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ABSTRACT. Our cross-cultural analysis of traditional social organization of the Old World Oikumene civilizations suggests that the world religions were its major determinant. The role of Christianity and Islam as determinants of social evolution is analyzed in more detail. The multiple regression analyses shows that though such factors as political centralization and class stratification were also important determinants, the difference in traditional social organization between Christian and Islamic cultures was mostly shaped by the respective world religions.

KEYWORDS: Cross-Cultural Anthropology, Religion, Christianity, Islam, Evolution

¹ This research was supported by a grant from the Russian Foundation for Basic Research (RFBR/RFFI # 03-06-80277).

In 1996 Burton, Moore, Romney, and Whiting proposed a new regionalization of the world based on social structure (Burton et al. 1996) displaying its main features in their figures 2, 3, and 13 (see fig. 1, 2 and 3 below):

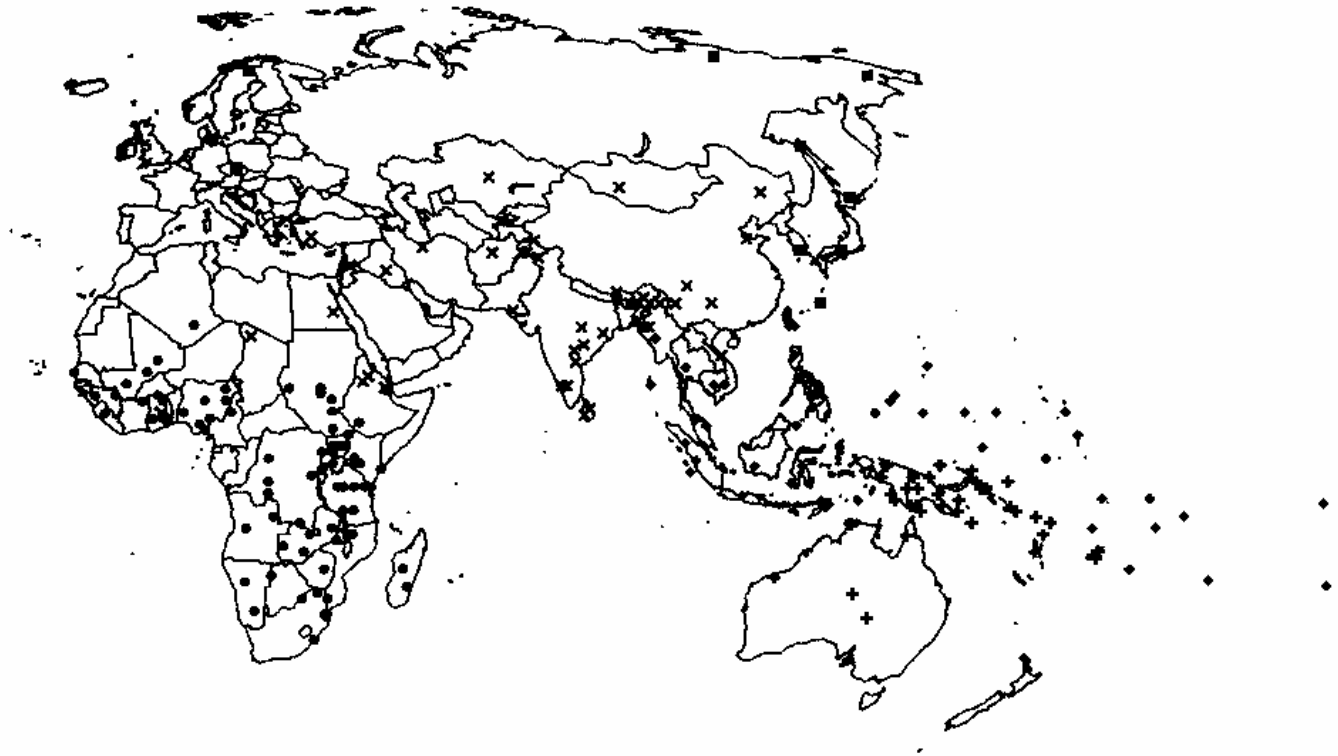


Fig. 1 (= Burton et al. 1996:95, Fig. 2). *Regions of Africa, Eurasia, and the Pacific.* ●, *Sub-Saharan Africa*; ×, *Middle East and Old World*; ◆, *Southeast Asia and the Insular Pacific*; +, *Australia, New Guinea, and Melanesia*; ■, *North Eurasia and Circumpolar*.



Fig. 2 (= Burton et al. 1996:96, Fig. 3). *Regions of the Americas*. ●, *Eastern Americas*; ×, *Mesoamerica, Central America, and the Andes*; ▲, *Northern and Western North America*; +, *Northwest Coast*; ◆, *Southern South America*.

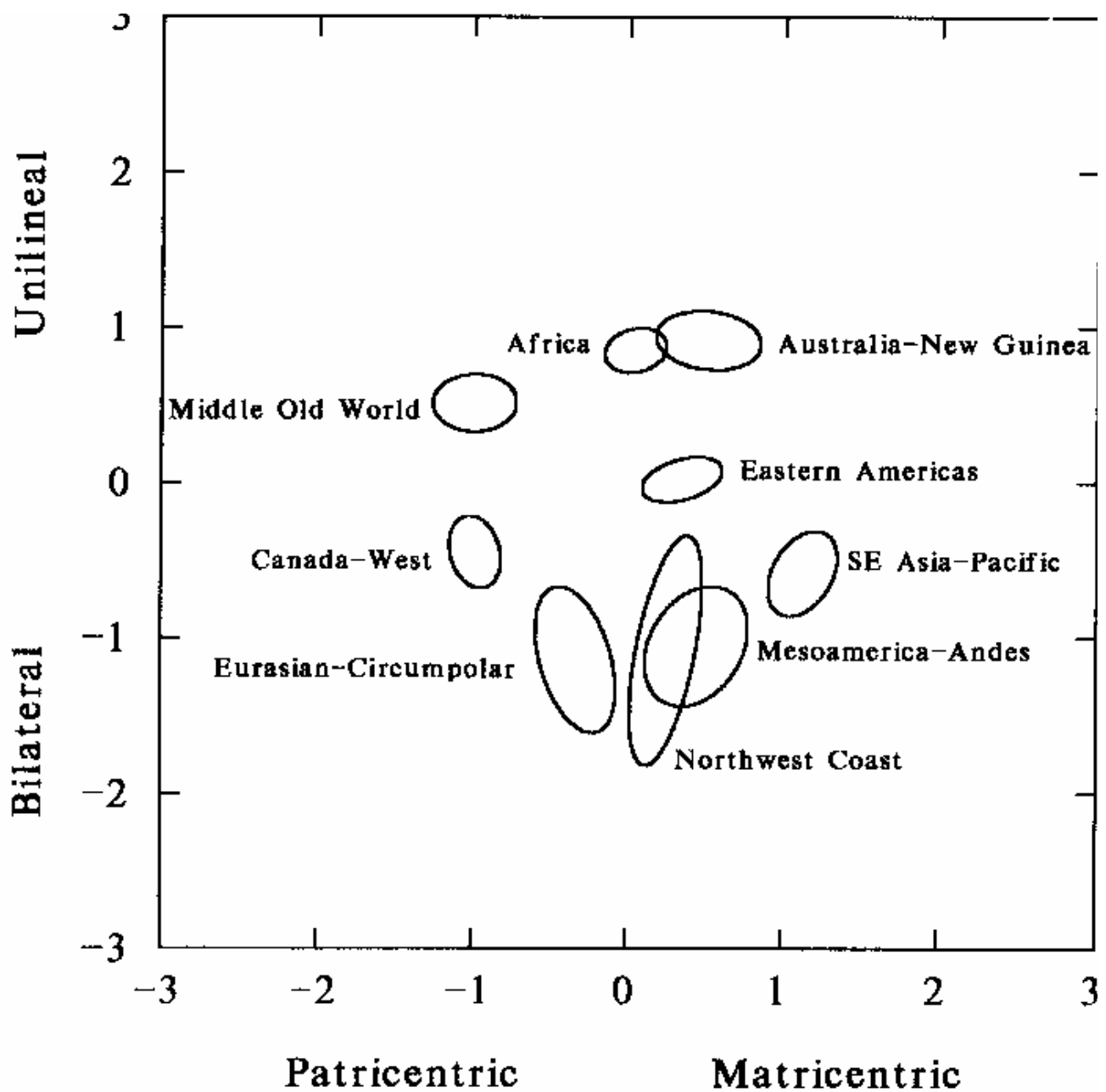


Fig. 3 (= Burton et al. 1996:109, Fig. 13). *Relationships among the Regions.*

In our earlier paper we suggested its preliminary reconsideration (Korotayev and Kazankov 2000). We paid most attention to possible correlations between certain sociostructural characteristics and affiliation to linguistic families and megafamilies, on the basis of which we suggested a sort of hierarchical regionalization whereby some regions singled out by Burton et al. were merged into megaregions corresponding to certain linguistic families (first of all, the Austronesian family and the NASCa megafamily²). We also made some suggestions regarding a new subdivision of the NASCa mega-region: we considered Europe as a separate region, which split from the Middle Old World in the

² *I.e.* the linguistic megafamily uniting Nostratic, Afrasian, and Sino-Caucasian macrofamilies.

1st millennium CE. The Circumpolar was regarded as a "pseudoregion" formed through the convergent adaptations to a similar environment, rather than through historical connectedness. It was also suggested to separate from the Circumpolar region Extreme East Asia (Japanese, Okinawa, Koreans and Ainu).

However, during our research it was difficult not to notice also certain striking correlations between the world religions and the sociostructural characteristics of the respective cultures.

To start with, within the cluster of cultures of the "Southeast Asia and Insular Pacific" region those ethnic groups (Burmese, Siamese and Cambodians), which for many centuries had Hinayana Buddhism as their state religion, formed a suspiciously tight subcluster (see fig. 4):

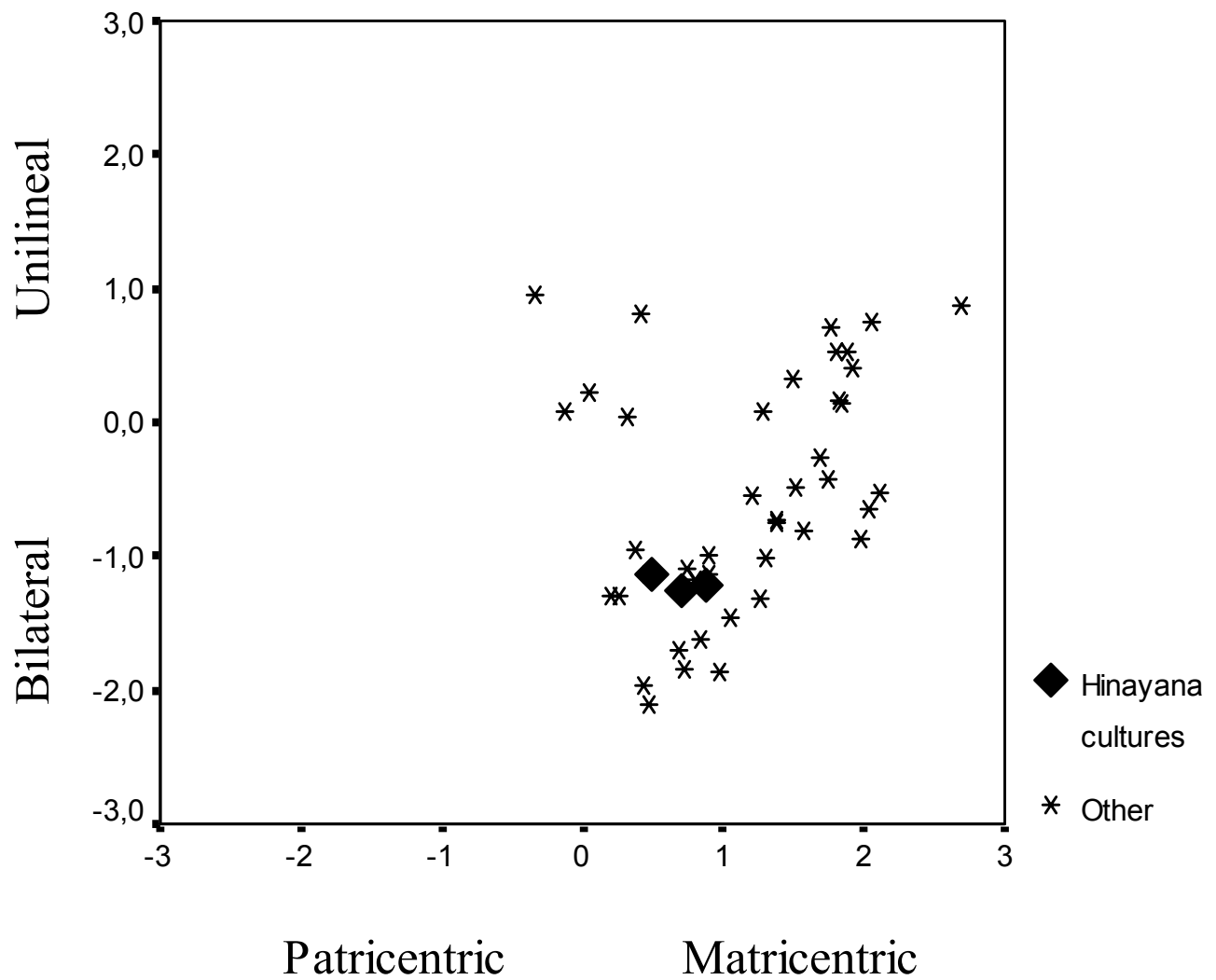


Fig. 4. *Southeast Asia and the Insular Pacific*
(with the Hinayana Cultures' Cluster)

On the other hand, Burton's (et al.) cluster for the "Middle Old World"³ region looks as follows (see Fig. 5):

³ It comprises Near and Middle East (including Ethiopia), Central Asia, India and China.

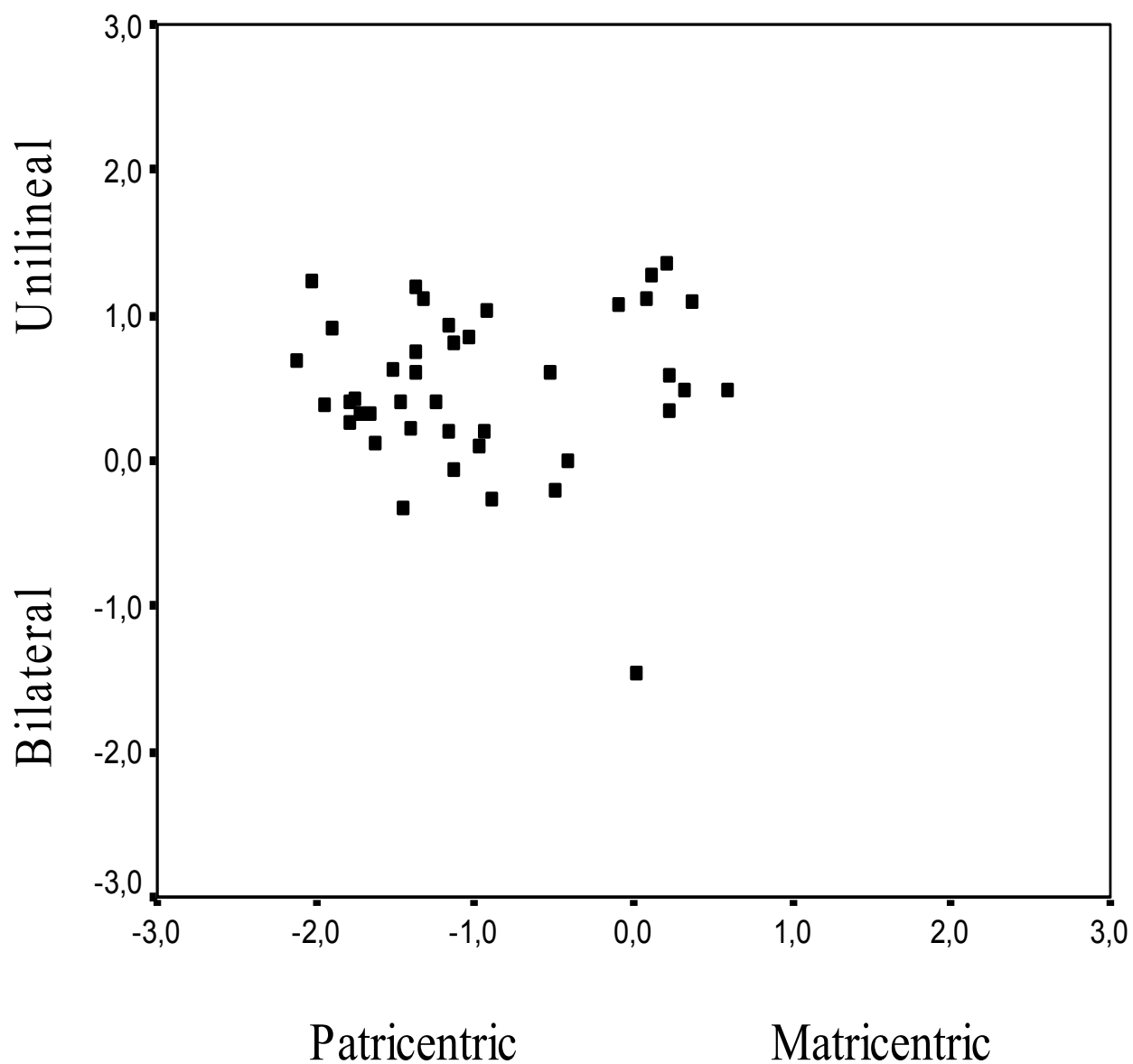


Fig. 5. *Middle Old World Region*
(Burton et al. 1996:100, Fig. 5)

It was difficult not to notice an evident outlier in this graph corresponding to the Amhara. Naturally, Burton, Moore, Romney, and Whiting did not fail to notice it providing the following entirely reasonable comment: "The one bilateral society [of this region], the Amhara, would be an outlier in either Africa or the Middle Old World, having a kind of bilateral social structure that is common among the Christian societies of Europe" (Burton et al. 1996:101).

Indeed, the four purely Christian cultures of Burton's et al. sample also form a rather tight cluster (see Fig. 6):

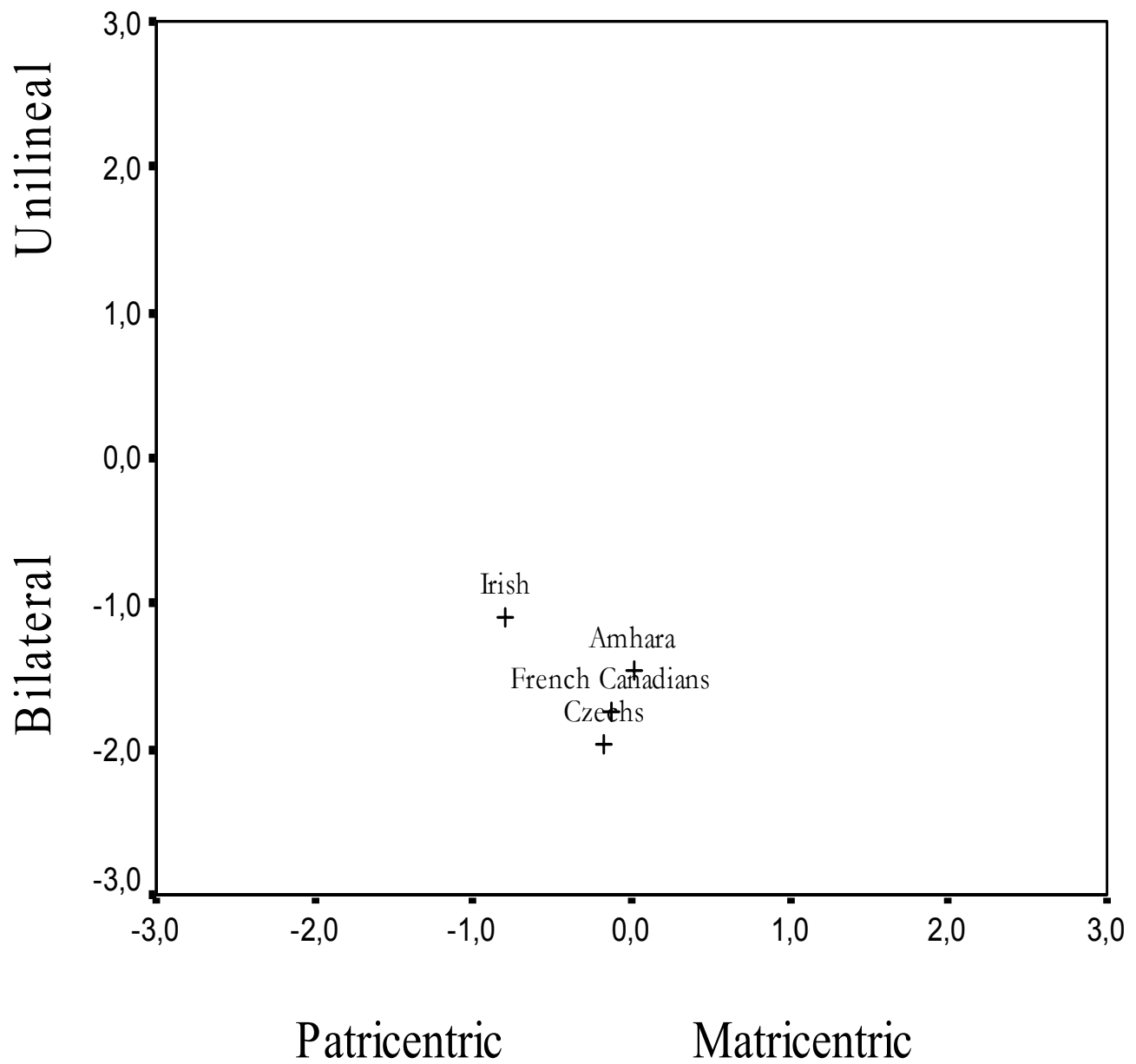


Fig. 6. *Christian Cultures of Burton et al. Sample.*

However, the most revealing results were obtained when we tried to consider the Islamic and non-Islamic parts of the Middle Old World region. The respective scatterplot looks as follows (see Fig. 7):

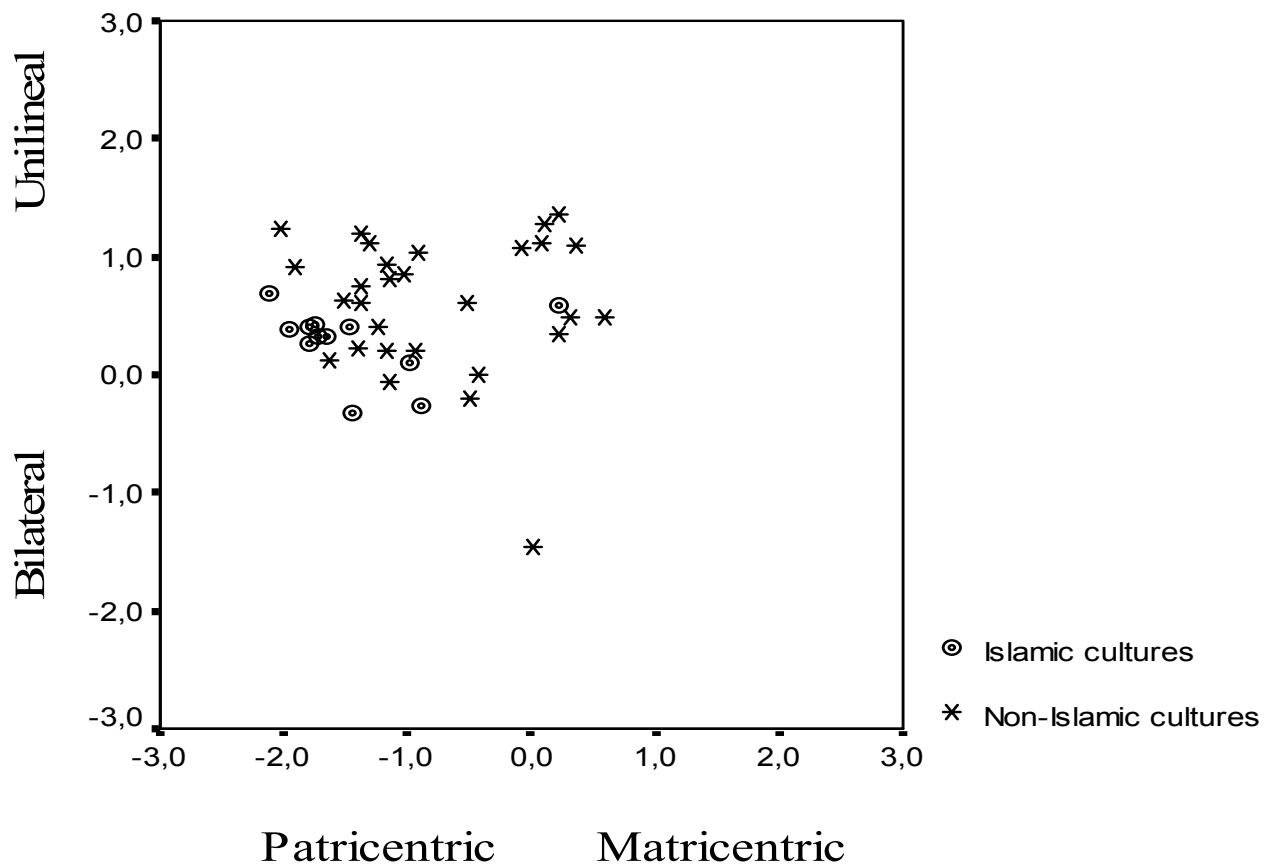


Fig. 7. *Islamic vs. Non-Islamic Cultures of the "Middle Old World".*

It is evident that the Islamic cultures form a rather distinct subcluster within the "Middle Old World". Note that this cluster is significantly different from the non-Islamic cluster both in the "Matricentric/Patricentric" dimension ($t = -2.8$; $p = 0.01$) and the "Unilinear/Bilateral" one ($t = -3.2$; $p = 0.003$)⁴. Thus, there are all grounds to suggest the subdivision of the Middle Old World into the Islamic and non-Islamic subregions. Note that the "Islamic Middle Old World" meets all the requirements for the "regions based on social structures" suggested by Burton, Moore, Romney, and Whiting (1996:88): in addition to its sociostructural homogeneity, it is geographically contiguous, it is possible to travel within it without crossing other regions, there is overwhelming evidence for social processes which linked its societies together, evidence for travel, trade, migration, and political linkages within the region.

These results could be hardly regarded as surprising. Burton, Moore, Romney, and Whiting (1996:100) connect the formation of the Middle Old World region with the functioning of "a world system that preceded the European capitalist world system (Abu-Lughod 1989). This system was centered in the Middle East, South Asia, and China. As Abu-Lughod argues, for most of history the economic center of Eurasia was in this region. The precapitalist world system was based on trade routes by land and sea. The most important land routes went from the Middle East to

⁴ In the both t-tests we omitted the Amhara which do not appear to belong to cultures of the Middle Old World type. Of course, t-test technique was originally developed to be applied to the analysis of interval-level data only. The coordinates generated by correspondence analysis should be naturally regarded as ordinal-level variables. However, as has been shown by Labovitz (1967, 1970), in many cases it is justifiable to analyze ordinal data as if they were interval data especially when the number of ordinal categories is large enough, which is just the case as regards the matri/patricentricity and unilinearity/bilaterality scores. The applicability of t-tests is further enhanced by the fact that the distribution of the respective scores in most cases is quite

China. The most important sea routes crossed the Arabian Sea to India and then went through the straits of Malacca to China (Curtin 1984)". However, this could hardly explain the striking difference between the sociostructural characteristics of the Czechs, Burmese, Siamese, and Cambodians, on the one hand, and the "Middle Old World" cultures. All these cultures were integral parts of the precapitalist world system (with respect to the last three cultures this is virtually acknowledged in the quotation above). Yes, of course, one can easily argue that they were not the *central* parts of this system. But the same can be said about so many other cultures ascribed by Burton, Moore, Romney, and Whiting to the Middle Old World – Tigrinya, Afar, Teda etc. And in any case they were much more central and integral parts of this system than most cultures of the Assam highland area (Garo, Lhota, Lakher, Kachin, Khasi, Chakma, Aimol, Sema, and Chin), which were also ascribed by Burton, Moore, Romney, and Whiting to the Middle Old World.

However, in the history of the Old World Oikumene in addition to mainly economically integrated world systems we also find historical systems of another type. We mean the historical systems connected with the world religions (or supraethnic religions in general). Indeed, the cultures professing one religion usually formed definite communicative networks with constant circulation of matter, energy and information (which would normally include social norms, and this is especially important for us in this context).

The Islamic communicative network is especially salient in this respect as for centuries it possessed such a powerful integrating mechanism as the institute of panislamic annual pilgrimage (*al-hajj*) to one central sanctuary (*al-Ka`bah*). It should be taken into consideration that the pre-Islamic West Arabian pilgrimage system (on the basis of which the Islamic one was formed) was very well adapted to serve as an integrating mechanism for an intersocietal communicative network lacking the political unity. It might not be a mere coincidence that the Islamic one turned out to have rather similar properties. Of course, for the first 150 years of Islam the Moslem pilgrimage area was more or less identical with the territory controlled by the united Islamic polity. However, after the disintegration of the latter, this system turned out to work precisely as its pre-Islamic Arabian counterparts, serving as an important integrating mechanism for an intersocietal communication network not united politically. Hence, in the 7th and 8th centuries CE we could observe the formation of an important mechanism securing the integration of a huge intersocietal communicative network covering some most important central areas of the World System (and many peripheral areas as well), a mechanism which secured the unity of some significant patterns, values and practices throughout all this territory, guaranteeing the annual meeting of the representatives of all the societies covered by the respective network in one place, the exchange of information between them, the constant reintegration of the network, etc. (see e.g. Korotayev, Klimenko, and Prussakov 1999).

What is more, all such religions usually possessed definite ideal models of social organization, complexes of ideas which traits of social organization are right and which are wrong (what is especially important is that this was especially relevant for kinship and family organization, whose characteristics formed the basis for Burton's et al. classification). And what is even more, the religious authorities usually dissipated enormous amounts of energy in order to make the social reality correspond to those ideal models. Suffice to mention the enormous amounts of energy dissipated by the Christian clergy in order to impose the strict monogamy in all the Christian cultures (e.g. Goody 1983: 44–46; Herlihy 1993 etc.). Note that even in the Islamic world the Christian Church imposed the monogamy

close to normal (see also Ember and Ember 1992; 1994; 1999:672; 2001:125).

within the Christian communities in the most rigid way: "The Moslems were astonished mainly by the fact that the female slaves in the Christian and Jewish houses were not at the sexual disposal of the houses' heads... The cause of this was that the Christian regulation in the East considered the liaison of a man with his female slave as lechery, which should have been expiated by the formal penance... The Khalif al-Mansur once sent to his physician Georgios three beautiful Greek female slaves and 3,000 golden coins. The physician accepted the money, but returned the girls back saying to the Khalif: 'I cannot live with them in one house, because for us, the Christians, it is permitted to have one wife only, whereas I already have a wife'..." (Mez 1996/1922:159). However, in the Islamic world Christians did not constitute anything more than a confessional minority; thus, this fact would not affect Murdock's codes with respect to the Moslem ethnic groups. Of course, within the Christian states the Church had much more opportunities to impose the strictest monogamy among the whole population including the uppermost strata. Of course, one could easily recollect at this point an apparently contradicting case of the polygynous Mormons. Note, however, that "the Mormon Church officially abandoned polygamy 101 years ago [in 1890] after it was forbidden by Utah law in a deal required by Congress for the territory to become a state. The church now excommunicates members for polygamy" (Johnson 1992:129).⁵

Hence, we have all grounds to expect that the territory of the Old World Oikumene could be subdivided into regions corresponding to all of its major supraethnic religions, each with a distinct sociostructural pattern. However, in order to do this we could not restrict ourselves to Burton's et al. database, as it contains matricentricity and unilinearity scores for a statistically insignificant number of cultures professing some major Old World supraethnic religions (most noticeably just 2 complex European Christian cultures, only 1 complex Hinduist culture, and no more than 1 Vajrayana culture).

An alternative, which we could imagine, was to undertake a discriminant analysis of the Old World Oikumene cultures employing a smaller number of variables in order to increase number of valid cases. First of all, we had to drop the variables related to kinship terminology for which *Ethnographic Atlas* database contains data for a minority of cases (except the kinship terminology for cousins). We decided not to include into our analysis Islamic cultures of Sub-Saharan Africa and Southeast Asia, which we shall consider specially later. Otherwise we restricted ourselves to the study of the Christian, Islamic, Hinduist, Hinayana and Vajrayana Buddhist cultures, as well as cultures which traditionally combined in different proportions Mahayana Buddhism and Confucianist ideology. Our general prediction was that the discriminant analysis using various characteristics of social structure contained in the *Ethnographic Atlas* database would group the cultures professing the same world religion together, assigning cultures correctly to 6 predicted clusters into which according to our expectations the Old World Oikumene was supposed to be subdivided. We also decided to restrict ourselves to the analysis of the complex cultures of the Oikumene, leaving

⁵ It appears necessary to mention that this was already the founder of cross-cultural research tradition in the USA, George Peter Murdock, who identified the world religions as a major determinant of social structure: "It is not assumed, however, that all determinants of social structure are economic. Both Islam and Christianity, for instance, have demonstrably produced changes in marriage institutions in many places, with resulting modifications in social alignments and kinship terminology" (Murdock 1949:137). However, neither he, nor his successors seem to have paid sufficient attention to this factor in their actual research. Only a very few exceptions could be mentioned (e.g. Stephens 1972). Note that one of those rare exceptions belongs to the first author of "Regions Based on Social Structure" (Burton and Reitz 1981:298–300). We must also mention that the world religions are recognized as possible determinants of social structure in "Regions Based on Social Structure" itself (p. 88). However, Burton et al. do not appear to have been able to study this factor in detail mainly because their sample contained too small number of cases for some major supraethnic religions of the Old World (first of all, Christianity, Hinduism and Vajrayana Buddhism).

outside the analysis stateless cultures. The reason for this decision looks as follows.

Our earlier research in the influence of Christianity on the evolution of social organization of Christian societies has shown that this influence was really profound when the Christian church was backed by the state (Korotayev 2003). We had all the grounds to expect the same for the rest of the world religions. Hence, as regards the regionalization problems our analysis is only relevant for the regionalization of the most complex cultures of the Old World Oikumene.

The results of our analysis⁶ look as follows (see Tables 1–4 and Fig. 8)⁷:

TABLE 1

Structure Matrix

<i>Dichotomized discriminating variables</i>	<i>Function</i>				
	1	2	3	4	5
Unilineal Descent Groups ^a	+0.59*	-0.24	^b	-0.28	-0.16
Patrilineal Descent Groups	+0.46*	-0.28		-0.22	
Patrilocal Residence	+0.36*	-0.21		-0.13	-0.11
Exclusively Bilateral Kin Groups	-0.33*	+0.19		+0.23	
Eskimo Terminology for Siblings	-0.26*		+0.21		-0.12
Independent Nuclear Family	-0.16*				
Bilateral Kindreds	-0.15*			+0.11	-0.12
Virilocal Residence ^a	-0.14*				
Dowry	-0.07*				
Iroquois Cousin Terminology		+0.33*	-0.12		-0.23
Hawaiian Cousin Terminology		+0.26*	+0.20		+0.18
Viri-/Patrilocal Residence	+0.15	-0.18*		-0.15	-0.13
Unilocal Residence ^a	+0.10	-0.17*	+0.11	-0.15	
Ambi-/Neolocal Residence	-0.10	+0.17*	-0.11	+0.15	
Dispersed Patrilineal Sibs	+0.21	-0.15	.41*		+0.15
Polygyny ^a	+0.29	+0.11	-0.38*	-0.13	+0.14
Monogamy	-0.29	-0.11	+0.38*	.13	
Omaha Cousin Terminology		-0.22		+0.39*	
Clan Communities		-0.22		+0.39*	
Descriptive or Sudanese Cousin Terminology		-0.18	-0.23	-0.34*	+0.16
Extended Families	+0.14	-0.10		-0.25*	
Localized Patrilineal Groups (Lineages)			-0.20	-0.22*	
Cousin Marriage Prohibited ^a	-0.18	-0.13	+0.22		-0.36*
Cousin Marriage Allowed	+0.18	+0.13	-0.22		+0.36*
Bridewealth/Brideprice	+0.20	-0.22	-0.28	-0.12	+0.28*
No Marriage Exchange	-0.14			-0.10	-0.25*
Dispersed Matrilineal Sibs ^a		+0.14			-0.23*
Matrilineal Descent Groups		+0.14			-0.23*
General Non-Sororal Polygyny					+0.15*
Eigenvalue	13.1	3.1	1.9	1.5	1.0
% of Variance Explained	63.4	15.2	9.3	7.2	4.8
Cumulative %	63.4	78.6	87.9	95.2	100
Canonical Correlation	0.96	0.87	0.81	0.77	0.71

NOTES: Pooled within-groups correlations between discriminating variables and standardized canonical discriminant functions. Variables ordered by absolute size of correlation within function. First 5 canonical discriminant functions were used in the analysis. * Largest absolute correlation between each variable and any discriminant function.

^a This variable not used in the analysis. ^b Cut-off point is 0.1.

⁶ Discriminant analysis using within-groups covariance matrix and dichotomized discriminating variables.

⁷ We used as a source of data the most recent version of the electronic *Ethnographic Atlas* database (Murdock et al. 1999-2000). We also consulted earlier electronic and printed versions of this database (Murdock 1967, 1981; Murdock et al. 1986, 1990).

TABLE 2. Wilks' Test of Functions

Test of Functions	Wilks' Lambda	Chi-square	df	Sig.
1 through 5	0.001	292.9	115	0.000000000000000002
2 through 5	0.02	177.9	88	0.00000005
3 through 5	0.07	116.3	63	0.0001
4 through 5	0.20	69.8	40	0.002
5	0.50	30.1	19	0.05

TABLE 3. Functions at Group Centroids

Civilization	Function				
	1	2	3	4	5
Hinduist	+4.17	+2.96	-0.43	-0.45	-1.52
Vajrayana	+3.66	-2.79	+0.27	3.37	-1.08
Islamic	+2.77	-1.50	-1.30	-0.95	+0.62
Confucian/Mahayana	+2.20	+0.24	+2.96	-0.36	+0.83
Hinayana	-1.53	+2.90	-1.27	+1.92	+1.87
Christian	-4.08	-0.29	+0.06	-0.21	-0.42

NOTE: Unstandardized canonical discriminant functions evaluated at group means.

Canonical Discriminant Functions

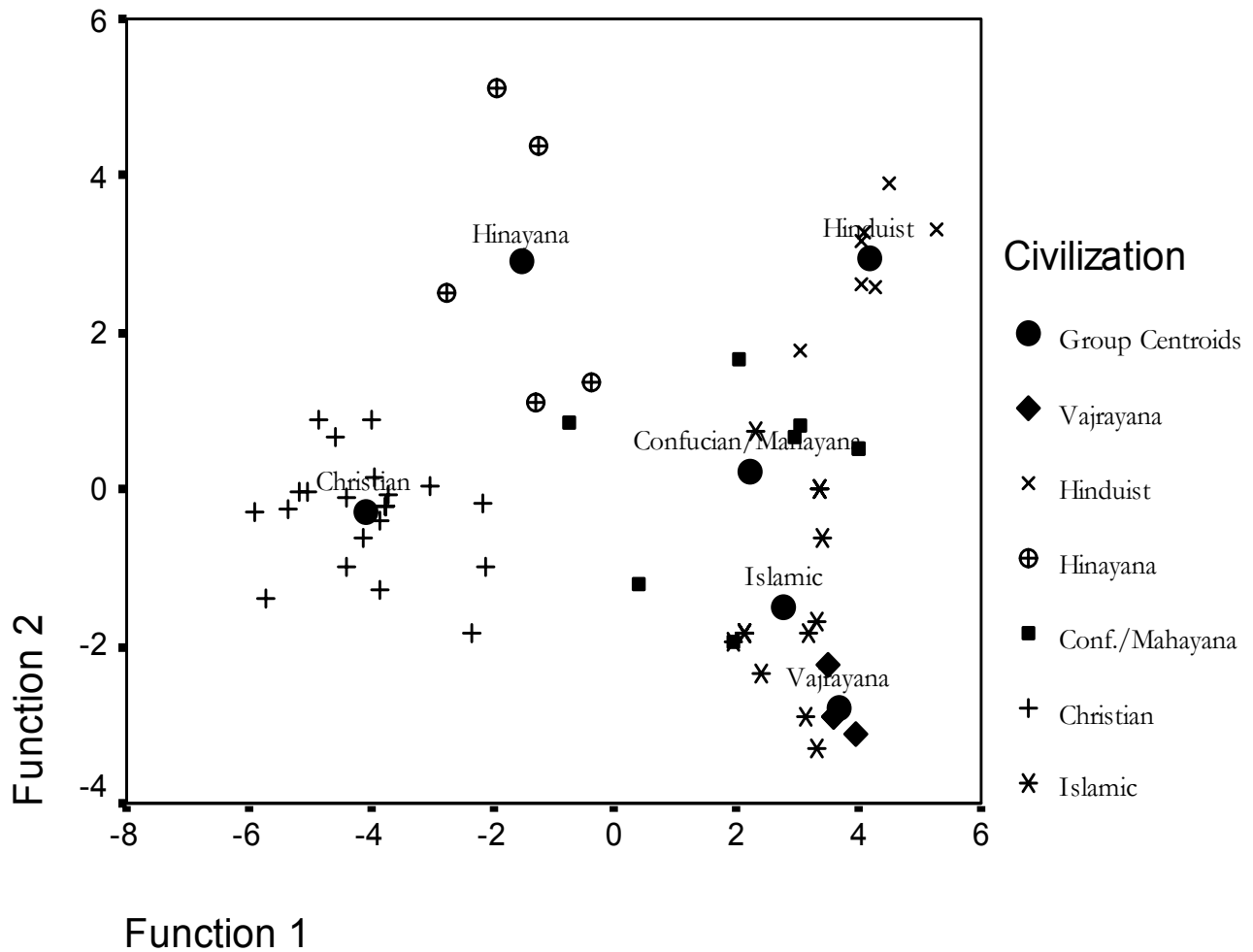


Fig. 8. Complex Cultures of the Old World Oikumene.

T A B L E 4. *Classification Results*⁸

		Predicted Group Membership						Total
	Civilization	Islamic	Christian	Confucian/Mahayana	Hinayana	Hinduist	Vajrayana	
Original	Islamic	11	0	1	0	1	0	13
	Christian	0	22	0	0	0	0	22
	Confucian/ Mahayana	0	0	7	1	0	0	8
	Hinayana	0	0	0	5	0	0	5
	Hinduist	0	0	0	0	7	0	7
	Vajrayana	0	0	0	0	0	4	4

Conclusion: 94.9% (56) out of 59 original grouped cases correctly classified.

Thus the performed analysis confirmed our theoretical expectations: indeed, we find that there is a definite type of social structure corresponding to every main supraethnic religion of the Old World Oikumene, that the most complex traditional Old World Oikumene cultures tend to group into clusters corresponding to the main supraethnic religions of this megaregion. The traditional social structure of this megaregion's cultures was no doubt shaped to a considerable degree by the functioning of respective historical networks, and this should be taken into account when one starts to subdivide the Old World Oikumene in its "regions based on social structure".⁹

In order to move further we decided to obtain substitutes for Burton's et al. scores through factor analysis employing a smaller number of variables in order to increase number of valid cases. Again, due to the same reasons first of all we had to drop the variables related to kinship terminology (except the kinship terminology for cousins).

We started with the calculation of the matricentricity scores. We decided to perform a factor analysis using those variables, which produced the main loadings for the first dimension in Burton's et al. study. We expected to get a similar distribution of loadings. And basically this was the case (see Table 5):

T A B L E 5. *Factor Analysis*¹⁰ 1 First Dimension: *Matricentric vs. Patricentric*¹¹

Our Analysis (Factor Analysis 1, Factor 1)		Burton's et al. Analysis (Dimension 1: Matricentric versus Patricentric)	
Variables	Factor Loadings	Variables	Loadings
Crow Cousin Terminology	- 0.22	Crow Cousin Terminology	+ 2.64
Dispersed Matrilineal Sibs	- 0.20	Dispersed Matrilineal Sibs	+ 2.26
Matrilocal or Uxorilocal Residence	- 0.42	Matrilocal or Uxorilocal Residence	+ 1.70
Localized Matrilineal Groups	- 0.10	Localized Matrilineal Groups	+ 1.65
No Marriage Exchange	- 0.58	No Marriage Exchange	+ 0.93
Monogamy	- 0.73	Monogamy	+ 0.75
Bridewealth	+ 0.64	Bridewealth	- 0.62
Dispersed Patrilineal Sibs	+ 0.56	Dispersed Patrilineal Sibs	- 0.78
Localized Patrilineal Groups	+ 0.16	Localized Patrilineal Groups	- 0.95
Patrilocal Residence	+ 0.70	Patrilocal Residence	- 0.97
Clan Communities	+ 0.41	Clan Communities	- 1.05
Omaha Cousin Terminology	+ 0.25	Omaha Cousin Terminology	- 1.33
Eigenvalue	3.5		
% of Variance Explained	25		

Though our results turned out to be entirely consistent with the ones of Burton's et al. analysis, the scores,

⁸ For additional detail see Online Supporting Materials for this article at <http://www.people.ias.edu/~korotaev> (Appendix 1).

⁹ Note that, on the other hand, our analysis confirms that Burton et al. had sufficient grounds to unite the Middle Eastern Islamic, Hinduist, Vajrayana and Mahayana/Confucianist regions in a single megaregion, as the respective clusters form a distinct megacluster within our analysis too.

¹⁰ Unrotated principal components factor analysis.

¹¹ We used as a source of data the most recent version of the electronic *Ethnographic Atlas* database (Murdock et al. 1999–2000). We also consulted earlier electronic and printed versions of this database (Murdock 1967, 1981; Murdock et al. 1986, 1990).

which we got, should be regarded as indexes of patricentricity rather than matricentricity. However, it was very easy to convert them into matricentricity scores simply through multiplying them by -1 .

In a similar way we also obtained a substitute for Burton's et al. unilinearity scores (see Table 6):

TABLE 6

Factor Analysis¹² 2 First Dimension: Unilineal vs. Bilateral

Our Analysis <i>(Factor Analysis 2, Factor 1)</i>		Burton's et al. Analysis <i>(Dimension 2: Unilineal versus Bilateral)</i>	
Variables	Factor Loadings	Variables	Loadings
Clan Communities	- 0.44	Clan Communities	+ 1.83
Nonsororal Polygyny	- 0.45	Nonsororal Polygyny	+ 1.45
Unilocal Residence	- 0.48	Patrilocal Residence	+ 1.43
Unilineal Descent Groups	- 0.73	Dispersed Patrilineal Sibs	+ 1.36
		Localized Patrilineal Groups	+ 1.13
		Dispersed Matrilineal Sibs	+ 0.93
Iroquois Cousin Terminology	- 0.54	Iroquois Cousin Terminology	+ 0.92
Cousin Marriage Permitted	- 0.46	Cousin Marriage Permitted	+ 0.90
Bridewealth	- 0.52	Bridewealth	+ 0.85
Independent Nuclear Family (cf. Nonsororal Polygyny)	+ 0.40		
Cousin Marriage Prohibited	+ 0.46	Cousin Marriage Prohibited	- 0.85
Monogamy	+ 0.45	Monogamy	- 0.85
No Marriage Exchange	+ 0.47	No Marriage Exchange	- 0.96
Hawaiian Cousin Terminology	+ 0.39	Hawaiian Cousin Terminology	- 1.19
Ego-Centered Kindreds	+ 0.40	Ego-Centered Kindreds	- 1.25
Bilateral Descent Groups	+ 0.74	Bilateral Descent Groups	- 1.66
Ambi-/Neolocal Residence	+ 0.48	Bilocal Residence	- 1.77
Eskimo Cousin Terminology	+ 0.47	Eskimo Cousin Terminology	- 2.26
Eigenvalue	5.4		
% of Variance Explained	36		

Once again, though our results turned out to be entirely consistent with the ones of Burton's et al. analysis, the scores, which we got, should be regarded as indexes of bilaterality rather than unilinearity. However, again it was very easy to convert them into unilinearity scores simply through multiplying them by -1 . The obtained scores corresponded especially well to the Burton's et al. ones ($R = 0.8$; $p < 0.0000000000000001$).

Note that this way we were able to get matricentricity scores for 816 cultures, and unilinearity ones – for 727, whereas Burton's et al. database only contains such scores for 347 societies. The number of complex cultures grew in an especially significant way. E.g. Burton's et al. database only contains scores for 4 complex Christian cultures (Amhara, Czechs, Irish and French Canadians) whereas we managed to calculate scores for 16 more (Armenians, Brazilians, Bulgarians, Byelorussians, Dutch, Greeks, Hungarians, Lithuanians, Neapolitans, New England, Portuguese, Romanians, Russians, Spaniards, Ukrainians, and Walloons) (see Online Supporting Materials for this article at <http://www.people.ias.edu/~korotaev> Appendix 3).

In this report we decided to restrict ourselves to the consideration of the western part of the Old World Oikumene (Europe, North Africa, West Asia, Middle East and West Central Asia). Against the background of what was mentioned above we had all grounds to expect that it will get split into two "regions based on social structure" –

¹² Unrotated principal components factor analysis.

Christian and Islamic.

What theoretical expectations could we have regarding the sociostructural characteristics of the Islamic vs. Christian cultures? Let us summarize some of them.

We have already mentioned above the enormous amounts of energy dissipated by] the Christian clergy in order to impose the strict monogamy in all the Christian cultures (e.g. Goody 1983:44–6; Herlihy 1993 etc.). It is also difficult to consider irrelevant in this context the fact that the Christian doctrine emphatically rejects unilineal descent group values.¹³ On the other hand, as Goody points out (1983:44–6), in the 4th century AD the Christian Church imposed regulations promoting the monogamous nuclear family (i.e. the regulations which prohibited close marriages, discouraged adoption, and condemned polygyny, divorce and remarriage).¹⁴ Goody suggests that the Church was striving to obtain the property left by couples lacking legitimate male heirs. The result, however, was that within the Christian world the nuclear family became the main form of kinship organization, with almost no corporate suprafamily kinship entities.¹⁵

Other norms and practices of the Christian Church are consistent with this argument. Take, for example, the rule of celibacy for the clergy. In this respect, Christianity differs from the religion which in many other respects looks so similar to it – Islam, where the marriage for *rija:l al-di:n* ("the Men of Religion") is not just permitted, but prescribed (as for all the other Muslims capable of marrying [e.g. Bogoljubov 1991:71]). Unlike the Islamic *rija:l al-di:n*, the Christian hierarch has no right to have legitimate descendants. Thus, he cannot be a competent member of a descent group, nor can he found his own descent group (with his name becoming the name of the lineage eponym ancestor). Given the immense influence the Christian hierarchy had on the traditional Christian states, one would expect that this factor must have contributed to the weakening of unilineal descent organization in Christian societies (for detail see Korotayev 2003).

On the other hand, there does not seem to be any serious doubt that there is some functional connection between Islam and the parallel cousin (FBD) marriage. Indeed, this marriage type appears to be highly adaptive just within an Islamic context. As is well known, an important feature of the Islamic Law (*al-Shari: `ah*) is that it insists that a daughter should have her, though twice as small as a son's, but still quite firm share of inheritance. What is more, she must have her firm share of inheritance in all the possible types of property left after her father. "...The Quranic verses of inheritance (4:7, 11–12, 176)... granted inheritance rights to... daughters... of the deceased in a patriarchal society

¹³ For example:

"Going on from there, he saw two other brothers, James son of Zebedee and his brother John. They were in a boat with their father Zebedee, preparing their nets. Jesus called them, and immediately they left the boat and their father and followed him" (Matthew 4:21–22).

"Another disciple said to him, 'Lord, first let me go and bury my father'. But Jesus told him, 'Follow me, and let the dead bury their own dead' " (Mat. 8:21–22).

"For I have come to turn a man against his father, a daughter against her mother, a daughter-in-law against her mother-in-law – man's enemies will be the members of his own household" (Mat. 10:35–36).

"Someone told him, 'Your mother and brothers are standing outside, wanting to speak to you'. He replied to him, 'Who is my mother, and who are my brothers?'. Pointing to his disciples, he said, 'Here are my mother and my brothers. For whoever does the will of my Father in heaven is my brother and sister and mother' " (Mat. 12:47–50).

"But you are not to be called 'Rabbi', for you have only one Master and you are all brothers. And do not call anyone on earth 'father', for you have one Father, and he is in heaven" (Mat. 23:8–9).

(Cited from *The Holy Bible, New International Version*. Colorado Springs, CO: International Bible Society, 1984.)

¹⁴ Note that those regulations were imposed prior to any major splits within the Christian Church. Thus they turned out to get incorporated into the sacred lore of almost all the major Christian denominations.

¹⁵ Of course, this is not the only channel through which Christianization might have led to the destruction of unilineal descent

where all rights were traditionally vested solely in male heirs. Similar legal rights would not occur in the West until the nineteenth century" (Esposito 1998:95; see also e.g. Schacht 1964; Esposito 1982 etc.). What is more, Islamic religious authorities often paid great attention to the observance of this rule, interpreting any attempts to deprive one's daughter of her share in any type of property as a most clear manifestation of *Ta:ghu:t*, "Satanic Law" (e.g. Dresch 1989).

This norm does not appear to have created any serious problems in non-agricultural mercantile Mecca. However, this norm would often create serious problems in an intensive agriculturalist patrilineal exogamous patrilocal context. Imagine within such a context an extended family of plow agriculturalists living in a monoclan village and possessing a large consolidated easily exploitable plot of land. If this family has to observe the above-mentioned Islamic norm without changing its marriage patterns, this would mean the following:

In every generation a significant proportion of the land will be inherited by daughters. However, within the above mentioned marriage pattern the daughters would have to be married out to other villages. However, as we are dealing with plow agriculturalists (who are, in addition to that, Moslems observing to at least some extent the Islamic woman seclusion rules) the daughter would be highly unlikely to till the plot of land herself; it would be rather her husband who would actually plow (and control) it. Hence, the land would actually fall under the control of a daughter's husband's household. As a result, within a span of life of just a few generations what was a consolidated easily exploitable large tract of land would be turned into a patchwork of small plots virtually belonging to different households. The male members of our extended family would also, of course, get control over various small pieces of land through their wives. But this would be a rather unlikely compensation for a large viable mass of land, instead of which our family would control an unreasonable mosaic of small land pieces scattered all around the vicinity.

Within such a context the parallel cousin (FBD) marriage would really solve all the problem. If your daughter marries your brother's son, the land, which she would inherit, will remain under the control of your family – you would not simply have any problems described above (see e.g. Rosenfeld 1957). Hence, the association between the parallel cousin (FBD) marriage and Islam would not appear surprising at all. Note that within such a context the larger family size would be also rather adaptive.¹⁶

Hence, one would expect that the Christian cultures would be characterized by such traits as monogamy, smaller unextended families, ambilocal, neolocal or virilocal residence, lack of unilineal descent groups in general, and patrilineal descent groups in particular, non-corporate bilateral descent groups (and Eskimo/lineal kinship terminology associated with this), whereas Islamic cultures would be characterized by the diametrically opposite pattern: preferential parallel cousin marriage, occasional polygyny, unilineal descent groups in general, and patrilineal descent groups in particular, larger extended families, patrilocal residence (and bifurcate collateral kinship terminology associated with these in complex cultures).

Note that such combinations of traits would produce highly unilineal and patricentric scores for the Islamic cultures and significantly less unilineal and patricentric scores for the Christian cultures. Hence, we had all grounds to expect that the Christian and Islamic cultures of the western Old World Oikumene would display highly significant difference in both dimensions. And this was the case (see Fig. 9):

organization (cp. e.g. Stark 1996).

¹⁶ Above we suggested just a few channels through which Christianity and Islam could have shaped the social structure of Christian and Islamic cultures. A full study of such channels would, of course, require a whole monograph, and a rather thick one (for some details see Korotayev 2000).

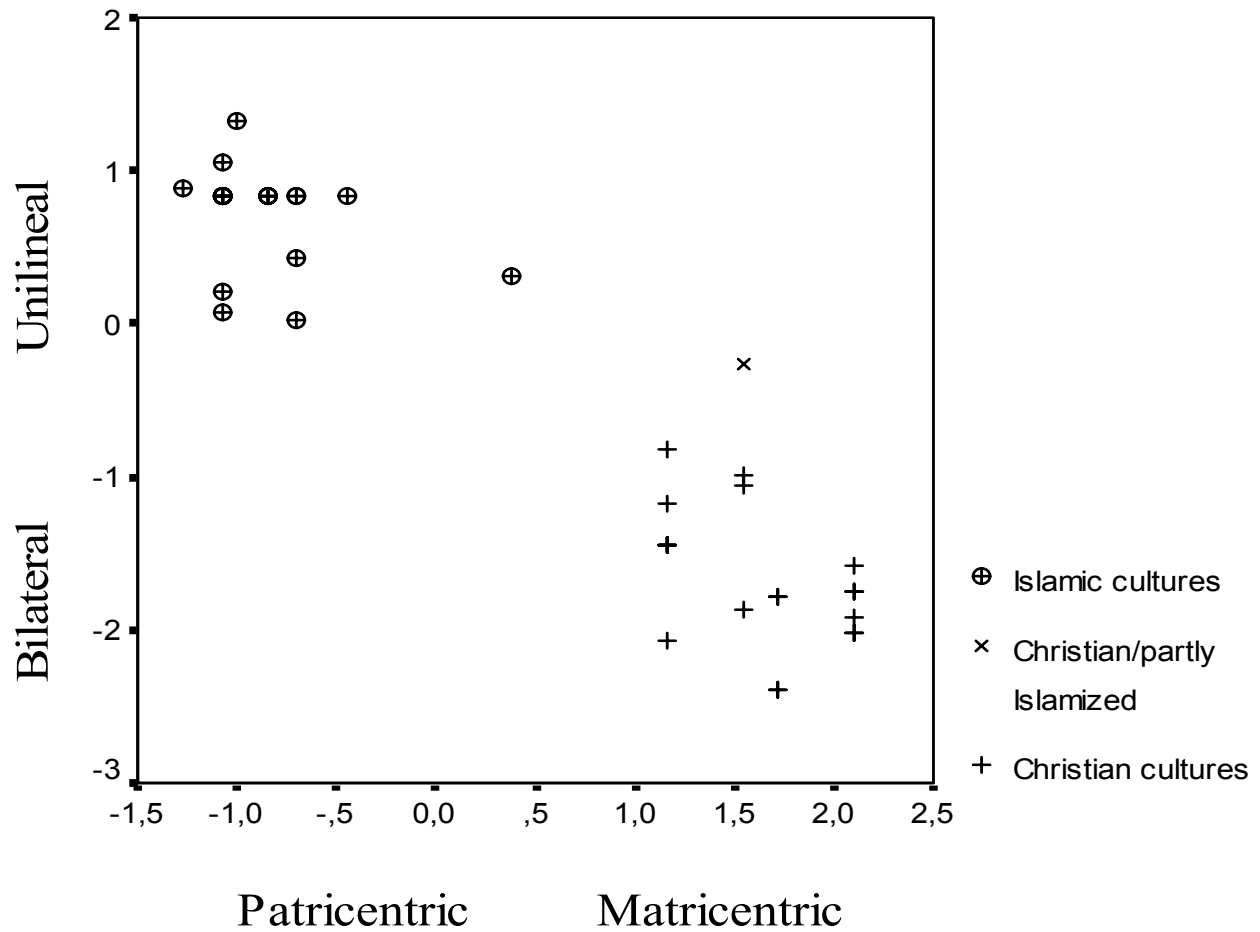
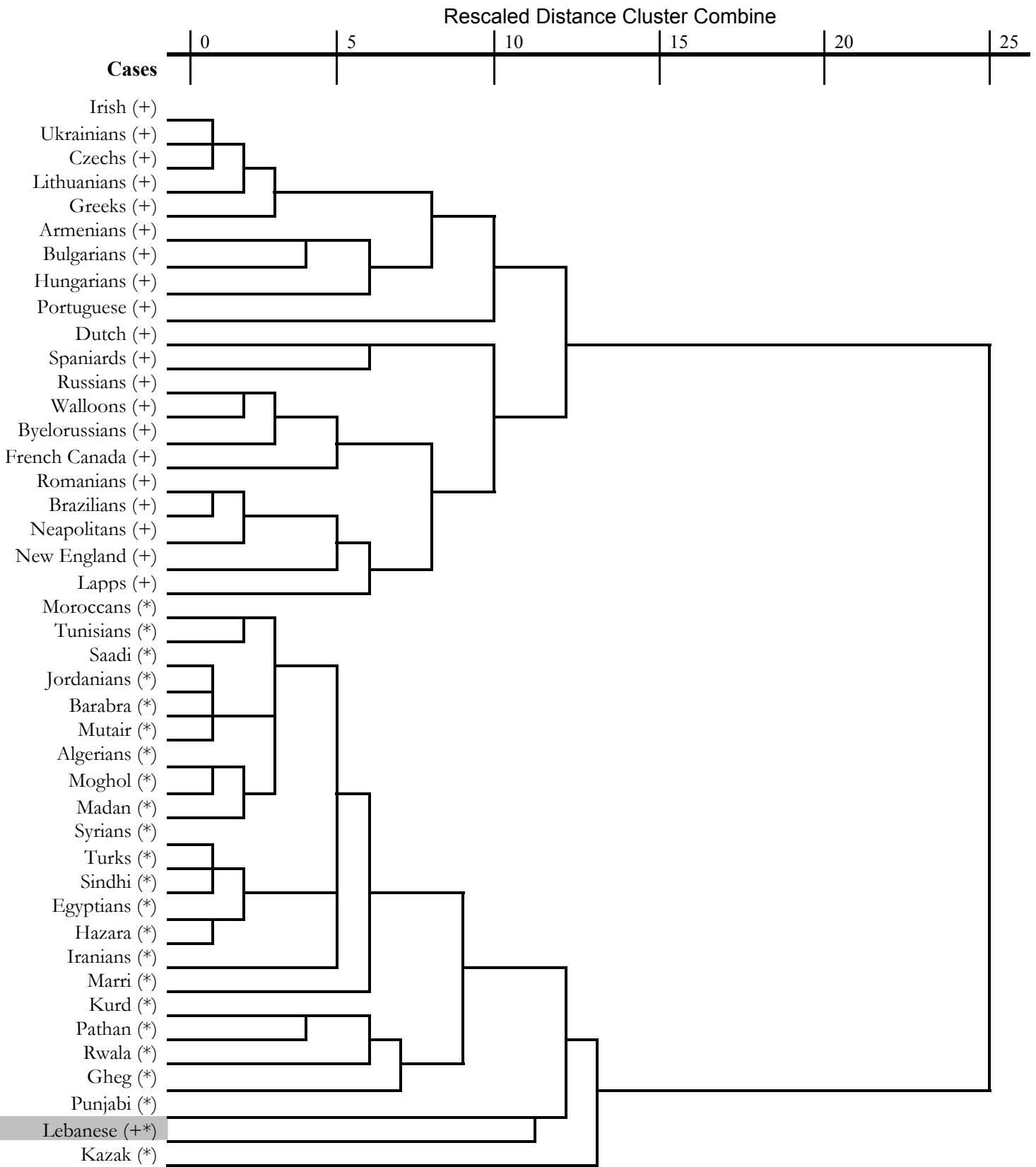


Fig. 9. *Islamic vs. Christian Cultures of the "Middle Old World".*

As we see, Islamic and Christian cultures of this megaarea form two very distinct clusters. They display the most significant differences in the predicted directions both in the Matricentric/Patricentric ($t = 23.0$; $p = 0.000000000000000003$) and Unilineal/Bilateral ($t = 16.9$; $p = 0.00000000000000002$) dimensions.

Similar results were produced by cluster analysis (both hierarchical and K-means one) (see Fig. 10 and Table 7):



NOTE: (*) – Islamic cultures; (+) – Christian; (+*) – Christian, partly Islamized.

Fig. 10. *HIERARCHICAL CLUSTER ANALYSIS.*

Dendrogram using Average Linkage (Between Groups)

For Proximity Matrix see Online Supporting Materials for this article at <http://www.people.ias.edu/~korotaev> Appendix 3.

TABLE 7

K-Means Cluster Analysis: Cluster Membership

<i>Society Name</i>	<i>Cluster</i>	<i>Distance</i>	<i>Society Name</i>	<i>Cluster</i>	<i>Distance</i>
Algerians (*)	2	0.809	Armenians (+)	1	1.953
Moroccans (*)	2	1.162	Brazilians (+)	1	1.310
Mutair (*)	2	0.934	Bulgarians (+)	1	1.953
Barabra (*)	2	0.934	Byelorussians (+)	1	1.554
Egyptians (*)	2	0.835	Czechs (+)	1	1.190
Gheg (*)	2	1.979	Dutch (+)	1	2.029
Pathan (*)	2	1.900	French Canadians (+)	1	1.190
Hazara (*)	2	0.835	Greeks (+)	1	1.190
Punjabi (*)	2	2.011	Hungarians (+)	1	1.454
Iranians (*)	2	1.758	Irish (+)	1	1.190
Jordanians (*)	2	0.934	Lapps (+)	1	1.190
Rwala (*)	2	1.669	Lithuanians (+)	1	1.384
Saadi (*)	2	0.934	Neapolitans (+)	1	1.190
Sindhi (*)	2	1.124	New England (+)	1	1.617
Kazak (*)	2	2.304	Portuguese (+)	1	1.707
Kurd (*)	2	1.629	Romanians (+)	1	1.310
Madan (*)	2	1.104	Russians (+)	1	1.522
Marri (*)	2	1.445	Spaniards (+)	1	1.979
Syrians (*)	2	1.124	Ukrainians (+)	1	1.190
Moghol (*)	2	0.809	Walloons (+)	1	1.554
Tunisians (*)	2	1.064			
Turks (*)	2	1.124			
Lebanese (+*)	2	2.405			

NOTES: (*) – Islamic cultures; (+) – Christian; (+*) – Christian, partly Islamized. Variables used in the analysis: Ambi-/Neolocal Residence, Bilateral Kin Groups, Bridewealth/Brideprice/Indirect Dowry, Clan Communities, Cousin Eskimo Terminology, Cousin Marriage Allowed, Cousin Marriage Prohibited, Crow Cousin Terminology, Descriptive/Sudanese Cousin Terminology, Dispersed Matrilineal Sibs, Dispersed Patrilineal Sib, Dowry, Extended Families, General Non-Sororal Polygyny, Hawaiian Cousin Terminology, Independent Nuclear Family, Iroquois Cousin Terminology, Kindreds, Localized Matrilineal Groups (Matrilineages), Localized Patrilineal Groups (Lineages), Matrilineal Descent Groups, Monogamy, No Marriage Exchange, Omaha Cousin Terminology, Patrilineal Descent Groups, Patrilocal Residence, Polygyny, Unilineal Descent Groups, Unilocality, Uxori-/Matrilocal Residence, Viri-/Patrilocal Residence, Virilocality.

As we can see in both cases the analysis detected two major clusters perfectly corresponding just to the Islamic and Christian cultures of the western part of the Old World Oikumene. The only exception belongs squarely to that very type of exceptions, which only confirm the rule. This is the only partly Islamized Christian culture of the sample, the Lebanese. Note that though in the both analyses this culture was put in the Islamic cluster, in both cases it found itself on the very border of the respective cluster, occupying the position somewhere between typically Christian and typically Islamic cultures.

We decided to move further by performing a factor analysis of our western part of the Oikumene sample (thus not including into it the data on the cultures of the rest of the world in contrast with what we did in our first factor analysis. Its results look as follows (see Table 8):

TABLE 8

Factor Analysis: Component Matrix

	Factor Analysis 1 (including "Islamization" and "Christianization" as separate variables)		Factor Analysis 2 (not including "Islamization" and "Christianization" as separate variables)	
	Component		Component	
	1	2	1	2
Islamization	+ 0.97			
Patrilineal Descent Groups	+ 0.98		+ 0.97	
Unilineal Descent Groups	+ 0.98		+ 0.97	
Bridewealth/Brideprice/Indirect Dowry	+ 0.94		+ 0.93	
Patrilocal Residence	+ 0.94	- 0.11	+ 0.93	- 0.12
Polygyny	+ 0.88		+ 0.88	
Cousin Marriage Allowed	+ 0.80	- 0.34	+ 0.80	- 0.35
Descriptive/Sudanese Cousin Terminology	+ 0.66	+ 0.11	+ 0.67	
Viri-/Patrilocal Residence	+ 0.65	+ 0.65	+ 0.66	+ 0.64
Dispersed Patrilineal Sibs	+ 0.55	- 0.10	+ 0.54	- 0.10
Extended Families	+ 0.47	+ 0.25	+ 0.48	+ 0.24
Unilocality	+ 0.45	+ 0.67	+ 0.47	+ 0.66
General Non-Sororal Polygyny	+ 0.32		+ 0.31	
Localized Patrilineal Groups (Lineages)	+ 0.26		+ 0.28	
Virilocality	- 0.48	+ 0.75	- 0.46	+ 0.75
Ambi-/Neolocal Residence	- 0.45	- 0.67	- 0.47	- 0.66
No Marriage Exchange	- 0.51	- 0.30	- 0.49	- 0.31
Dowry	- 0.53	+ 0.41	- 0.54	+ 0.42
Independent Nuclear Family	- 0.58	- 0.39	- 0.58	- 0.39
Kindreds	- 0.60		- 0.61	
Cousin Marriage Prohibited	- 0.80	+ 0.34	- 0.80	+ 0.35
Eskimo Terminology for Cousins	- 0.85		- 0.86	
Bilateral Kin Groups	- 0.86		- 0.86	
Monogamy	- 0.88		- 0.88	
Christianization	- 0.97			
Eigenvalue	13.3	2.7	11.4	2.6
% of Variance Explained	53	11	50	12

NOTES: Extraction Method: Principal Component Analysis. Cut-off point: 0.1.

The megaregion under consideration sample lacks any cultures, which were both strongly matricentric and strongly unilineal at the same time. Here the cultures, which are less patricentric, are also less unilineal (and *vice versa*). Hence, it was not surprising to find out that the factor analysis performed by us for this megaregion cultures virtually collapsed two dimensions detected by Burton's et al. analysis for their worldwide sample into one; hence, the respective factor scores could be well regarded as a unified patricentricity/unilinearity index. Note that at the same time the same index could be regarded as an indicator of "Islamization" vs. "Christianization" of the social structure of the respective cultures (even if we are dealing with Factor 1 scores for Analysis 2, which did not include "Islamization" and "Christianization" as separate variables).

The ranking of this megaregion cultures along the respective axis looks as follows (see Fig. 11):

Unilineal/Patricentric/Islamic

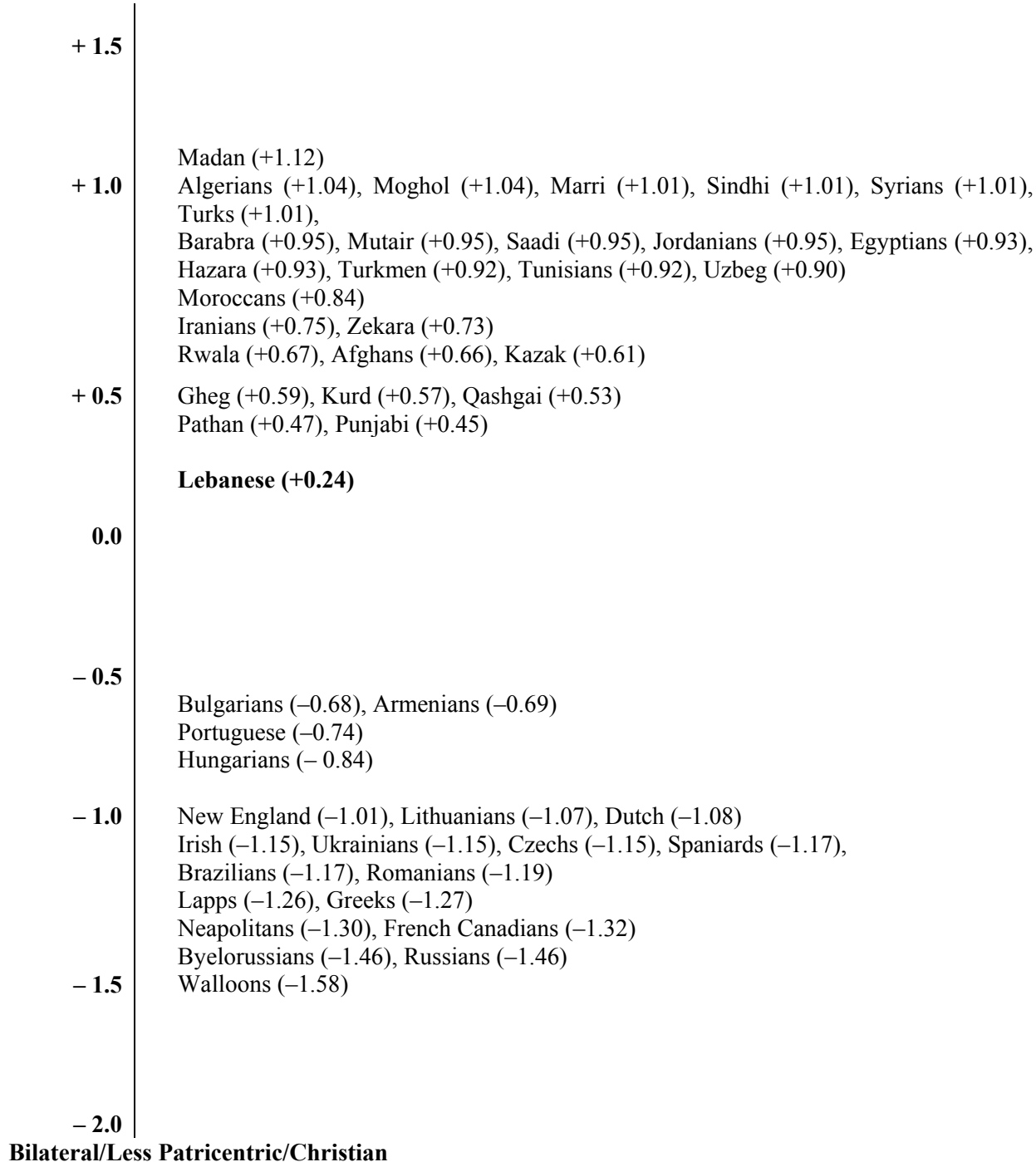


Fig. 11. *Ranking of the Cultures of the Western Part of the Old World Oikumene along the Axis of Islamic vs. Christian Social Structure Index (factor scores for Factor 1, Analysis 2 [omitting "Islamization" and "Christianization" as separate variables]).*

Note that the loadings on factor 1 for both analyses make it possible to detect the traits associated with typically "Islamic" vs. "Christian" social structures. In general, the higher is the value of the loadings the more the respective trait is associated with the Islamic cultures (and the lower it is, the more it is characteristic for the Christian cultures).

Thus, it appears possible to maintain that the Middle Eastern Islamic traditional social structure is characterized by the unilineal descent organization, in general, and the patrilineal descent organization, in particular, bridewealth/brideprice, patrilocal residence, occasional polygyny, cousin marriage, descriptive or Sudanese cousin terminology (indicating in this context the overall kinship terminology of the bifurcate collateral type) and (to a lesser degree) extended family organization. At the meantime, the same factor analysis suggests that the typically "Christian" traditional social structure is characterized by an almost precisely opposite combination of traits: monogamy, bilateral kin groups, absence of unilineal descent groups, Eskimo cousin terminology (corresponding within such a context to overall lineal kinship terminology), no marriage exchange or dowry, ambilocal, neolocal, or virilocal residence, and (to a lesser extent) prohibited cousin marriage, as well as independent (unextended) nuclear families. The multidimensional scaling of the data on the cultures of the western part of the Old World Oikumene produced essentially identical results (see Table 9 and Fig. 12):

TABLE 9
Multidimensional Scaling.
Configuration derived in 2 dimensions.
Stimulus Coordinates

Stimulus Name	Dimension	
	1	2
Islamization	+ 1.54	+ 0.27
Descriptive/Sudanese Cousin Terminology	+ 1.55	- 0.04
Extended Families	+ 1.55	- 0.07
Unilineal Descent Groups	+ 1.55	+ 0.27
Patrilocality	+ 1.55	+ 0.27
Brideprice/Bridewealth	+ 1.54	+ 0.27
Polygyny	+ 1.54	+ 0.26
Cousin Marriage Allowed	+ 1.54	+ 0.29
Unilocality	+ 1.45	+ 0.60
Ambi-/Neolocality	- 1.20	- 0.41
Virilocality	- 1.20	- 0.39
Dowry	- 1.21	- 0.37
No Marriage Exchange	- 1.24	- 0.28
Individual Nuclear Family	- 1.27	- 0.13
Kindreds	- 1.27	- 0.08
Cousin Marriage Prohibited	- 1.28	- 0.14
Monogamy	- 1.28	- 0.08
Eskimo Cousin Terminology	- 1.29	- 0.08
Exclusively Bilateral Kin Groups	- 1.29	- 0.05
Christianization	- 1.28	- 0.13

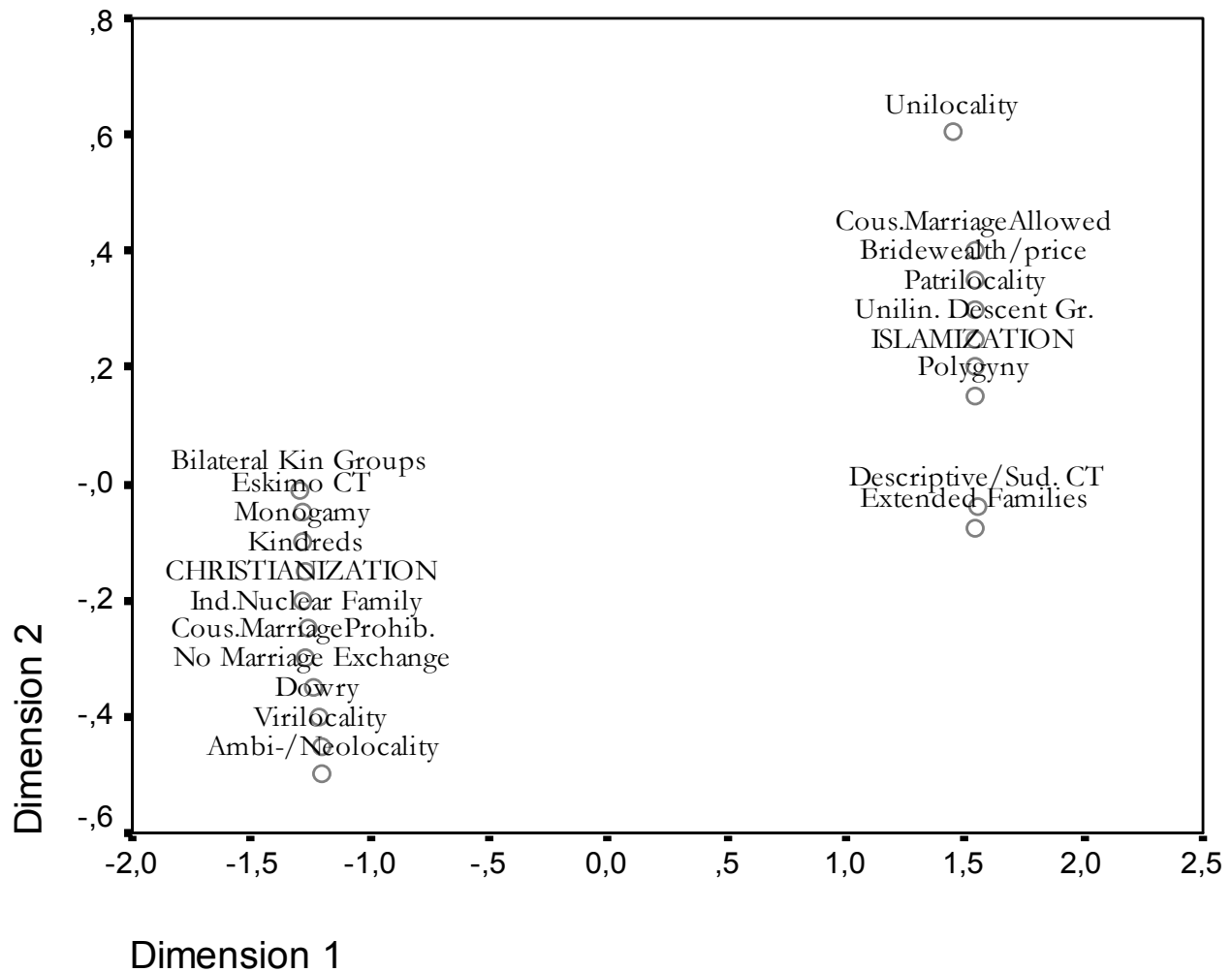


Fig. 12. *Derived Stimulus Configuration: Euclidean distance model.*

It seems necessary to stress that this pattern of social organization cannot be regarded as a result of modernization of the European societies, as it appears to be observed in the central, most politically centralized areas of the Christian world (from North-West Europe to the Ethiopian Highlands, and from the Iberian Peninsular to Central Russia) many centuries before the age of modernization, though in many areas the transition to this type of social structure from its more unilineal predecessors took place just after their Christianization (see e.g. Udal'tsova 1985–1987; Lavrovskij 1867:33–7, 46–50; Krjukov 1968:376–8, 1995; Korotayev 1987).¹⁷

Was the traditional kinship-and-family organization of the cultures of the western part of the Old World Oikumene really shaped to a significant extent by Christianity and Islam? Let us consider now some possible alternative explanations. It is easy to notice that the main loadings on the Unilinearity Index are produced by the unilineal/patrilineal descent organization and unilocal/patrilocal marital residence closely associated with it. However, the most commonly suggested causes of the decline of unilineal descent organization in complex societies are class stratification and state formation (Morgan 1877/1964; Engels 1884/1970; Fortes 1953; Kirchhoff 1955/1968;

¹⁷ This does not appear to be relevant for some peripheral (especially, highland) areas of the Christian world (with rather weak or non-existent state organization), where rather unilineal social organization often survived up to the 20th century (e.g. Kosven 1963:103, 104, 108, 111, 171, 172, 175, 178).

Bohannan 1963:136; Cohen 1969; Sahlins 1972:225; C. Ember, M. Ember, and Pasternak 1983:395; Sanderson 1988:337; Pasternak, M. Ember and C. Ember 1997:262–4; Scupin and DeCorse 1998:390 etc.).¹⁸

In fact, many authors have noticed that unilineal descent groups are more commonly found in societies of midrange complexity. They occur less often in the most simple societies and tend to disappear in the most complex societies (Aberle 1961; Service 1962; Coult and Habenstein 1965; Murdock and Wilson 1972; Murdock and Provost 1973; Pasternak 1976; Levinson and Malone 1980; C. Ember and Levinson 1991; Pasternak, M. Ember, and C. Ember 1997 etc.). However, our sample of western Old World Oikumene societies consists predominantly of the medium and highly complex cultures. Hence, for this mega-region quite predictably we do observe a significant negative correlation between the development of state structures, political centralization, on the one hand, and the unilinearity index, on the other (see Regression 1):

Regression¹⁹ 1.

Dependent variable: UNILINEARITY INDEX

<i>INDEPENDENT VARIABLE</i>	Standardized Beta Coefficient	Sig.
Political Centralization	– 0.43	0.01

R = 0.43; R Square = 0.18; Adjusted R Square = 0.16

The same is observed for the megaregion under consideration with respect to the class stratification: class stratification here also displays a significant negative correlation with the unilinearity index (see regression 2):

Regression 2.

Dependent variable: UNILINEARITY INDEX

<i>INDEPENDENT VARIABLE</i>	Standardized Beta Coefficient	Sig.
Class Stratification	– 0.47	0.002

R = 0.47; R Square = 0.22; Adjusted R Square = 0.20

¹⁸ First developed by Morgan (1877/1964), this idea was later endorsed by Engels (1884/1970). Thus, it is not surprising that it became dominant in Soviet Anthropology, especially in the mid 1930s – 1950s (see *e.g.* Korotayev and Obolonkov 1989, 1990).

¹⁹ We decided to calculate the correlations between the political centralization and the unilinearity index through a bivariate regression model, because on the next stage we planned to perform multiple regression analysis. Of course, it is generally assumed that such analyses require interval-level data. However, as has been shown by Labovitz (1967, 1970), in many cases it is justifiable to analyze ordinal data as if they were interval data especially when the number of ordinal categories is large enough, which is just the case as regards the matri/patricentricity and unilinearity/bilaterality scores. As regards cross-cultural research, C. R. Ember and M. Ember have already established a precedent of successful application of multiple regression analysis with variables having five ordinal scale scores (Ember and Ember 1992, 1994; see also Ember and Ember 1999:672; 2001:125). Fortunately for us both Political centralization (measured by number of supracommunal political integration levels)

On the other hand, within the western part of the Old World Oikumene, Islamization correlates negatively both with the political centralization ($Rho = -0.29$; $p = 0.04$) and class stratification ($Rho = -0.58$; $p = 0.0001$). This suggests that one could easily come with an apparently convincing alternative explanation for the strong correlation between Islam and the social structure unilinearity, which is observed in the western part of the Old World Oikumene. Indeed, the overwhelming majority of Christian cultures of our sample possessed state organization and complex class structure for many centuries prior to ethnographic present, whereas our Islamic subsample contains many stateless cultures lacking complex class stratification. Of course, this suggests that the observed difference between Christian and Islamic cultures is to a considerable extent a difference between states with complex class stratification and stateless cultures. However, it was difficult not to notice immediately that anyway this could account only partly for the observed difference between Islamic and Christian cultures of the megaregion as the correlation between the Islamic (*vs.* Christian) factor and the sociostructural unilinearity was very much higher than the ones between the latter variable and political centralization, as well as class stratification (see Regression 3):

Regression 3.

Dependent variable: UNILINEARITY INDEX²⁰

<i>INDEPENDENT VARIABLE</i>	Standardized Beta Coefficient	Sig.
Islam (1) <i>vs.</i> Christianity (0)	+ 0.94	0.0000000000000009

R = 0.94; R Square = 0.89; Adjusted R Square = 0.89

However, if the difference between the Islamic and Christian cultures is still at least partly accounted for by the difference in degrees of political centralization and class stratification in the respective regions, one should expect that entering class stratification and political centralization factors in the regression model should significantly decrease the values of standardized Beta coefficients for the Islamic/Christian factor. However, the results turned out to be just contrary to such expectations (see Regressions 4 and 5):

Regression 4.

Dependent variable: UNILINEARITY INDEX

<i>INDEPENDENT VARIABLE</i>	Standardized Beta Coefficient	Sig.
Political Centralization	- 0.045	0.66
Islam (1) <i>vs.</i> Christianity (0)	+ 0.92	0.0000000000000002

R = 0.93; R Square = 0.87; Adjusted R Square = 0.87

and Class stratification are measured in the *Ethnographic Atlas* using just five-point scales.

²⁰ We used for our regression analyses the Unilinearity Index obtained through our factor analysis of the worldwide sample (see Table 6 above). If we had used the unified unilinearity + patricentricity index obtained through our factor analysis of the western part of the Old World Oikumene (see Table 9, Analysis 2), the correlation with the "Islamic *vs.* Christian" variable would have been even stronger ($R = 0.96$, or [after omitting the partly Islamized Lebanese] even $R = 0.98$).

Regression 5.

Dependent variable: UNILINEARITY INDEX

<i>INDEPENDENT VARIABLE</i>	Standardized Beta Coefficient	Sig.
Class Stratification	+ 0.006	0.93
Islam (1) vs. Christianity (0)	+ 0.94	0.0000000000000001

R = 0.93; R Square = 0.87; Adjusted R Square = 0.87

As we see, entering either Political centralization (the "state" factor) or Class stratification in one regression model with the Islamic/Christian factor does not result in any significant decrease of the strength of the religious factor. However, the entering of the Islamic/Christian factor in one model with either Political centralization, or Class stratification leads to the drop of the strength of both factors to totally insignificant levels. This appears to confirm conclusions at which we arrived elsewhere (Korotayev 2003): the difference in political centralization and class stratification between Christian and Islamic cultures cannot account for the difference in their social structure. What is more the significant negative correlation between these two variables and unilineal descent organization systematically found by earlier cross-cultural researches is to a very considerable extent a result of the presence of Christian cultures in all samples of complex societies (that is it could be explained to a considerable degree as a result of a typical Galton effect).²¹

Note that the Islamic and Christian cultures of the western part of the Old World Oikumene are not simply different; what is more, the difference between them is more strong and significant than the one between any other supraethnic religions of the Old World Oikumene (see Fig. 13 and Tables 10–11):

²¹ In fact, our earlier research (Korotayev 2003) has shown that the "statehood factor" still seems to have an independent, weak, but significant, effect on the decline of unilineal descent organization. The growth of the strength of states appears to be a significant cause of the decline of unilineal descent organization. However, it is a much weaker cause than the "Christianization effect". At the meantime we should stress that Murdock, in his *Ethnographic Atlas* (as well as the *Standard Cross-Cultural Sample*), aimed mainly at the collection of data on *traditional* cultures at the earliest possible date of their observation, and, hence, as little modernized as possible. Thus these conclusions only apply to traditional cultures. The effect of *traditional* statehood and social stratification appears to be radically different from the effect of *modern* state organization and class stratification. The *modern* state organization and stratification do appear to destroy (more or less successfully) unilineal descent organization, whereas *traditional* class stratification *per se* does not; the traditional statehood seems to be a significant but rather weak factor in this respect. Only the strongest traditional states frequently succeeded in destroying unilineal descent organization, but such states were not typical for the traditional world. The moderately strong traditional states were systematically successful in the destruction of unilineal descent organization only when the statehood factor was coupled with the "Christian Factor" (or, as we shall discuss in our next report, the Hinayana Buddhist one). In the world of traditional complex cultures, the disappearance of unilineal descent organization occurred systematically only when both factors acted together – *i.e.* when the Christian church (or Hinayana Buddhist *sangha*) was backed by the state.

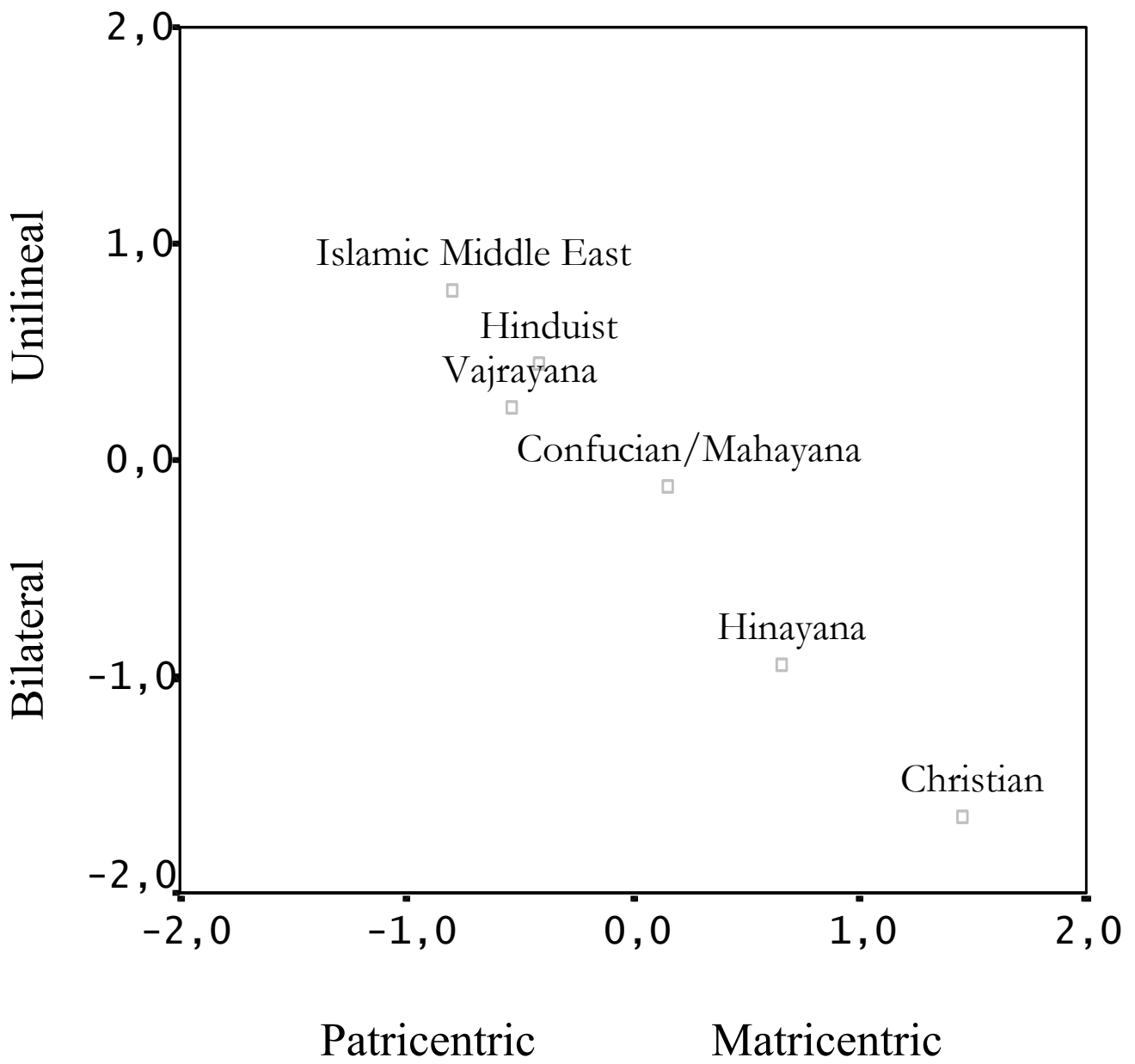


Fig. 13. Cluster Means for the Old World Oikumene Cultures
 (for complex cultures only, omitting stateless cultures).

TABLE 10

Group statistics (*Matricentrality Index, t-tests*)

	<i>Islamic Middle East</i> ²²	<i>Hinduist Societies</i>	<i>Vajrayana Buddhist Societies</i>	<i>Mahayana/ Confucian Region</i>	<i>Hinayana Buddhist Societies</i>	<i>Christian Societies</i>
<i>Islamic Middle East</i>		t = -1.67; p = 0.11	t = -0.73; p = 0.51	t = -2.98; p = 0.008	t = -4.36; p = 0.001	t = -14.28; p < 0.0000000000000001
<i>Hinduist Societies</i>	t = +1.67; p = 0.11		t = +0.30; p = 0.78	t = -1.37; p = 0.19	t = -2.47; p = 0.03	t = -8.36; p = 0.00002
<i>Vajrayana Buddhist Societies</i>	t = +0.73; p = 0.51	t = -0.30; p = 0.78		t = -1.43; p = 0.19	t = -2.18; p = 0.07	t = -5.75; p = 0.007
<i>Mahayana/ Confucian Region</i>	t = +2.98; p = 0.008	t = +1.37; p = 0.19	t = +1.43; p = 0.19		t = -0.92; p = 0.38	t = -5.16; p = 0.00002
<i>Hinayana Buddhist Societies</i>	t = +4.36; p = 0.001	t = +2.47; p = 0.03	t = +2.18; p = 0.07	t = +0.92; p = 0.38		t = -2.87; p = 0.008
<i>Christian Societies</i>	t = +14.28; p < 0.0000000000000001	t = +8.36; p = 0.00002	t = +5.75; p = 0.007	t = +5.16; p = 0.00002	t = +2.87; p = 0.008	

TABLE 11

Group statistics (*Unilinearity Index, t-tests*)

	<i>Islamic Middle East</i>	<i>Hinduist Societies</i>	<i>Vajrayana Buddhist Societies</i>	<i>Mahayana/ Confucian Region</i>	<i>Hinayana Buddhist Societies</i>	<i>Christian Societies</i>
<i>Islamic Middle East</i>		t = +1.75; p = 0.10	t = +2.55; p = 0.03	t = +4.14; p = 0.001	t = +11.13; p = 0.00000005	t = +16.76; p < 0.0000000000000001
<i>Hinduist Societies</i>	t = -1.75; p = 0.10		t = +0.54; p = 0.60	t = +1.77; p = 0.10	t = +4.70; p = 0.001	t = +8.72; p = 0.00002
<i>Vajrayana Buddhist Societies</i>	t = -2.55; p = 0.03	t = -0.54; p = 0.60		t = +0.90; p = 0.40	t = +3.07; p = 0.03	t = +5.48; p = 0.008
<i>Mahayana/ Confucian Region</i>	t = -4.14; p = 0.001	t = -1.77; p = 0.10	t = -0.90; p = 0.40		t = +2.38; p = 0.04	t = +7.08; p = 0.0000002
<i>Hinayana Buddhist Societies</i>	t = -11.13; p = 0.00000005	t = -4.70; p = 0.001	t = -3.07; p = 0.03	t = -2.38; p = 0.04		t = +3.18; p = 0.02
<i>Christian Societies</i>	t = -16.76; p < 0.0000000000000001	t = -8.72; p = 0.00002	t = -5.48; p = 0.008	t = -7.08; p = 0.0000002	t = -3.18; p = 0.02	

What could account for this fact? Actually we have already dealt with this phenomenon earlier (Korotayev and de Munck 2003), when we studied the correlation between the polygyny and male genital mutilations discovered by Whiting (1964) (the statistical significance of this correlation was later confirmed by Strauss and Orans [1975:583]). Their results looked as follows (see Table 12 [same as Table 18 from Strauss and Orans 1975:583 borrowed from Whiting 1964]):

TABLE 12

Male Genital Mutilation * Polygyny**Crosstabulation**

		Polygyny	
		<i>present</i>	<i>absent</i>
Male Genital Mutilation	<i>present</i>	50	85
	<i>absent</i>	115	560

Note: Phi = 0.185; p < 0.05

²² The notion of "Middle East" is used throughout this paper in the widest possible sense (cf. *al-Sharq al-Awsat* in Arabic), thus

We tested this for the Circum-Mediterranean region in the strict sense of this term (i.e., Europe, North Africa and Near East; i.e. excluding Sudan and the Ethiopian Horn) for which the data could be easily collected and checked by us (we used the *Ethnographic Atlas* as the basis). The immediate result of this test looked as follows (see Table 13):

T A B L E 13

Male Genital Mutilation * Polygyny

Crosstabulation

(for the Circummediterranean region; version 1)

		Polygyny	
		<i>absent</i>	<i>present</i>
Male Genital Mutilation	<i>absent</i>	32	3
	<i>present</i>	7	20

Note: Phi = 0.67; $p = 0.000000002$

The correlation detected by this test is overwhelmingly more significant and strong than the one for the worldwide sample. However, these results would not look quite so convincing to anyone who has a minimum knowledge of the religious and social history of the region, as it would be immediately evident that we are dealing here just with an evident "Galton effect". The strong correlation is produced by the combined action of "Christian" and "Islamic" factors, or, in other words, it is a result of functioning of two historical networks – the Islamic and Christian ones.

Circumcision (though not enforced on the Muslims by their Holy Book) is still a virtual obligation among Muslims, as it has strong support in the Holy Tradition (*al-Aha:di:th*). The acceptance of polygyny (in conjunction with the fact that the Muslim societies of the region were stratified and the social status of women in traditional Islamic societies was low) led, almost inevitably, to the practice of at least occasional ("elite") polygyny in all the Muslim societies of the region even if they were monogamous prior to the Islamization (as happened with the Albanians). Christianity, on the other hand, strictly prohibits polygyny (see above); but does not directly prohibit the circumcision (actually, it is hardly possible to find support for such a prohibition in any sacred Christian texts, considering that Jesus Christ himself was circumcised and the supposed date of his circumcision is still one of the most important Christian Holy Days). However, the Christian Church (unlike Islamic and Jewish religious authorities) does not impose circumcision in any way; as a result, in the Middle Ages the absence of "male genital mutilation" became an important marker distinguishing Christians from both Muslims and Jews (with whom the Christians were in a hostile relationship for most of this period). Thus, for Christians, circumcision was, at this time, a virtual taboo. As a result, the diffusion of Christianity in the region resulted in the simultaneous diffusion of a prohibition on polygyny and a virtual (and effective!) prohibition on circumcision. Conversely, the diffusion of Islam resulted in the simultaneous diffusion of precisely the opposite pattern. In this region we have evidence of a classical "Galton effect". Hence, it is not surprising that the deletion from the sample of Christian cultures results in dropping the correlations to an insignificant level (see Table 14):

including North Africa as well as the western (Islamic) part of Central Asia.

TABLE 14

*Male Genital Mutilation * Polygyny**Crosstabulation (for the Circummediterranean region;**version 2 [omitting Christian cultures])*

		Polygyny	
		<i>absent</i>	<i>present</i>
Male Genital Mutilation	<i>absent</i>	2	2
	<i>present</i>	7	20

Note: Phi = 0.18; $p = 0.34$

Hence, the important point explaining the observed differences between traditional Christian and Islamic cultures is that we are dealing in this case not just with the results of functioning of two historical networks, but with the results of functioning of two intersocietal networks which had competed with each other for more than millennium. As was shown above, in this case you would not just get a random diffusion of various combinations of traits but, instead, you will be confronted with a systematic increase in the opposite (++ --; or +- -+) cells of respective tables. The situation, which we found regarding the distribution of male genital mutilation and polygyny in, the Circum-Mediterranean falls squarely within this pattern. In this example, we observed that a huge set of communities (i.e., all the Islamic communities) systematically reproduced a pattern opposite to the one of another equally huge set of communities (i.e., all the Christian ones) to serve as a sort of cultural boundary marker. As a result we have a systematic inflation of figures not just in one cell, but precisely in two diagonally opposite cells.

There are certain grounds to suggest that this factor contributed significantly to the growth of the difference in social structure between Islamic and Christian cultures, as many traits of family-and-kinship organization (like, most evidently, monogamy for Christians) served as important cultural border markers distinguishing Christians from Muslims (and *vice versa*).

Thus, we seem to have all the possible grounds to suggest the subdivision of the western part of the Old World Oikumene into two "regions based on [traditional] social structure" – the "Christian" and "Islamic" ones.²³

In our next article, we are going to consider some other parts of the Old World Oikumene, as well as to present some general conclusions.

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²³ We would like to stress that we do not deny that the traditional social structure of the megaregion cultures was determined to a considerable extent by ecological, economic, social and political factors. For example, many features of social structure which are common for the overwhelming majority of this megaregion's cultures (e.g. the absence of general polygyny, matrilineal descent groups, matrilocal residence, preferential cross-cousin marriage, bifurcate merging and generational kinship terminology etc.) are explained just by these factors. On the other hand, we would like to stress as emphatically that the difference between the Islamic and Christian cultures according to the variables studied in this report is explained first of all by the influence of Christianity and Islam (both their ideology and their organizational structures) on the social evolution of this megaregion's cultures.

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