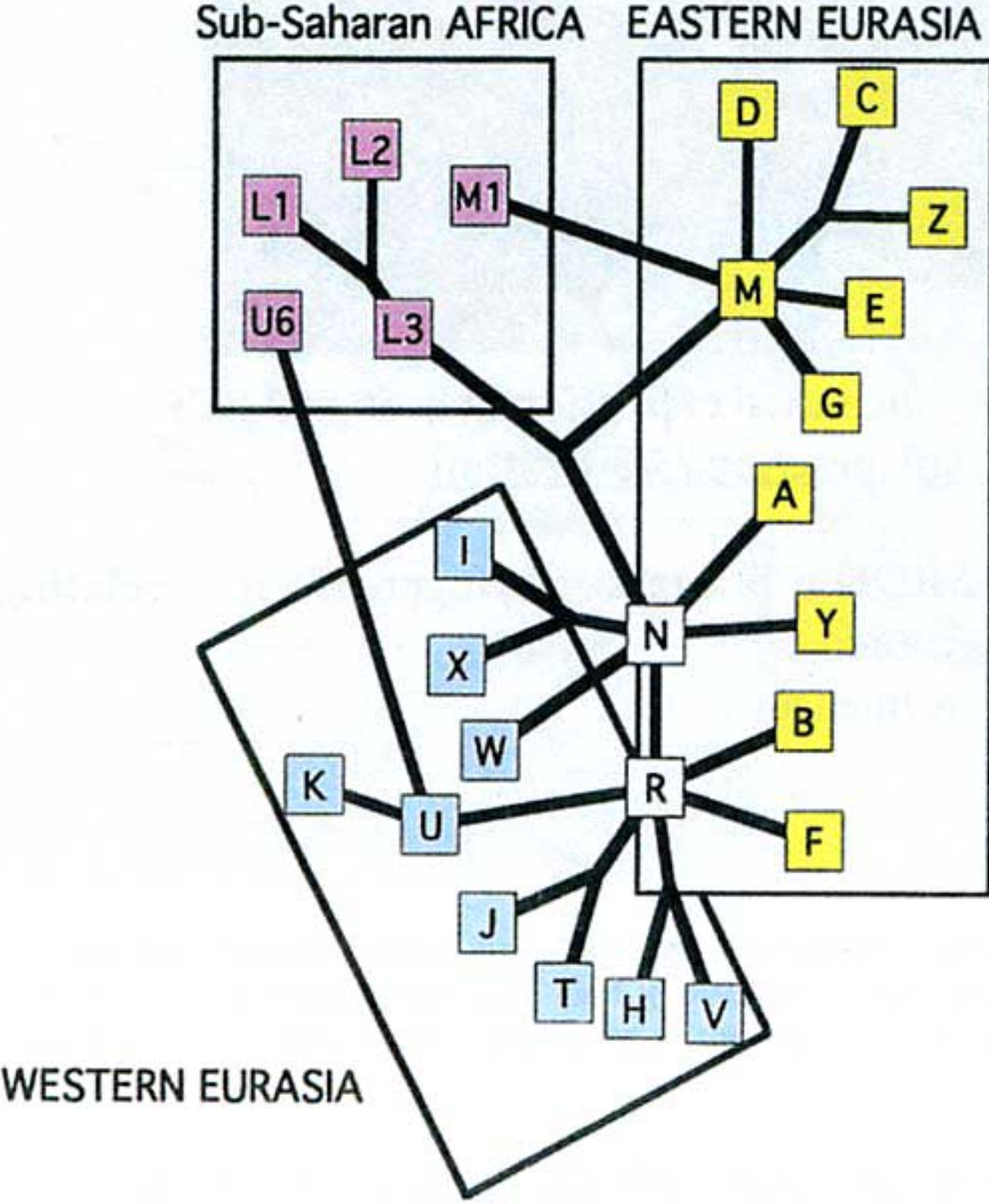
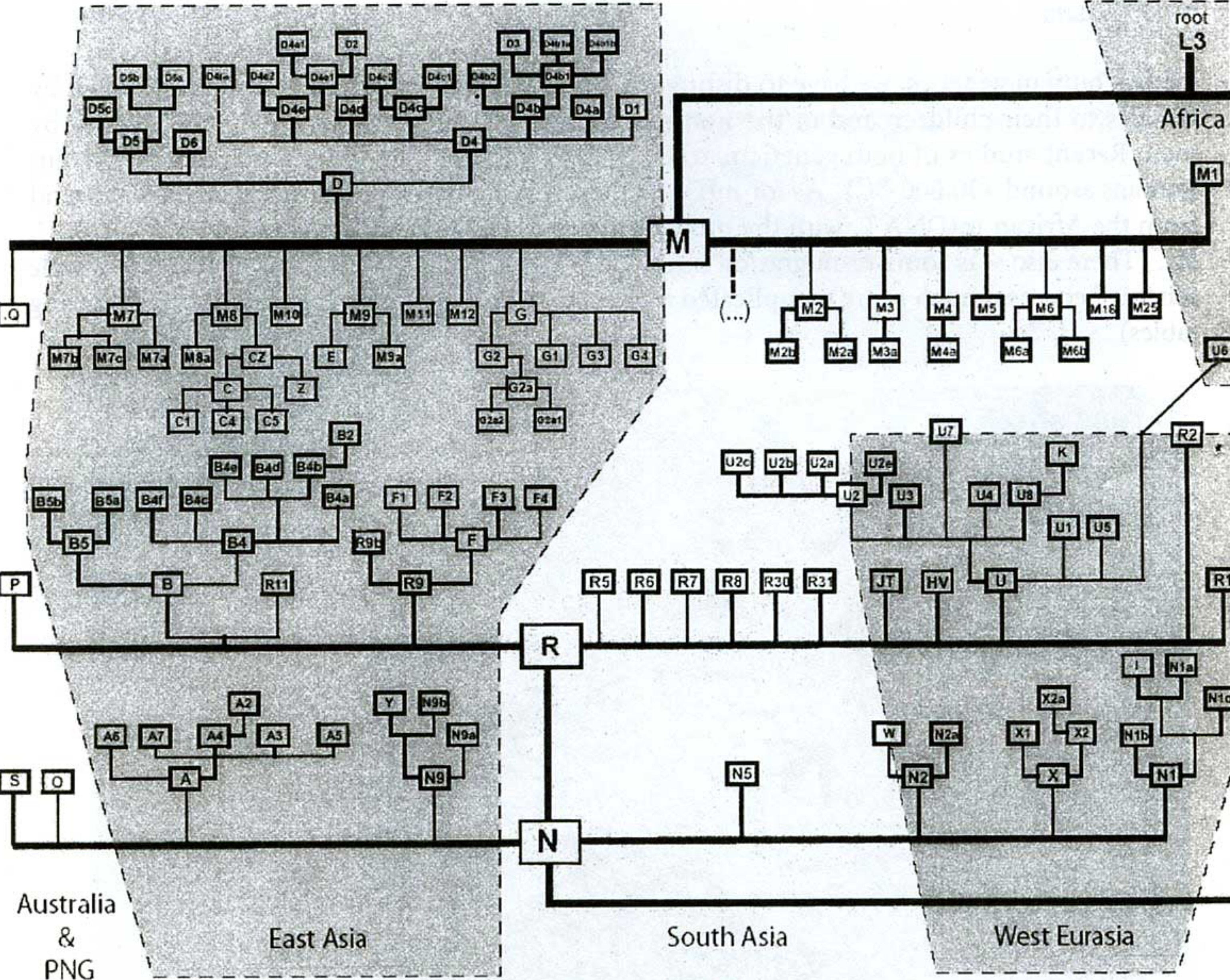
Within human genetics, we have to distinguish between mtDNA, which is only transmitted by females to their children and of the non-recombinant Y chromosome carried exclusively by men. Recent studies of both genetic markers tend to agree in the African origin of all current humans around 130,000 BCE. As for mtDNA, they indicate that all non-African people descend from the African mtDNA L₃ with the prominent branches M, N and their descendants R, B, U, etc. (There also was some re-migration into North Africa: M₁, U₈). However, this rather simple scheme becomes much more complicated as soon as we probe below the surface (see following tables) .



Above: Figure 6. South East Asia during the initial expansion at c. 60,000 BCE
<http://www.kahaku.go.jp/special/past/japanese/ipix/3/3-02.html>

Below: Figure 7. Detailed view of MtDNA lineages: phylogenetic tree relating the Asian mtDNA haplogroups, see www.evolutsioon.ut.ee and:

Figure 8. Simplified overview of mtDNA lineages



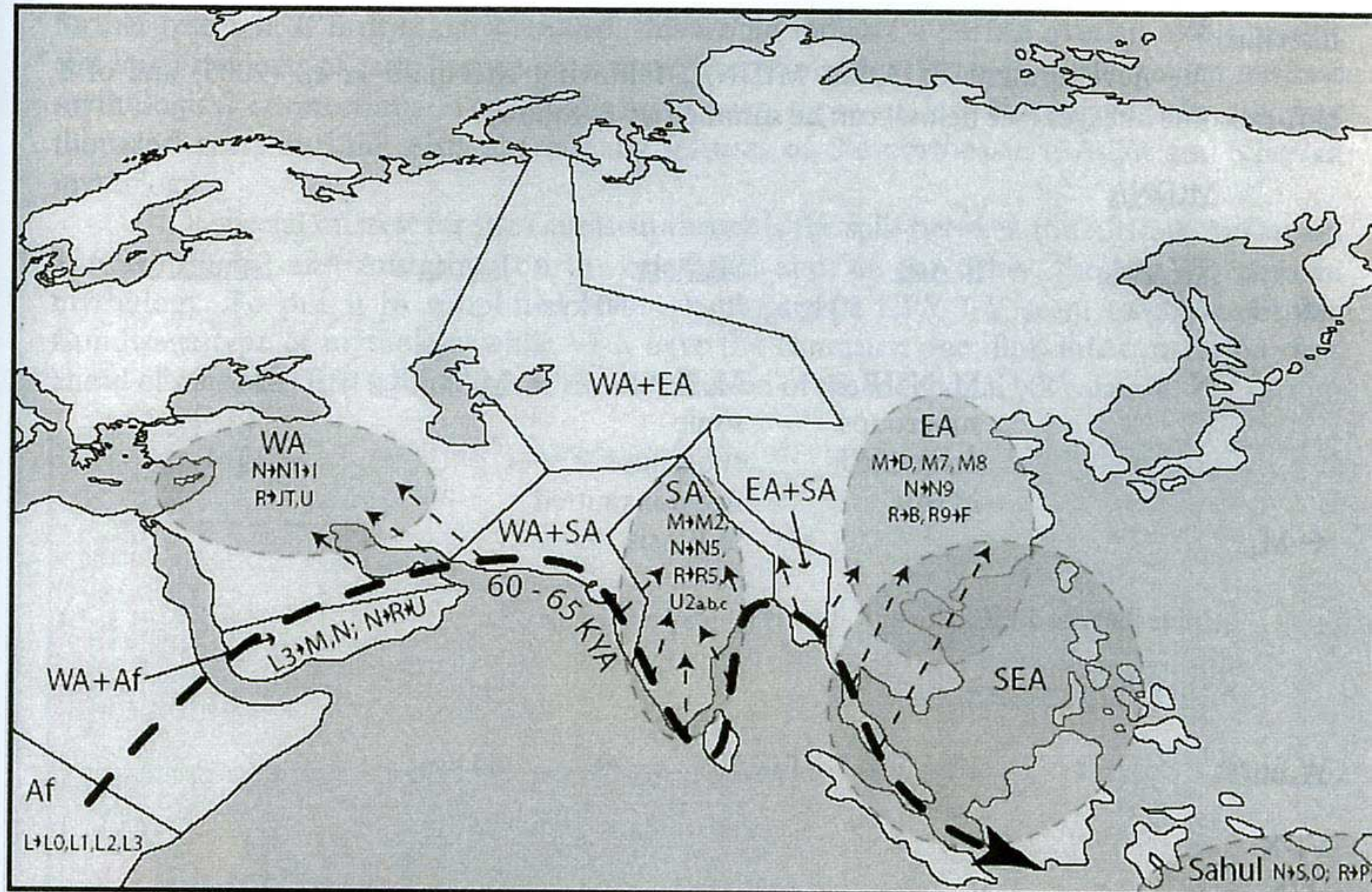


Figure 9. “The quick march to Sundaland” scenario. Map of Eurasia depicting the possible scenario of the pioneer settlement of modern humans in Asia. The heavy dashed arrow pictures the initial southern (coastal) route of the Out-of-Africa event which had taken place by around 60-65 kya [ten thousands years ago]. (Metspalu *et al.* 2005).

The resulting picture, shown in Figure 9, indicates a quick spread of humans to S.E./E.Asia and to Australia/New Guinea. As Metspalu *et al.* (2005) assert, during the opening stages of human movement out of Africa, the earliest offshoots of haplogroups M and N were rapidly segregated into these variants:

- West Asian (WA: e.g. JT, U),
- South Asian (SA: e.g. M₂, N₅, R₅, U_{2a,b,c}),
- East Asian (EA: e.g. D, M₇, M₈, N₉, R₉, B), and further into the
- Australasia-specific (Sahul: N→S, O; R→P, M→Q)

variants (however, Af are African specific mtDNA variants). These became the sources for the autochthonous mtDNA diversification in the respective regions. (In the table above these are shown by light dashed arrows and ellipses, Sahul-Land is not fully shown). It was only later on that modern humans moved further inland (not shown in the table above). However, admixture between these basic Asian mtDNA domains has been surprisingly limited ever since.

In addition, the approximate admixture zones (with over 20% of admixture) between the three domains are shown by crude solid lines together with an indication to the mixed domains. It is important to note that Central Asia appears as the biggest admixture zone, where the mtDNA pools of West and East Asia, and to a very much lower extent South Asia,

intermix.⁸⁸

The development of Asian MtDNA, following Metspalu *et al.* (2005) and of Y chromosome lineages (see below) can be summed up as follows:

<u>MtDNA</u>					
	<u>SW. Asia</u>	<u>S. Asia</u>	<u>SE. Asia</u>	<u>E. Asia</u>	<u>Sahuland</u>
Afr. →	65 kya	50 kya	50 kya		
	N	<u>M</u> , N (R ₅)	M, <u>N</u>	<u>M</u> , N, (R ₉)	M, R
		subgroups	some		
	R	diversified	subgroups		Q P
← M ₁		in situ	not transmitted to E.Asia		

(note that the divergence of R is early!)

<u>NRY chromosome</u>			
<u>W.Euras.</u>	III-VI-X (E, F/K,P)	→	60 kya
VI-X ←			
(F/K, O, R, P)			
c. 40 kya			

Y Chromosome data

As for studies of the male non-recombinant Y chromosome (NRY), the picture has become much more and more refined as well. While in 2000, Semino *et al.* counted just 10 original male lineages (I- X; not all developed at the same time), these have now been renamed and further subdivided as A-R (see: [http://ycc.biosci.arizona.edu/nomenclature system/nomenclature fig%201.map?269,27](http://ycc.biosci.arizona.edu/nomenclature%20system/nomenclature%20fig%201.map?269,27)). Of these, only NRY I and II (= A, B) remained in Africa all of the time (that is, before the slave trade that took place during the Arab and European expansions. While the haplogroups III /E, IV/D, V/C moved out to South and S.E. Asia early on; groups VI-X (F/K, O, R, P) developed only later on.

Of special interest for Japan is the fact that haplogroup IV/D moved all the way, from S. Asia along the sea cost of Indonesia up to Japan, where it still is strongly represented (some 25%), while it has virtually disappeared elsewhere. In this context, it is worth mentioning that there a few indications that the Ainu language represents that of these early immigrants: some of its words are still found in India with the Nahals (Kuiper 1962: *ape* fire, *seta* dog, *saroq* monkey; cf. further *Mother Tongue* II (1996), III (1997)).⁸⁹ This neglected fact is in need of

⁸⁸ The preceding paragraph has been abbreviated, with little change, from Metspalu *et al.* 2005.
⁸⁹ With other proposals for the affiliation of Ainu. For some genetic data on Japan see:

further research. If further corroborated, this would indicate a perfect overlap of the genetic and linguistic facts of early human expansion. Unfortunately it is much harder to demonstrate mythological connections. The Nahals have been more or less Hinduized over the past thousand years and the Ainu share many features of the northeastern Asian and Siberian mythology.

Of special interest for the Lurasian theory is the split between the African, Andaman, Taiwan, Papua, and Australian on the one hand and, on the other, the rest of Eurasian mythology. To put it in simplified terms, haplogroups NRY I-V seem to represent the Gondwana type of mythology while VI-X have the Lurasian one. But, this conclusion runs ahead of schedule; first a brief look at the distribution of the individual NRY data.

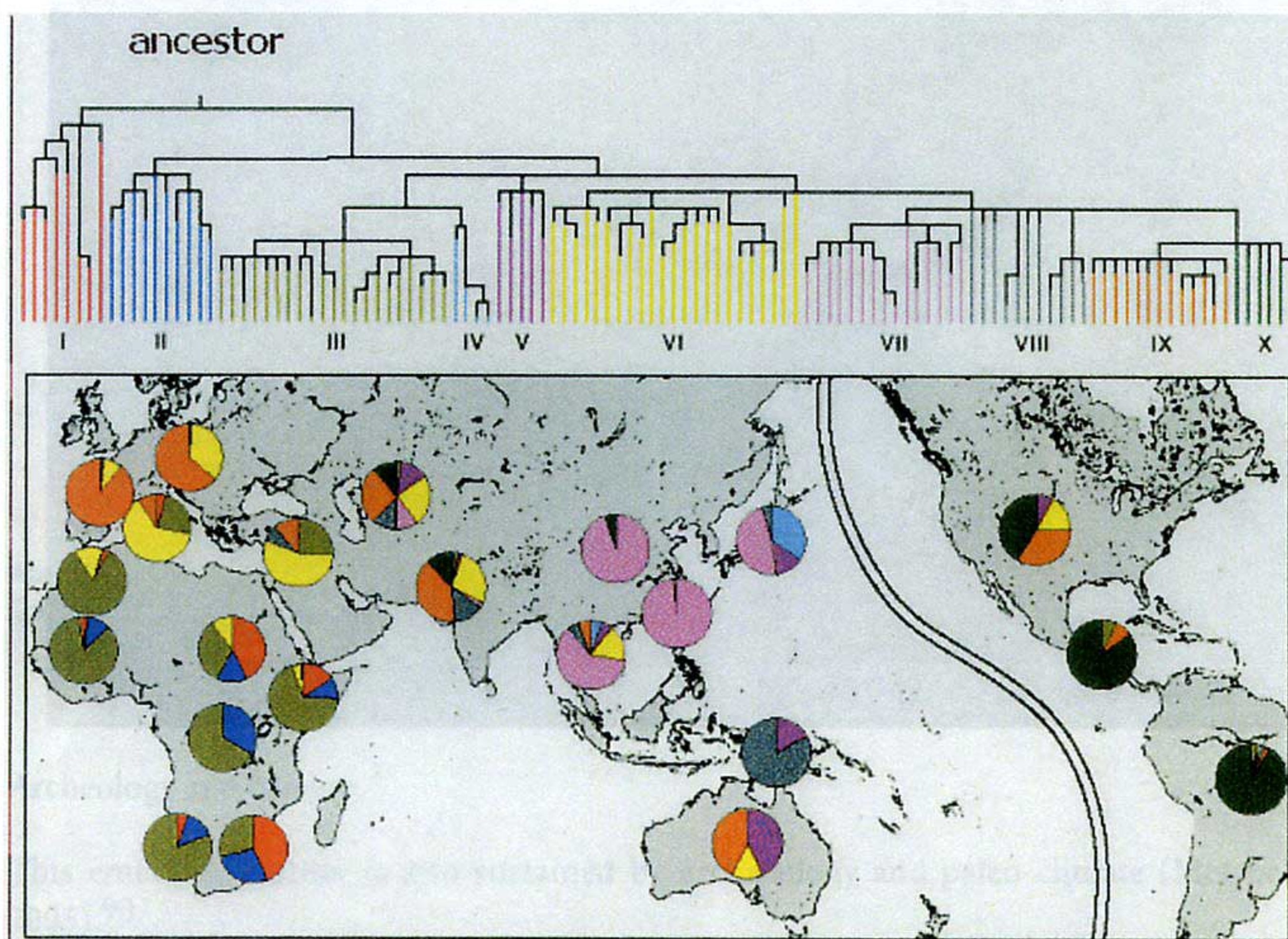
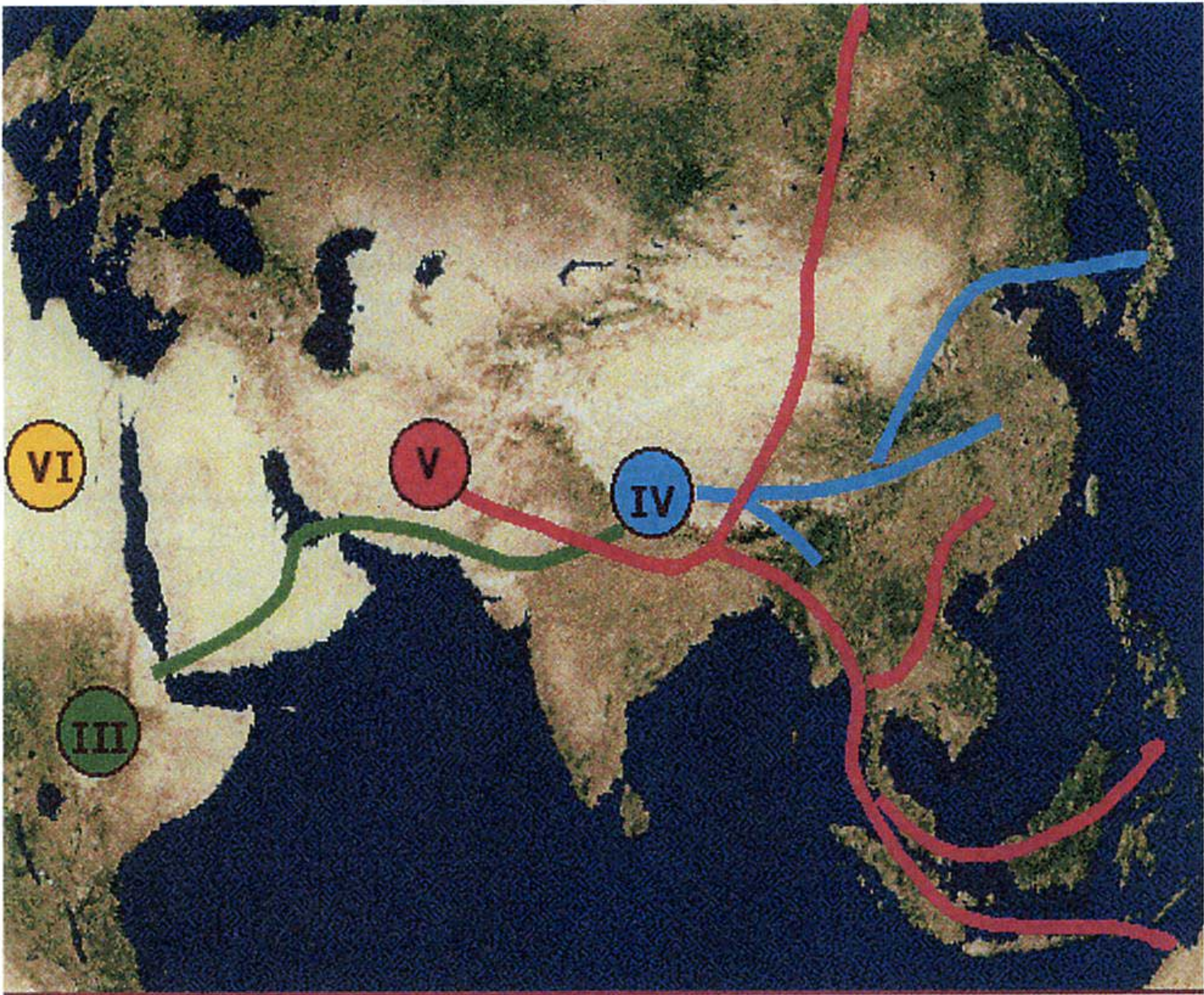


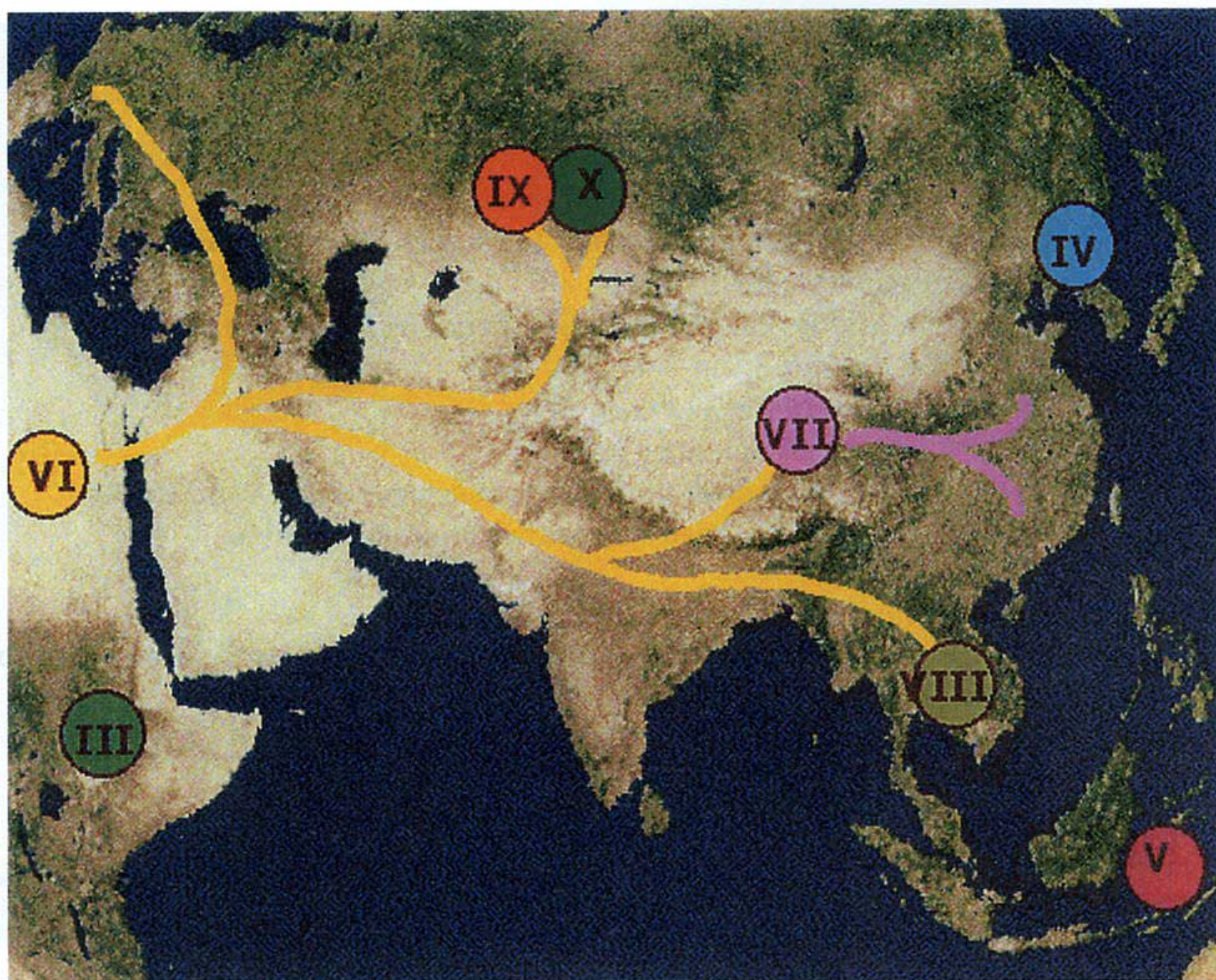
Figure 10. Semino *et al.* 2000. Note the haplogroup IV with c. 25% in Japan; non X-haplogroups in the Americas are modern intrusions from Europe.

The following maps are taken for a series of slides shown during a presentation that Marco Francalacci (Sassari, Sardinia, Italy) made at the 3rd Harvard ESCA RT in May 2001. They show the early expansion Out of Africa (Haplogroups III, IV, V), and its later descendants, VI-X. It must be noted that the location of the origin of the haplogroups and the track they took are only approximate. They should only be regarded as a general impression of what has perspired.

Below:

Figure 11. Marco Francalacci (Sassari, Sardinia), 3rd Harvard ESCA RT, 2001.
Spread of early NRY haplogroups III, IV,V) across Asia





Above: Figure 12. Francalacci 2001 (3rd ESCA RT). Later expansion patterns (VI-X). Origin of VI probably in Greater Middle East, secondary spread to Africa; note the remnant populations IV,V (~ Gondwana populations)

Archeology and climate

This emerging picture is also sustained by archaeology and paleo-climate (Metspalu *et al.* 2005).⁹⁰

130-110 kya Eemian interglacial (grad. cooling until 25-15 Kya: last Glacial maximum, LGM)

110- 70 kya Heinrich events (warmer and chillier)

70-50 kya Glacial max. stage 4 (Early Wisconsin glaciation, similar to LGM), followed by a warmer period

This opened a green passage between the Arabian Sea and the Levant (Zagros corridor); the deserts in C. Asia and N. Africa

⁹⁰ The following tables after Metspalu *et al.*, forthc. 2005, ch. 8

remain a difficult habitat.⁹¹
The shortest dist. between Timor and Australia at c. 65 kya was 170 km; later on 220 km.

Archeological evidence: 60 kya, but without human remains;
S. Asian upper Paleolithic found not before 30 kya; coexisted in India with Middle Paleolithic for 10 k years
Upper --> Middle Pal. change in southern Near East ~ 50 kya
in Central Europe, Spain ~ 47 kya
at this time also in the Zagros,
30-32 kya, in the Caucasus:
in the Altai and at Baikal, similar dates; skeletal remains and Upper Pal. ~18 kya; (all other dates are without human remains).

First fossil finds of modern humans in Eurasia and Australasia
probably buried outside of the ancient coastline, now some 80 m. below today's: at 40 kya (the find at 67 kya in Xinjiang is criticized)

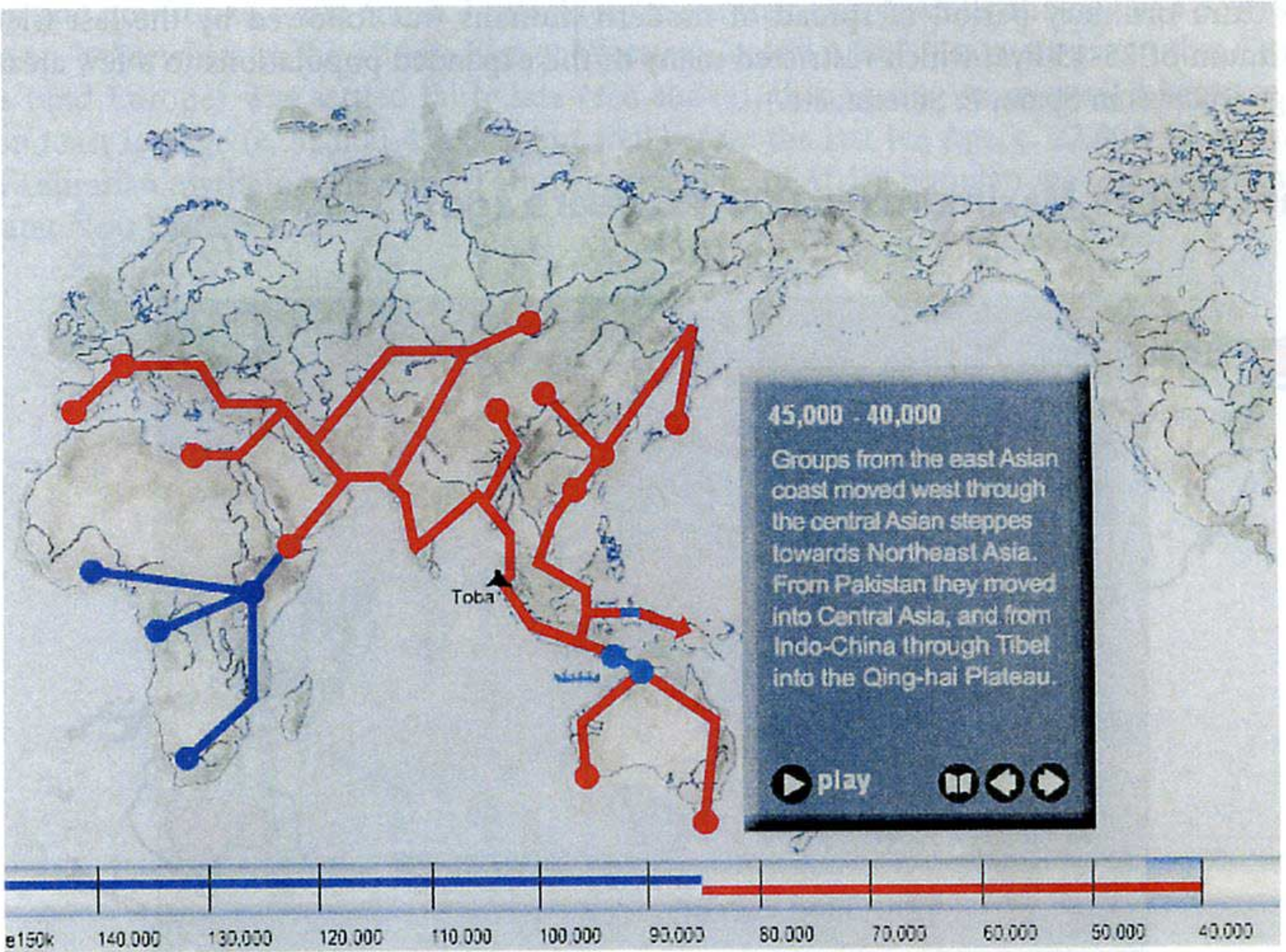
> 40 kya	Borneo/ Australia (lake Mungo; suggested dates for 50 ~62 kya)
33-28 kya	S. Asia: Sri Lanka
45-37 kya	Europe
30 kya	Inner Mongolia

Spread of modern humans, according to genetic markers:
Some assume that there were two migration routes:
* an earlier one: along sea coast to southern E. Asia, and
* a later one: Upper Paleolithic, from the Levant through C. Asian and S. Siberian / N. Asian route (pincer model).

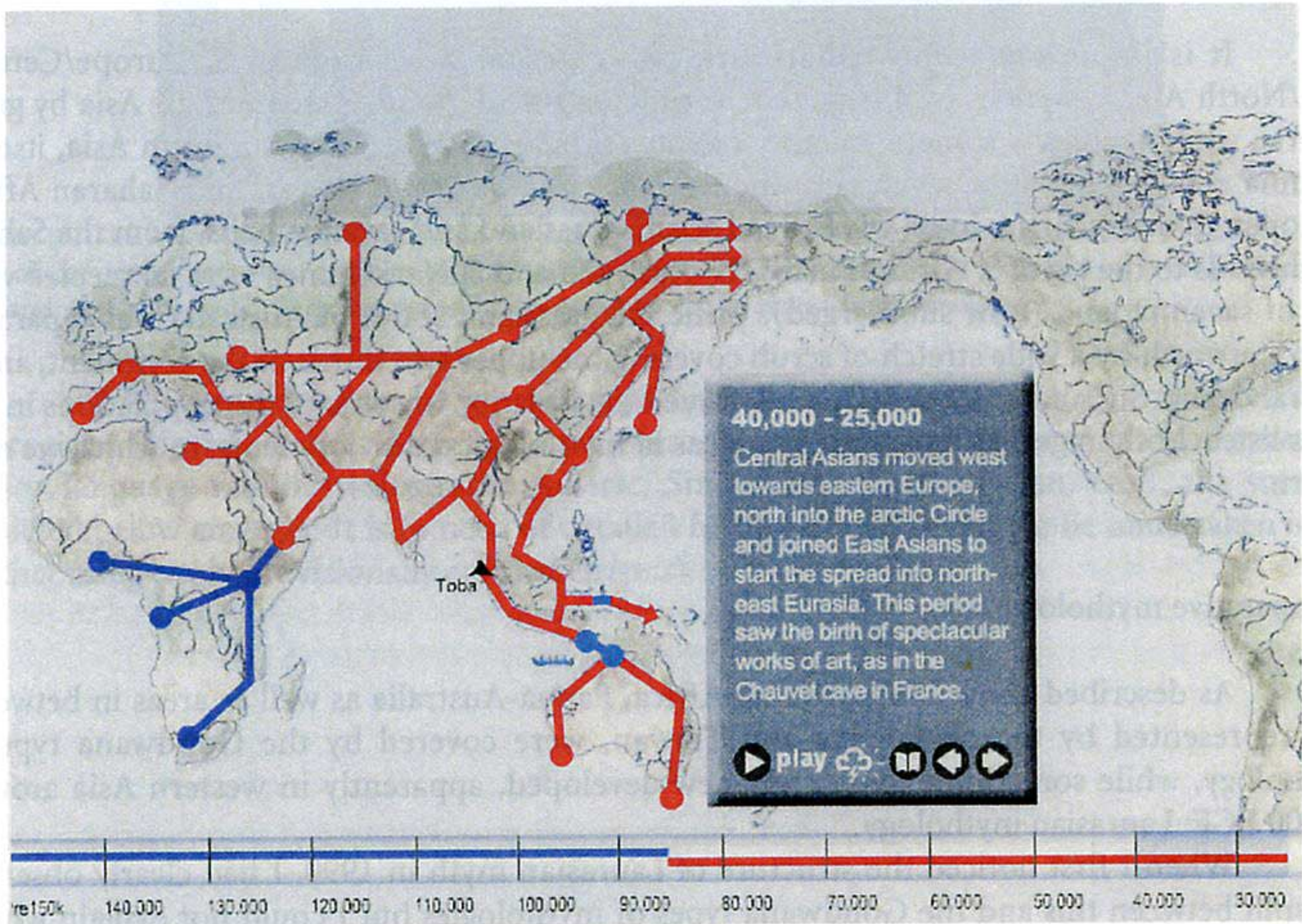
This should result in a genetic pattern with individual C. Asian developments must be visible. But, this is *not* the case (Metspalu *et al.* 2005); the Southern track is therefore the only proven one.

For the post-Out of Africa developments, after the initial spread of c. 60,000 BCE, we may sum up (with Oppenheimer) as shown below (follows. The period must have overlapped with the development and spread of Laurasian mythology (see below) and also of much of early rock art (France/Spain, Sahara, S. Africa, C. India, New Guinea, and Australia).

⁹¹ Reviewed in Oppenheimer 2003.



Figures 13, 14. Further spread of humans to northern regions.



This extra-ordinary period of spread of modern humans was followed by the last Glacial Maximum of 25-15 kya, which restricted many of the expanded populations to a few areas of refuge (such as in Spain, E. Siberia, etc.)

Last Glacial Maximum (18,000 ^{14}C years ago)

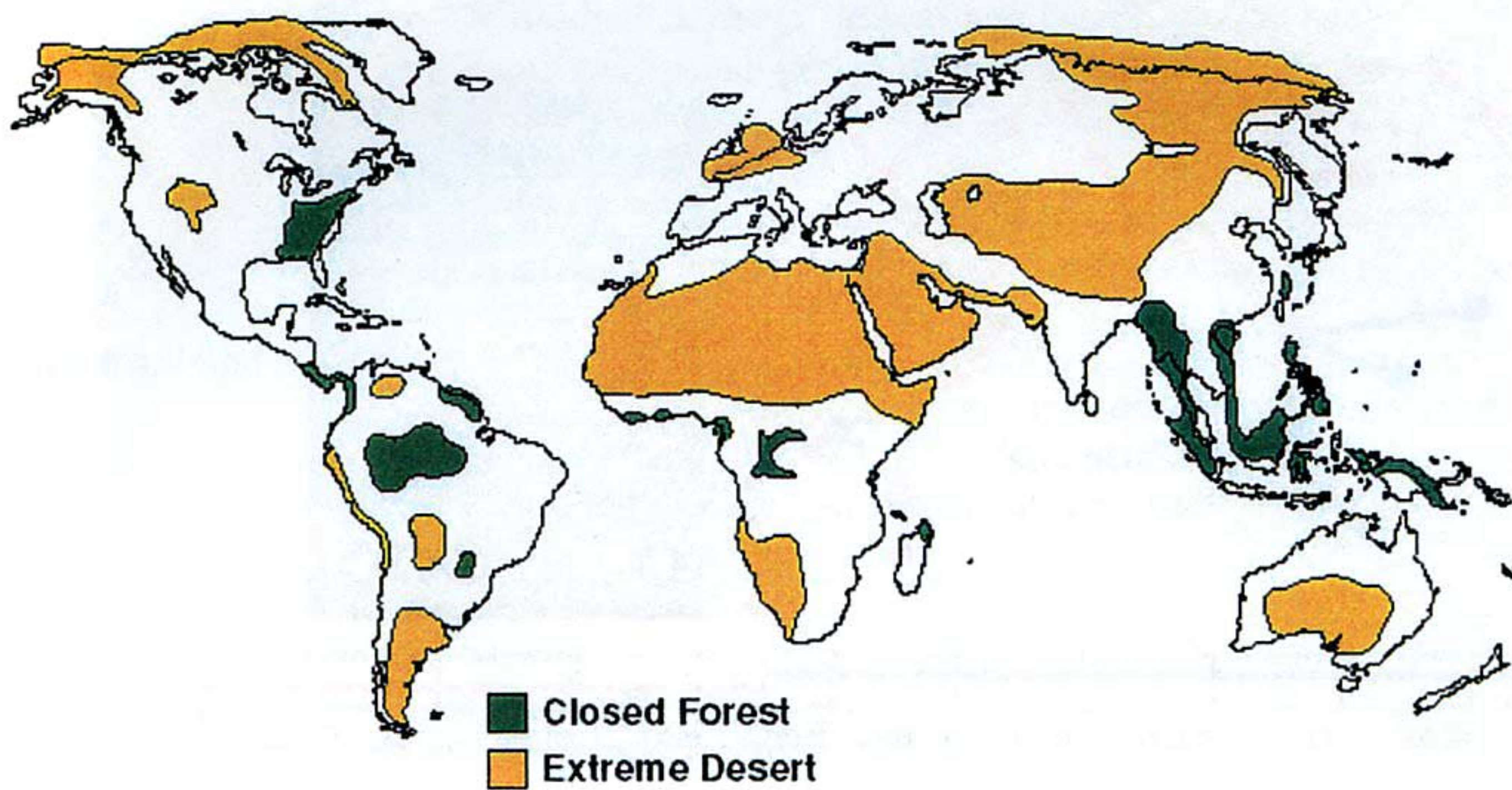


Figure 15. From: <http://www.esd.ornl.gov/projects/qen/nerc.html>

It is important to note that during this period wide areas of S. Europe/Central Asia/North Africa, were by and large separated from that of South Asia and East Asia by great deserts, while there was some possibility of contact between East Asia and South Asia, itself a savanna area, via a belt of savanna in the Burma/Assam areas. However, Sub-Saharan Africa was open to interchanges in its widespread scrub, grassland and savanna belts, from the Sahara southwards to the tip of S. Africa. Finally, N. Australia and S. New Guinea were connected via a belt of savanna land (now submerged), while the grassland south of Australia was separated from the north by a wide stretch of scrub covering the upper two thirds of the continent, and a central desert. Such severe conditions reinforced the isolation of some of the populations in the areas listed, both in genetic exchange as well as in mythological developments, to which we now return.

Comparative mythology

As described above, Sub-Saharan Africa, Papua-Australia as well as areas in between, still represented by the Andamans and Taiwan, were covered by the Gondwana type of mythology, while something completely new developed, apparently in western Asia around 40,000 BCE: Lurasian mythology.

When I first noticed the structure of Lurasian myth in 1990, I had clearly observed the split between this and the Gondwana types of mythologies but I could not explain where,

when and how it had come about. I merely surmised that Lurasian mythology had developed later on "somewhere in the Middle East or Western Central Asia." It now turns out that Central Asia (and Europe) was settled fairly late (see above), during the warm period between the second last Ice Age (c. 52,000-45,000), but well before the last Ice Age, c. 22,000-12,500 years ago. Lurasian mythology developed among some Out-of-Africa populations somewhere in the Greater Near Eastern area.

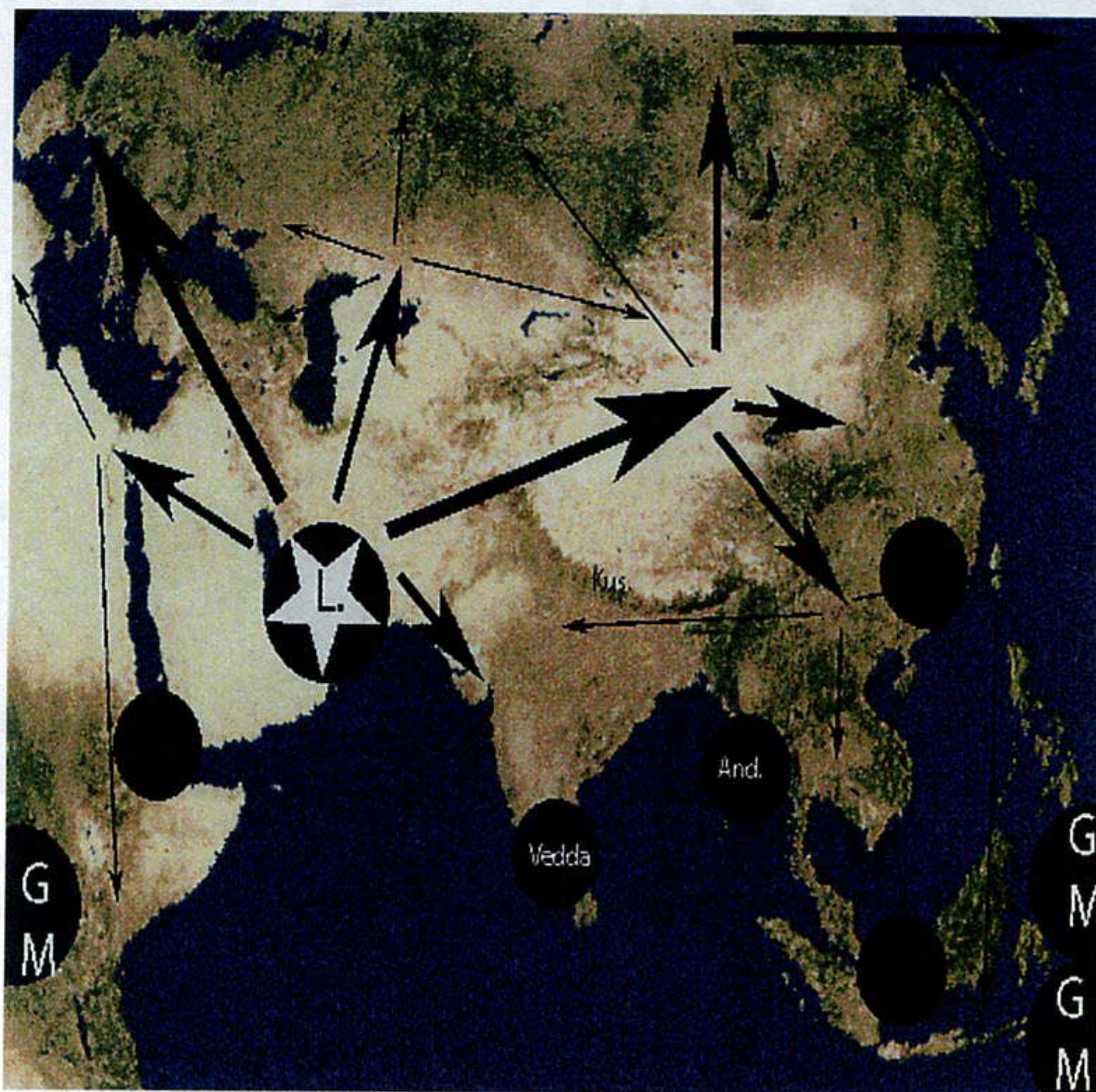


Figure 16. The Afro-Australian *Gondwana* mythology is indicated by black circles marked GM. The approximate area of the development of Lurasian mythology (in a former Gondwana area) is indicated by L. Its initial spread east and west is marked by large arrows and subsequent spread by increasingly smaller ones.

If we then correlate the emerging picture of Lurasian mythology and its evolving subregions (Near East; East Asia; S.E. Asia, Meso-America etc.) with the origin and spread of major language families (Nostratic, Austric, Sino-Tibetan/Amerindian, etc.), the scenario depicted below emerges. It is in need of detailed further investigation (to be undertaken in my forthcoming book, provisionally entitled *Origins*).

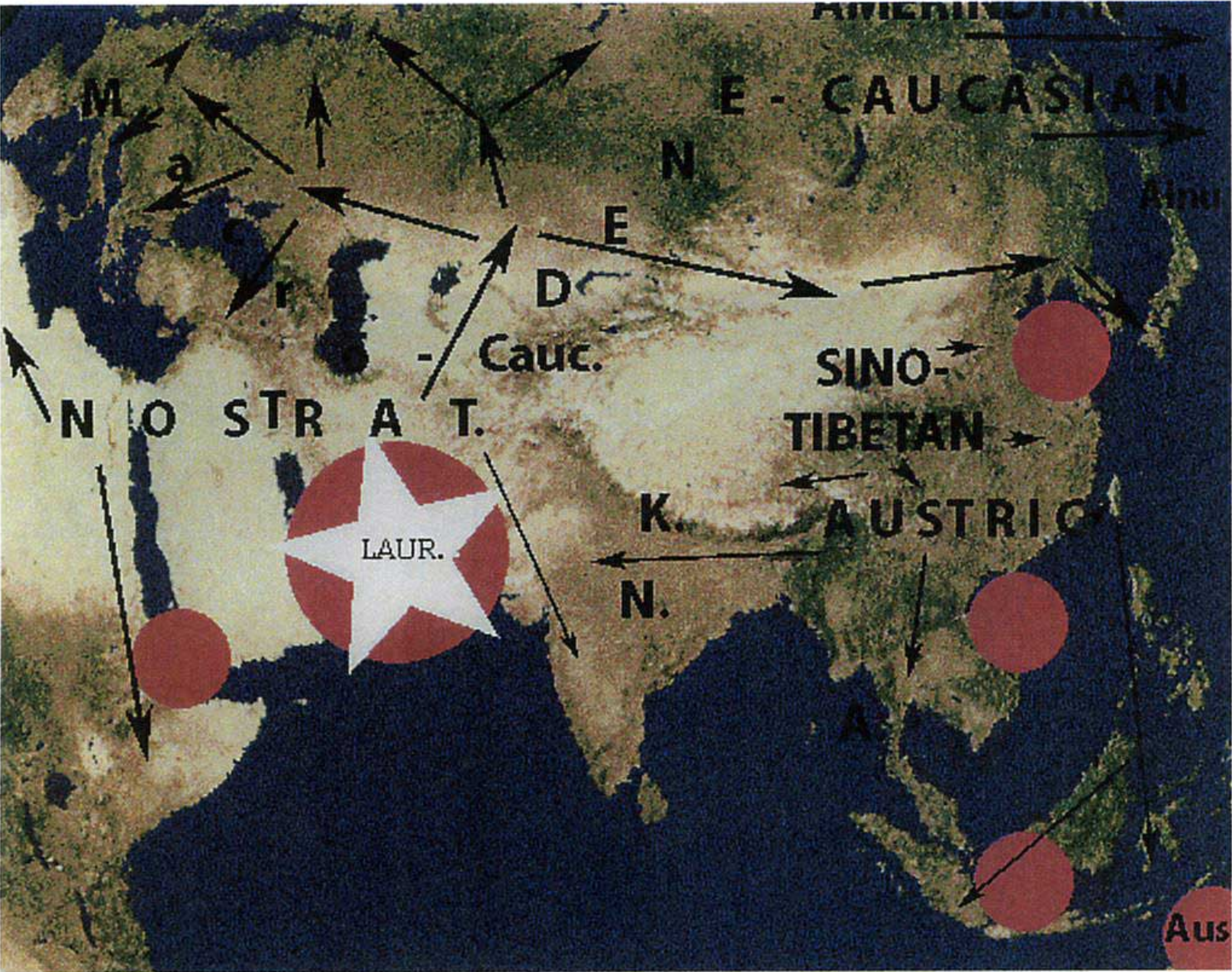


Figure 17. Spread of Lurasian mythology and of major language families. Red circles indicate the earlier spread of Gondwana myth, with some residues remaining even after the spread of Lurasian mythologies, notably in Papua and Australia, and isolated areas (Andamans, Highland Taiwan, etc.)

Cooperation

In sum, we notice how well the natural sciences (archaeology, paleontology, genetics, paleoclimatology) underpin what the humanities (mythology, linguistics) have detected. Mutual cooperation between these fields, as envisioned in the proposal for *Generalized Sciences*, is in order. Only a cooperative approach can lead to a better understanding of the human past, --- and present, as we shall see.

As a footnote, I might mention that the comparative study of other aspects of culture, such as musical styles (e.g., such as the East Asian and Amerindian pentatonic scales), gestures, use of colors, or the traditional (often very conservative) children’s texts, music, tales, rhymes and games, may lead to further discoveries that can bring out early, regional areas of culture that may (or may not) overlap with the mythological regions discussed in this paper.

§ 3. Outlook: “Peaceful world and enriching human lives”

It now remains to be investigated why myth is important even today -- which leads us to another central topic of this symposium. Even today, humans apparently cannot live without myths, of whatever nature (Hübner 1985),⁹² which may not be entirely unrelated to our somatic setup as a recent study of twins has indicated.⁹³ According to this investigation, genes may help determine how religious a person is. Genes contribute about 40% of the variability in a person's religiousness, while the effects of a religious upbringing may fade with time. With adults, genetic factors become more important in determining how religious a person is, while environmental factors wane. However, increasing higher levels of education also seems to bring down the percentage of a person's religiousness.

Apparently, if humans do no longer have a religiously based mythology, such as in the former socialist countries, they create or concoct a new one. We merely have to recall the myth of the semi-divine birth of Kim Il Sung of North Korea and his invented heroic exploits during World War II, or the many semi-religious rituals invented by the Soviets and their satellite states (marriage, initiation, burial, etc.).

In capitalistic societies, even in (nominally) Christian ones, we may observe a similar spread of new myths. In America, there is the growing cult of the 'demi-god' Elvis, and Superman is almost real. More importantly, there are many secular myths connected with the origin of America as 'god's own country' and its 'manifest destiny', where one myth after the other has been taking shape, from George Washington 'who never told a lie' to the strongly myth-oriented presidency of George Bush II, (the *lesser*, as Arundhati Roy has it): environmental problems 'will be taken care of by Jesus' who is coming back soon; one has to be prepared for this by reading the last book of the Bible, Revelation (see below). However, right from the start, American self-image has strongly been myth-oriented, even though the new republic emerged out of an Enlightenment background. This includes the following features.

- * 'All *men* are created equal' (thus, *minus* women, blacks, and native Americans; 18th c.);
- * the 'manifest destiny' to expand all across the continent (early 19th c.);
- * the ever popular 'God's own country,' or its current version:
- * "only in America is it possible that... (fill in)", while neglecting the persistent lower class of the poor as well as caring for the future;
- * the current myth of embodying and 'spreading Freedom' and/or 'Democracy' *abroad*, while not taking care of the many internal problems of lack of food, health care, and education for all.

All these are fictions aiming at sustaining the body politic and its semi-spiritual *überbau* are topped by the constant reference to God (the Judaeo-Christian one, needless to say). While 'Freedom' is supposed to be spread everywhere, policy makers are, at the same time, illogically waiting for the soon to come *Rapture*. This is a strange 19th century development among 'reborn' Christians in America. It rests on a new --and entirely spurious-- interpretation of the

⁹²Hübner 1986; Schatz 1986; cf. also Jaspert 1991.

⁹³ <http://www.newscientist.com/article.ns?id=dn7147>: Maggie McKee. Genes contribute to religious inclination. 16 March 2005, NewScientist news service.

last book of the Christian Bible, John's *Revelation*, composed on Patmos at the end of the 1st century. According to this recent re-interpretation, relying on passages such as Revelation 22:7, 12, 20 ; 2:25; 3:10,⁹⁴ Christian believers would literally be carried to Heaven from the place they happen to be.

Zoroastrian ideas of god are all-important in the Hebrew Bible. There are, actually, two accounts of creation, one in which Yahweh created the world and another one where the *Elohim* created the world. *Elohim* is the plural form of 'lord, god'. This is (still) somewhat disconcerting to non-critical readers of the Bible. It usually is explained away by a meaning 'several deities in one' or by a 'polite' plural, somewhat like the *pluralis maiestatis*, which is in fact seen in some other Levant religions as well. The introduction of Yahwe as sole god is patterned on the Zoroastrian idea of Ahura Mazda.

Actually, *Revelation* is strongly influenced by ancient Iranian (Zoroastrian) mythology; it has many Iranian images,⁹⁵ such as the dragon, the "lake of fire burning with brimstone", the bottomless pit, a new heaven and a new earth, a "city that had no need of the sun, neither of the moon, to shine in it... for there shall be no night there", which is a good description of the Avestan *Vara* of Yima (*Vīdēvdād* 2). In consequence, two thousand year old path dependencies,⁹⁶ based on the influences of Old Iranian mythology, have now again become important, this time for *all of us*. Zoroastrian religion, now only followed by a few ten thousand people in S.E. Iran and Bombay, has deeply influenced Judaism and Christianity (see below). In the Hebrew Bible many 1st millennium BC Iranian concepts were added after the 'Babylonian captivity' and the emergence of the Persian empire in the late 6th century BC, including the strict version of monotheism based on Zoroastrian Ahuramazda cult, the vision of a rising of the dead (Prophet Daniel), etc. More is seen in Judaism's direct descendents, that is, in Christian myth and religion as well as in Islam. Zoroaster's scheme, with his strict separation of 'good' and 'evil' is still deeply entrenched today, even in politics: Reagan's 'evil empire' and Bush's 'evildoers' or his 'axis of evil'.

Zoroastrian monotheism, with its strict dichotomy of good and evil, appears time and gain in the Hebrew and Christian Bible. Many Christian concepts are predated by those in Zoroastrian texts whose influence has spread widely over the Ancient Near East during the last few centuries BCE. Zaratustra lived around 1000 BCE, probably in the three-corner area of Afghanistan-Iran-Turkmenistan. In his texts (*Gāthās*) and those of his school we find, for example,

- | | |
|--|---|
| • the opposition of good and evil (<i>aša :: druj</i>)
personal decision of a believer against evil | cf. on the Judaeo-Chr.
side, the same concepts |
| • Ahura Mazda :: Daēuvas (demons) | cf. God :: devil, demons |
| • Spənta Mainiiu :: Angra Mainiiu | cf. Holy Ghost :: devil |

⁹⁴ Note especially: Rev. 2:25 *But that which ye have already hold fast till I come; 3:10 Because thou hast kept the word of my patience, I also will keep thee from the hour of temptation, which shall come upon all the world, to try them that dwell upon the earth.*

⁹⁵ See <http://www.sacred-texts.com/bib/kjv/rev001.htm#001>

⁹⁶ See S. Farmer et al. 2000.

‘holy spirit:: evil spirit’

Also to be noted is the idea of *paradise* (Old Iranian *pari-daēza*) as a walled garden and the idea of prophets (such as Zaratustra). The Avesta, composed in pre-Christian times of the first millennium BCE, has

- | | |
|---|--|
| • Savior (<i>Saošiiant</i>), arising sometime in the future, with a sort of immaculate birth, from a lake in the East | cf. Khristos/Messiah, the savior |
| • role of 'prophet's | cf. prophets and Jesus |
| • Frauuaši of believers | cf. guardian angels |
| • final judgment at the end of the world | cf. final judgment |
| • walking the narrow Ciṇtuuant Bridge; evil ones will fall into molten metal | cf. eternal hell [fire] for nonbelievers |
| • only a certain number will be saved | cf. the 144,000 saved (Rev. 14.1) |

Further, Iranian myth has strongly reinforced dualism in Christian religion, largely due to Augustine (354-430 CE), a former Manichean.⁹⁷ Not surprisingly, Zoroaster’s dualism is echoed even today by G. Bush's "who is not with us is against us;" he is an ‘*evildoer*’.

Zoroastrian dualism is a development of the Indo-European and Eurasian dichotomy between two groups of deities (*Asura: Deva, Ama.no Kami : Kuni.no Kami*, etc.) that cannot be discussed in detail here.⁹⁸ The Central Asian predecessor of early Indian (Vedic) religion has also influenced its eastern neighbors, so that we still can detect many of its patterns in Japanese mythology, especially in the first chapters of the *Kojiki* and *Nihon Shoki* (Witzel 2005). Late Vedic religion has developed into modern Hinduism, and it also has influenced, via Buddhism, large parts of Asia.

In sum, the Laurasian pattern underlies the mythologies of most modern peoples, whether in its more original versions (some local and many small tribal religions: Shinto, Hinduism, Amerindian religions, etc.) or in its “reformed” versions (Buddhism, Christianity, Islam). After the European expansion of the past 500 years, it also has overlaid most parts of Africa and of Australia. The path dependencies of patterns of Laurasian mythology thus guide people --and politicians-- whether they are aware of it or not.

Even some of our scientific ideas about the human life cycle and about the shadowy emergence and predictable end of the universe still follow similar paths. Both scientific

⁹⁷ Note that this dualism was later on transformed in Materialism and Marxism, etc., and as such emerged on the political scene in the 20th c.
⁹⁸ See Witzel 2005, *EJVS* 12-1.

cosmology as well as Laurasian mythology follow a narrative framework leading from original "creation" (conception, emergence) and birth of the world to its end, and in some scientific cosmologies even to a new creation after the collapse of the present universe. As mentioned, the early Laurasian shamans⁹⁹ saw the world, not entirely unexpectedly, in analogy to the human body and human experience. They found this scheme to be a convenient way to arrange their still older (Pan-Gaeon/Gondwana) stories along a 'logical' story line.

Myth *artistically* combines many diverse features into a meaningful whole, varying the original Laurasian layout according to local conditions. The latter are preconditioned by path dependencies (Farmer *et al.* 2002) of earlier cultural stages, and by the contemporary social and religious conditions. Myth tries to make a significant statement about human life: "where do we come from, why are we here, where do we go?" Myth also binds humans to their natural habitat and social background as well as their regularly repeated annual changes. It tells of a deep underlying meaning, and satisfies basic spiritual needs.

The early shamans' concept of *birth-death-rebirth*, due to *path dependencies* of Laurasian myth, is still, though *unwittingly*, followed by the great majority of humans --and some prominent contemporary politicians-- whether they call themselves Christians, Muslims, Jews, Hindus, Buddhists, Taoists, or else.

In this situation, the study of our shared mythologies will allow us to perceive our common spiritual origins and to discover the underlying, common patterns of our thought. Such investigations will help us, it is hoped, to understand each other better -- because, for us just like for our early Laurasian ancestors some 40,000 years ago, the basic questions have remained the same, and the answers given still are strikingly similar.

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⁹⁹ More about these early spiritual leaders, in a Laurasian context, in a forthcoming companion paper.

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Generalized Science of Humanity Series Vol. 1
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発行：東京外国語大学 アジア・アフリカ言語文化研究所
共同研究プロジェクト
「地球文明時代の世界理解と新しい倫理・人間観の研究」
〒183-8534 東京都府中市朝日町3-11-1
電話 042-3-330-5600 Fax. 042-330-5610

発行日：2006年7月発行

印刷：東京プレス
〒174-0075 東京都板橋区桜川2-27-12

ISSN 4-87297-941-9

