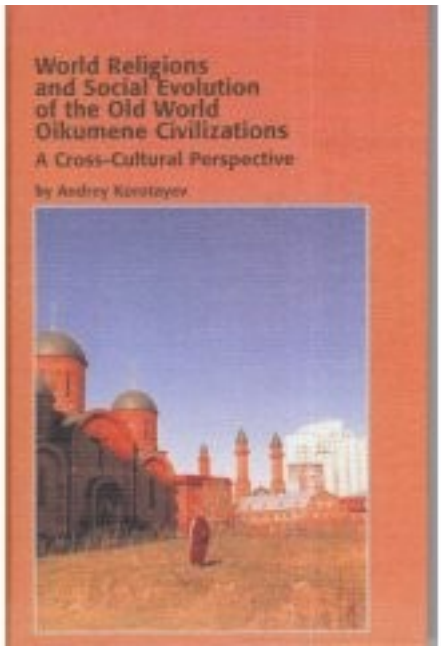
World Religions
and Social Evolution
of the Old World
Oikumene Civilizations
A Cross-Cultural Perspective
by Andrey Korotayev

World Religions and Social Evolution of the Old World Oikumene Civilizations:

A Cross-Cultural Perspective

Andrey Korotayev

2004
The Edwin Mellen Press
Lewiston•Queenston•Lampeter

"Andrey Korotayev has written an original and penetrating analysis of the influence of world religions on social evolution.....Korotayev persuasively argues that the communicative networks associated with world religions, such as Christianity and Islam, molded the social structure of the Afroeurasian societies. Good ideas and rigorous statistical insights abound. Of particular interest to many readers will be the new results on the influence of religions on intrasocietal aggression and on communal democracy. This is an important and timely book by one of the foremost scholars in the field of social evolution." - Professor Peter Turchin (University of Connecticut, Storrs), author of Historical Dynamics: Why States Rise and Fall

"This new study by Professor Korotayev is a particularly valuable contribution....effectively showing that religion does indeed have an active role in shaping other elements of social organization.....This is an important study not just because it addresses these crucial yet strangely neglected questions, but even more so because of its unusually empirical and hypothesis-based approach. The correlational studies relating elements of the different religions to sociostructural characteristics of cultures is certainly the heart of the book.....Professor Korotayev persuasively argues that progress remains a valuable concept if we wish to fully explore social evolution and it is one that can be approached much more objectively than most of us would have guessed." - Paul K. Wason, Director of Science and Religion Programs, John Templeton Foundation and author of Archaeology of Rank (Cambridge, 1994).

"[This work] is one of the most remarkable and important studies in recent years in cross-cultural analysis. Following the general thrust of Max Weber's argument for the significance of religion for social and economic development, Korotayev shows that the divergence between Islam and Christianity is deep and long-standing....Korotayev shows that Islamic societies are at the extreme poles of unilateral descent and patricentric kinship structures, whereas Christian societies are at the opposite poles of bilateral descent and matrilateral kinship.....Basing his findings on a wide-ranging and well-executed technical analysis of cross-cultural data sets, Korotayev makes a strong case. This work will be of great importance for everyone interested in long-term structural patterns of human societies; in the comparison of Christian and Islamic regions of the world; and in the deep historical evolution of democracy." - Randall Collins, University of Pennsylvania

- **Hardcover:** 246 pages
- **Publisher:** Edwin Mellen Pr (August 30, 2004)
- **Language:** English
- **ISBN-10:** 0773463100
- **ISBN-13:** 978-0773463103

To Patricia Crone

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Introduction

Part 1. Notions and Definitions: "Evolution", "Development", "Progress", "Antiprogress"

I accept Claessen's proposal to view sociocultural evolution "as ‘the process by which structural reorganization is affected through time, eventually producing a form or structure which is qualitatively different from the ancestral form'" (Claessen 2000*a*:2; the definition itself belongs to Voget [1975:862]; however, it was Claessen who supported it most strongly in our field [Claessen and van de Velde 1982:11ff., 1985:6ff., 1987*b*:1; Claessen 1989:234; Claessen and Oosten 1996, *etc.*; see also, *e.g.*, Collins 1988:12–3; Sanderson 1990]). I also completely agree with Claessen when he maintains: "Evolutionism then becomes the scientific activity of finding nomothetic explanations for the occurrence of such structural changes" (Claessen 2000*a*:2).

Of course, such an understanding of evolution differs completely from the one by Herbert Spencer, who introduced this notion into scientific discourse. Spencer proposed the following definition, which retains its esthetical appeal up to the present: "*a change from an incoherent homogeneity to a coherent heterogeneity*" (H. Spencer 1972 /1862/:71). This definition implies an understanding of evolution as a dual process of differentiation and integration. Within the notion of evolution suggested by Claessen, "Spencerian" evolution represents one of three possible types of evolutionary processes. In addition there is the evolution from complex to simple social systems and structural changes on the same level of complexity. These criteria for typologizing sociocultural

evolution roughly correspond to the typology of the main directions of biological evolution proposed by Severtsov (1939, 1967). His tripartite typology employed the following terminology: [1] *aromorphosis* [~ *anagenesis* in the sense in which this term was originally proposed by Rensch {1959:281–308; see also Dobzhansky *et al.* 1977; Futuyma 1986:286}], [2] *degeneration*, and [3] *idioadaptation* (~*cladogenesis* [Rensch 1959:97f.; see also Dobzhansky *et al.* 1977; Futuyma 1986:286]). Thus, it appears that our typology corresponds closely to the typology of evolution in modern biology.

However, the process described by Herbert Spencer, though I avoid calling it evolution, is, no doubt, one of the most important types of evolutionary processes and definitely deserves special attention. I do not think there is any problem with the designation of the "Spencerian" type of evolutionary processes. Indeed, this term already exists and is widely used to denote precisely this type of social (and not only social) change. This term simply is *development.* Note that in biology this term is also used to denote precisely *a change from an incoherent homogeneity to a coherent heterogeneity*. Of course, in biology development and evolution are considered to be entirely different processes; however, it is not easy to find any analogy to the development/evolution dichotomy in the realm of social life. In any case, in this monograph the "Spencerian" evolution is denoted as development.[1]

It seems necessary to say also a few words about the notion of *progress.*

As is well known, in Western sociology and anthropology this notion had almost entirely disappeared from the academic texts, though recently it seems to

[1] On the other hand, it is still possible to find some (albeit incomplete) analogue for this dichotomy in social life. Indeed, during some periods of time the development of some societies could be, to a great extent, regarded as "programmed" by the existing systems of cultural codes, values, and practices. In this situation, the evolutionary shifts should be identified in terms of changes in the "programming" systems and structures influencing the course and direction of the development of respective societies. Such an approach to the theory of sociocultural evolution appears both possible and promising. However, within this monograph I have decided to stick firmly to "Claessen's" notion of sociocultural evolution in order to preserve the conceptual unity of the book.

have started reappearing there again (*e.g.*, Sanderson 1995:336). However, this category has always remained in use in the Russian social sciences, and it is quite frequently employed till now (*e.g.*, Nazaretjan 1991, 1996, 1999*a*, 1999*b*; Zhurov 1994:94–105, *etc.*). In general, I tend to sympathize with this, because with this category two very important notions continue to penetrate (albeit in a disguised form) into our field of research. In modern social sciences these two notions are even more severely tabooed than the category of "progress". And, for example, I, when using these notions in an academic text, feel a rather strong discomfort. These two notions are *good* and *evil*.[2] From my point of view, a social science that completely refuses to study the problematique connected with these two categories, looses most of its substance and becomes sterile.

Some time ago I paid some interest to the issue of the objective criteria of social progress; and not so long ago I seem to have solved this problem (at least for myself). From my point of view, the answer is that there are no such objective criteria at all.

Indeed, in most cases the notion of progress is not used to denote the growth of some ethically neutral parameter (*e.g.*, "complexity", "differentiation", "integration") – there is a sufficient number of more or less ethically neutral terms to designate such types of social change – "evolution", "development", "growth". The main difference between the notion of progress and the above mentioned

[2] It looks like it was the very link between the notion of progress and the rather subjective, never completely objectifiable categories of good and the evil which led, some time ago, to the virtual prohibition of the use of the notion of progress by the Western sociological and anthropological establishment which that time struggled to transform sociology and anthropology into fully "objective" sciences. However, I tend to consider this as a manifestation of a sort of intellectual cowardice. Of course, it is rather difficult for a scholar to work with such heavily value-laden notions which have such a strong ethical force. In addition, to work openly and publicly with such notions demands a considerable moral responsibility on the part of the respective scholar. Nevertheless, intellectual (and moral) cowardice leads to nothing good. Social science either becomes sterile, or these very subjective categories are smuggled into "objective" research in hidden forms. The result is the worst possible one; and what happens turns out to be precisely what the Western social sciences tried to avoid through the "tabooization" of the notion of progress – virtual value-judgements (which a social scientist is no more competent to make than a

terms is precisely that the "progress" usually denotes not simply development, but the development from "the bad" to "the good", *i.e.* in the final analysis the decrease of the evil and the growth of the good; and just because of this, from my point of view, the notion of progress appears to be so useful. Indeed, any social transformation (especially, if this transformation takes place in the society where we live) is of real interest for us mainly not because of its objective characteristics; what is really of interest to us is whether as a result of this transformation our life will become better or worth. In the final analysis the most "objective" sociologist, or anthropologist when giving public recommendations recommends this just in order to make life better for some people (as she, or he would hardly recommend any measures which according to her/his point of view would not bring anything good to anybody). Consequently, the author's subjective perceptions of the good and the evil (or to put it milder – "what is good and what is bad"), turn out to be embodied into the most scientifically looking "objective" public recommendations. And it would be much better if those subjective perceptions were clearly expressed instead of being hidden behind the mask of the "scientific objectivity".

Thus, I tend to view the social progress just as the growth of the good/decrease of the evil (or, in other words, as sociocultural evolution from the bad to the good). At the meantime I tend to view the notions of *the good* and *the evil* as undefinable. To my mind, any attempts to reduce those notions to any definite and objective categories (such as, say, "pleasance/unpleasance", "efficiency/inefficiency", "usefulness/harmfulness", *etc.*) lead to the loss by those notions of their main contents, their essence. However, I insist on the possibility (and necessity) of the work with those categories notwithstanding their immanent undefinability, as the modern science works perfectly well with such undefinable

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"layperson") are presented as "objective" scientific results which are, consequently, much more important than "lay people's" opinions.

notions, as *probability*, or *set*; what is more, the modern science is unthinkable without these notions.

A possible objection is that it is still impossible to work with those categories, as there is different understanding of what is good and what is evil in different cultures (and even different people within one culture). I believe that this is not quite so. I would rather maintain that in different cultures different phenomena are denoted as "good", or "evil", that what some people denote as "good" could be denoted as "evil" by other people. But when a person of another culture tells me that something is good, I understand him/her perfectly well even if I consider this evil.

The problem of the introduction into objective scientific research of such subjective categories as *the good* and *the evil* (and, incidentally, *the progress*) does not appear to be as unsolvable as this might seem. What is necessary is just not to fail to mention explicitly the subjectivity of the progress criteria at the stage of their introduction, whereas afterwards it appears to be possible to work with them applying any appropriate standard methodology (trying, however, to reduce the "zone of the subjective" to the minimum). If such a study includes any practical recommendations, then the subjective conceptions of the good and the evil of those for whose good the respective recommendations target turn out to be more important than the one's of the author him-/herself. The criteria problem could be solved through the search for consensus of the subjective conceptions of the good and the evil (which is not always so difficult – actually many well-known democratic procedures turn out to be to a considerable extent just rather effective concrete ways of the search for such a consensus). In any case at the stage of evaluation of the respective recommendation application results what matters is only the subjective conceptions of the recommendation "objects" – even if according to the "objective parameters" it has become better, whereas according to the subjective feelings of, say, the inhabitants of the town where the

recommendations have been applied (and for whose good they have been made) it has become worse, it can only mean that it has become worse.

I believe that the construction of any "objective criteria of progress" is not only ethically erroneous, but also potentially dangerous. For example, Nazaretjan (1991, 1996, 1999*a*, 1999*b*) considers the progress as the growth of stable inequilibrium; and though he constantly insists on the absence of any ethical coloring of the notion of progress, this does not help much. Indeed, irrespective of any number of possible reservations and qualifications this notion appears to retain positive connotations. If not on conscious, than on subconscious level most people would feel that "progress" is something which should be achieved; whereas it is not self-evident that, say, "the growth of stable inequilibrium" is something which should be achieved at any cost. In some sense the construction of the "objective criteria of progress" bears seeds of totalitarianism, as potentially this could lead to the formation of some elite group which claims to know "objectively" what other people need better than those people themselves.

What has been mentioned above is entirely applicable to Marxism with, for example, its conception of "objective class interests" from which necessarily stems the conviction in the possibility (and desirability) of the formation of the elite possessing the true scientific knowledge, knowing the true interests of the workers better than the workers themselves, and hence, having the moral right to coerce workers to undertake certain actions "in the interests of the proletariat", even if the workers themselves (lacking true "class consciousness") have different ("opportunistic", "false") ideas of their own interests (see, *e.g.*, Rigby 1987).

The possibility of the "consensual" use of the progress criteria has been convincingly shown recently by Sanderson (1995:336–57). Indeed, the list of criteria suggested by him seems to have good chances to be accepted by most people: the material standard of living (including health and life expectancy), the nature of work and the human workload, the degree of social and economic

equality, and the extent of democracy and freedom. Note that Sanderson's line of reasoning is essentially, though not explicitly the same as mine – he appeals to the subjective desires of people themselves, and not to some objective scientific truths (Sanderson 1995:336–7).

One of the results of the dominance of the essentially unilineal schemes in sociocultural evolutionism is the absence in our vocabulary of some necessary terms which could denote some quite real components of sociocultural evolution. The societies were perceived to ascend along a certain staircase of sociocultural evolution/progress. The societies, of course, were considered to be able to go backwards, to "regress", to remain for a long time on one stage of progress (to "stagnate"), or to jump over certain stages. But the main point was to move forward. Thus, any movement "forward", from the old to the new was evaluated positively, and denoted as a "progress". The very notion of "progress" has the initial meaning of "movement forwards", but in the unilineal evolutionist terminology it acquired the meaning of "movement from the bad to the good"; as a result these two basically different meanings merged in this term.

At the meantime it is quite clear that all the possible types of social change cannot be reduced to the "progress", "regress" and "one-level changes" perceived this way. It is not difficult to find in history (as well as in the present-day world) such social changes "forward", from "the old" to "the new" which are characterized by the worsening of the situation according to any proposed criteria of social progress.

A classical example here could be the formation of the 20th century totalitarian regimes. Thus, nobody (except, naturally, the Nazis) seems to be able to designate as "a progressive social transformation" the establishment of the Nazi regime in Germany. However, this, of course, was not a "regress", a "step backward" to something which existed before that. No doubt, the totalitarianism was an invention of the 20th century. Just a few preindustrial societies (first of all, the Qin/Ch'in Empire) came more or less close to this model; but it was the 20th

century when this model found its full-fledged realization. The 20th century totalitarian regimes left any preindustrial "prototalitarian" or "total" political systems far behind them according to many important characteristics. Their formation in no way can be considered as a repetition of something which existed before. For example, before the 20th century no societies knew such developed and effective repressive apparatuses, *etc.* Thus the movement forward towards something new which never happened before is evident here. Thus, we are dealing here with a type of sociocultural evolution which cannot be denoted either as a progress, or a regress, or a same-level transformation. But how to denote this?

Or, consider the 20th century environmental pollution. Here we are dealing again with something which cannot be denoted either as a progress, or a regress, a movement backwards, to something which already existed before. Or consider the growth the suicide rate in some industrial societies to the levels never evidenced before (which was already noticed by Durkheim [1952/1897]). And again we confront the same questions. One may also recollect such correlates of industrialization as the growing alienation of labor, the impoverishment of folk art and many other social transformations which cannot be named either as progress, or regress, or self-level transformations.

At the meantime it seems to be clear that such social transformations are not rare in the human history. What is more, such transformations are very important and definitely deserve a special name for their designation. I suggest to denote social change of this type (social movement forward, towards new forms and structures involving worsening of the human situation according to any significant progress criteria) as "antiprogress".

Part 2. Social Evolutionism: Idealism *vs.* Materialism

It seems reasonable to draw the readers' attention to the following phenomenon noticed by Sanderson (1990:103–68): among the neoevolutionist anthropologists one observes the dominant positions belonging to the materialist theories of sociocultural evolution which consider it as virtually a process of natural history developing under the influence of almost only objective factors (demographic, ecological, *etc.*), according to objective evolutionary laws.[3] At the meantime among the neoevolutionists-sociologists we rather observe the dominance of essentially idealist theories of sociocultural evolution (Parsons 1966, 1971; Eisenstadt 1964, 1970, 1978, 1982, 1986, 1993; Habermas 1979, 1984; Luhmann 1982; Alexander 1983. Vol. 4). It appears difficult not to connect this point with the fact that the former construct their evolutionary models mainly on the basis of the "pre-Axial" primitive and archaic cultures, whereas the latter rely predominantly on the materials of the "Axial cultures".

No doubt, the idealist tradition in sociological neoevolutionism ascends to its founder, Talcott Parsons. It seems necessary to stress that his evolutionary models have an emphatically idealist character:

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[3] One may classify as such almost all the Western neoevolutionist anthropologists (Adams 1975; Carneiro 1970, 1981, 1987, 1988, 1991; 2000*a*; 2000*b*; M. Cohen 1977; Fried 1967*a*; Harris 1978; Johnson and Earle 1987; Service 1975; Claessen and Skalnik 1978 1981; Claessen and van de Velde 1987*a*; Hallpike 1986; Earle 1997; Muller 1997; Claessen 2000*a*; 2000*b*; Southall 2000; Ch. Spencer 2000, *etc.*); Sanderson has some grounds to attribute Gerhard Lenski, a sociologist, to the "School of Anthropological [Materialist] Neoevolutionism". Note, however, that Lenski relies upon anthropological data much more heavily than most of his fellow sociologists, see, *e.g.*, G. Lenski, Nolan, and J. Lenski 1995.

> Parsons ... [says] that to favor a causal pluralism does not prevent one from establishing a hierarchical ordering of the relative importance of various causal factors. All are important, but some may be more important than others. And what kind of rank ordering does Parsons create? In fact he produces one that elevates human ideas and values and their associated moral rules to supreme importance. As he puts it, 'I am a cultural determinist, rather than a social determinist. Similarly, I believe that, within the social system, the normative elements are more important for social change than the <<material interests>> ...' (Parsons 1966:113). It would definitely appear, however, that Parsons gives considerably more weight to ideational factors than he would have us believe. They are much more than simply at the top of a causal hierarchy. Indeed, the simple fact of the matter is that Parson's preferred explanations in his pair of books on sociocultural evolution[4] almost always give pride of place to symbolic codes, legal norms, religious or philosophical systems, or some other phenomenon that is primarily mental or ideational... The great evolutionary significance of the historic empires involves their philosophical breakthroughs. In two cases (India and Islam) these breakthroughs center on religio-philosophical systems, whereas in another (Rome) the great breakthrough is said to involve a system of legal norms... Israel's greatest evolutionary contribution is its universalistic religion, while Greece's involves a more secularized philosophical system... Judaism led into Christianity, which is of enormous evolutionary significance for Parsons because of its universalizing and individualizing qualities. In fact, it is Christianity that prevented medieval society from regressing even further than it did. When we get to modernity, we find that the influence of Protestantism is very great, as is especially the democratic revolution. And what is the substance of the democratic revolution? Parsons tells us that it is essentially an upheaval in values... Thus it is not difficult to make a case for Parson's ordinary causal explanations being primarily idealist ones. It is clear that Parsons regards the most important achievements in long-term sociocultural evolution as being in the area of symbolic codes, values, and norms, and that these achievements, once they arise, contribute crucially to yet further achievements (Sanderson 1990:113–4).

It seems evident that the idealism of Talcott Parsons ascends to a considerable extent to Max Weber who influenced greatly Parsons (see, *e.g.*, Parsons 1970]). An especially strong influence in this respect was made on Parsons (according to his direct confession [1997:208]) by the *Protestant Ethic* (Weber 1930). It seems

[4] *I.e.* Parsons 1966 1971 – A. K.

necessary not to forget that in this study Weber does not maintain that the formation of the protestant ethic was the main factor of the origins of capitalism. However, Max Weber did manage to show in quite a rigorous way for one concrete example that the change in religious consciousness which is not a result of any socio-economic processes (but stemming entirely from the development logic of the religious consciousness itself) may produce a significant factor of influence on the socio-economic development (or, employing the terminology of mathematical statistics, that the religious consciousness variables may be not only dependent / resultant [as is implied by the materialist understanding of sociocultural evolution], but also independent / factor (even in the final consideration).

In this book I shall try to follow this tradition and to trace some other influences produced by the functioning of the world religions' communicative networks on the social evolution of the Old World Oikumene civilizations. However, in the concluding chapter I shall also study the issue if this tradition is really irreconcilable with the "materialist" approach prevalent in the "anthropological evolutionism".

Chapter 1
World Religions as a Factor of Social Evolution of the Old World Oikumene: A Discriminant Analysis

In 1996 Michael Burton, Carmella Moore, John Whiting, and Kimball Romney proposed a new regionalization of the world based on social structure (M. Burton *et al.* 1996). It was arrived at on the basis of a factor analysis of Murdock's holocultural database (Murdock 1967; Murdock *et al.* 1986, 1990). They display its main features in their Figures 2, 3, and 13 (see Fig. 1, 2 and 3 below):

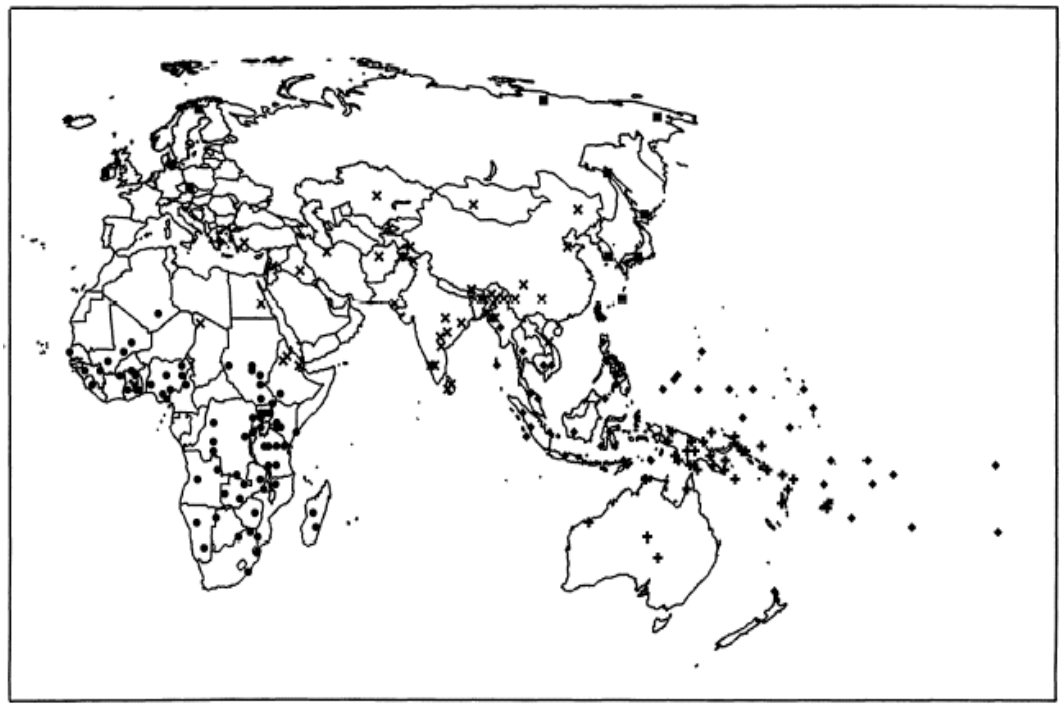

Fig. 1 (= M. Burton *et al.* 1996:95, Fig. 2). *Regions of Africa, Eurasia, and the Pacific.* ●, *Sub-Saharan Africa;* ×, *Middle Old World;* ♦, *Southeast Asia and the Insular Pacific;* +, *Australia, New Guinea, and Melanesia;* ■, *North Eurasia and Circumpolar.*

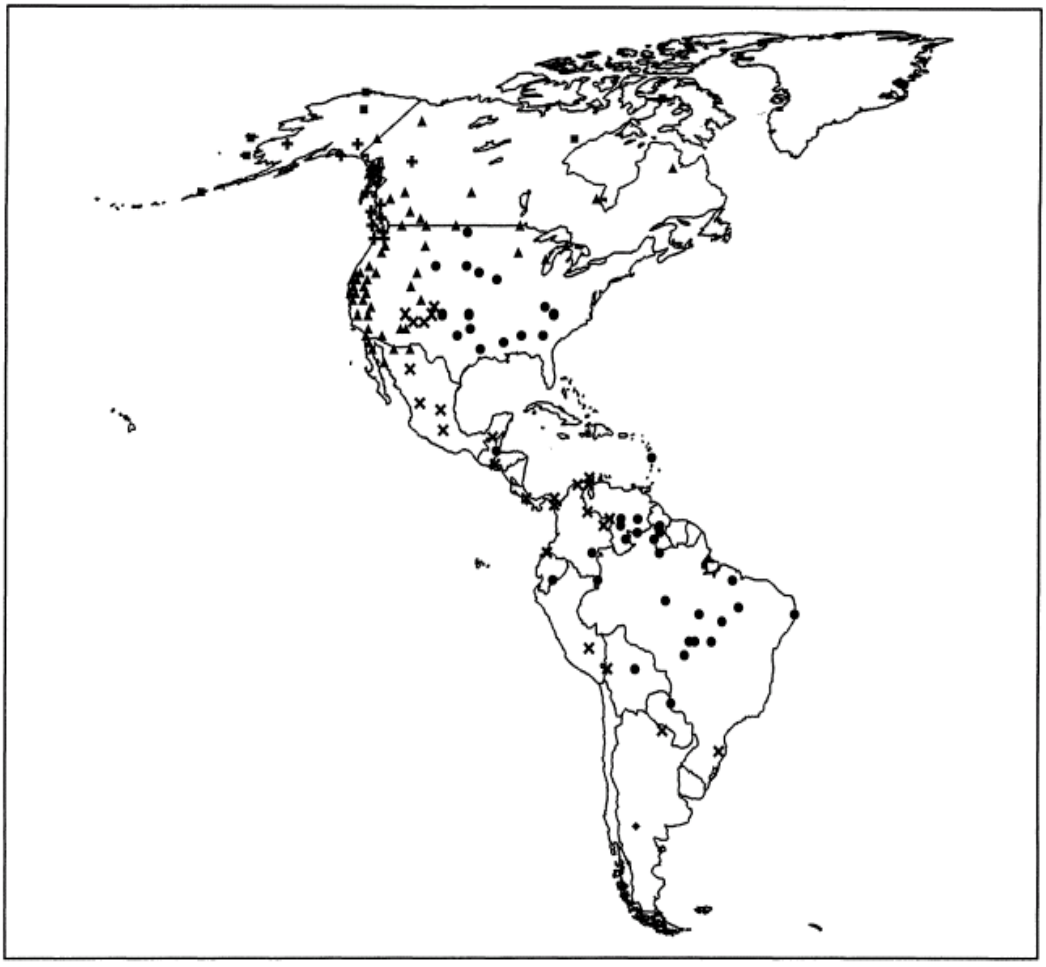

Fig. 2 (= M. Burton *et al.* 1996:96, Fig. 3). *Regions of the Americas.* ●, *Eastern Americas;* ×, *Mesoamerica, Central America, and the Andes;* ▲, *Northern and Western North America;* ┼, *Northwest Coast;* ♦, *Southern South America.*

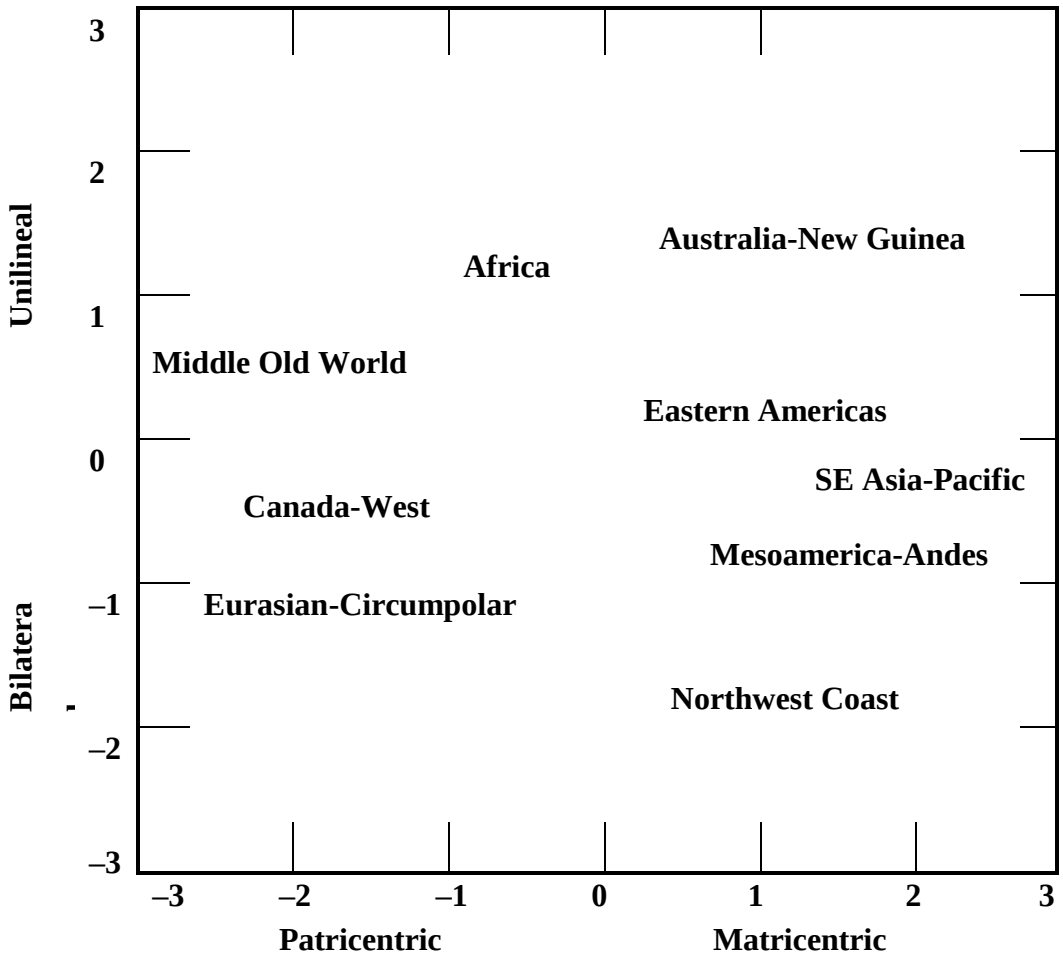

Fig. 3 (= M. Burton *et al.* 1996:109, Fig. 13). *Relationships among the Regions.*

In our earlier study 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 M. Burton *et al.* were merged into megaregions corresponding to certain linguistic families (first of all, the Austronesian family and the NASCa megafamily[5]). We also made some suggestions regarding a new subdivision of the NASCa mega-region:

[5] *I.e.* the linguistic megafamily uniting ***N***ostratic, ***A***frasian, and ***S***ino-***Ca***ucasian macrofamilies.

we considered Europe as a separate region which split from the Middle Old World in the 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):

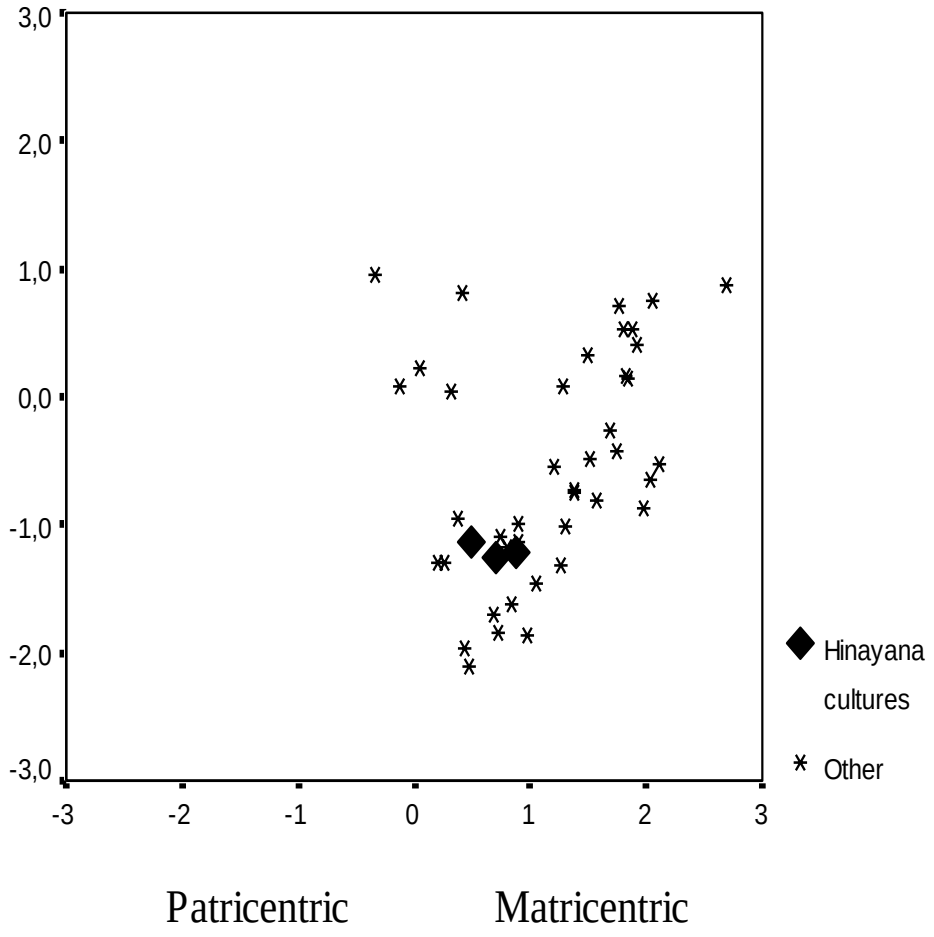

Fig. 4. *Southeast Asia and the Insular Pacific (with the Hinayana Cultures' Cluster)*

On the other hand, M. Burton's (*et al.*) cluster for the "Middle Old World"[6] region looks as follows (see Fig. 5):

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

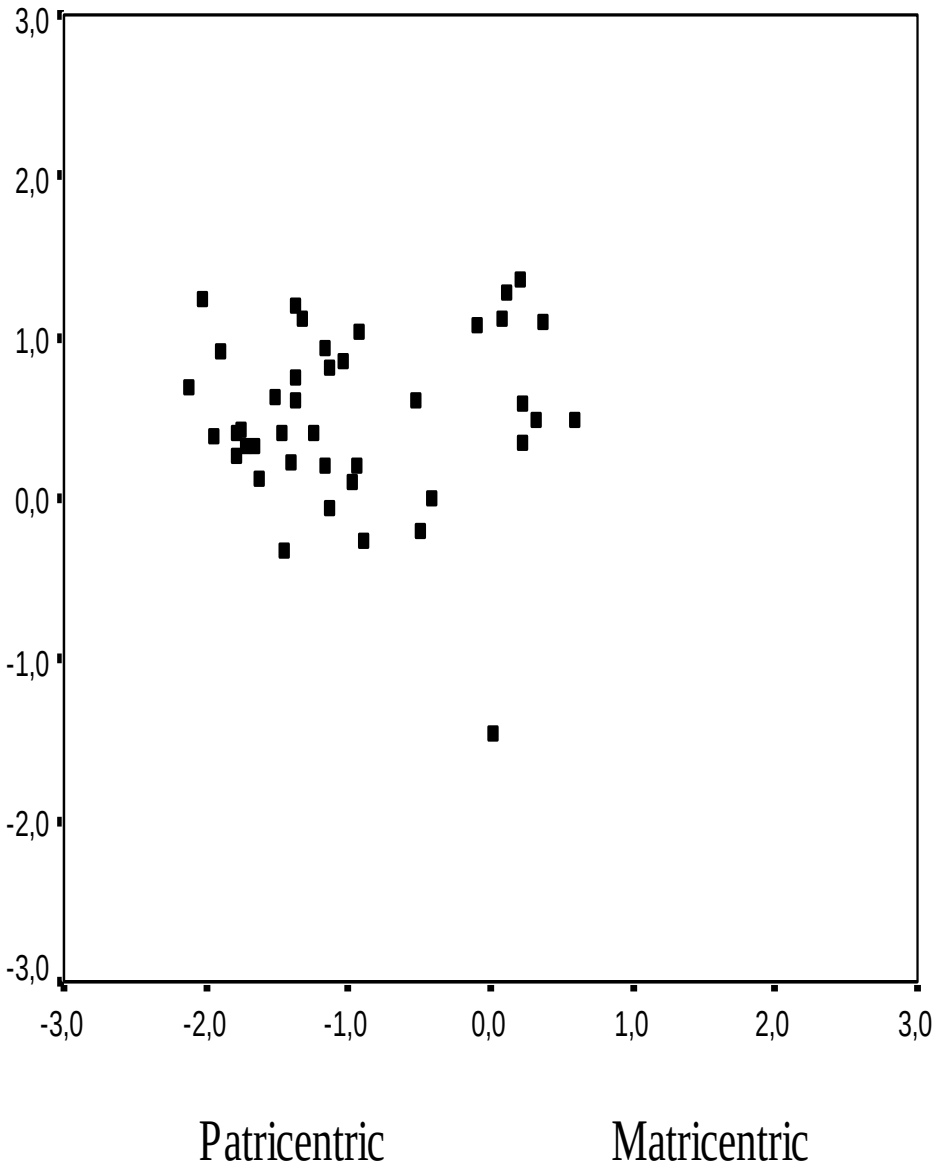

Fig. 5. *Middle Old World Region (M. Burton* et al. *1996:100, Fig. 5)*

It was difficult not to notice an evident outlier in this graph corresponding to the Amhara. Naturally, M. Burton, Moore, Romney, and J. 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" (M. Burton *et al.* 1996:101).

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

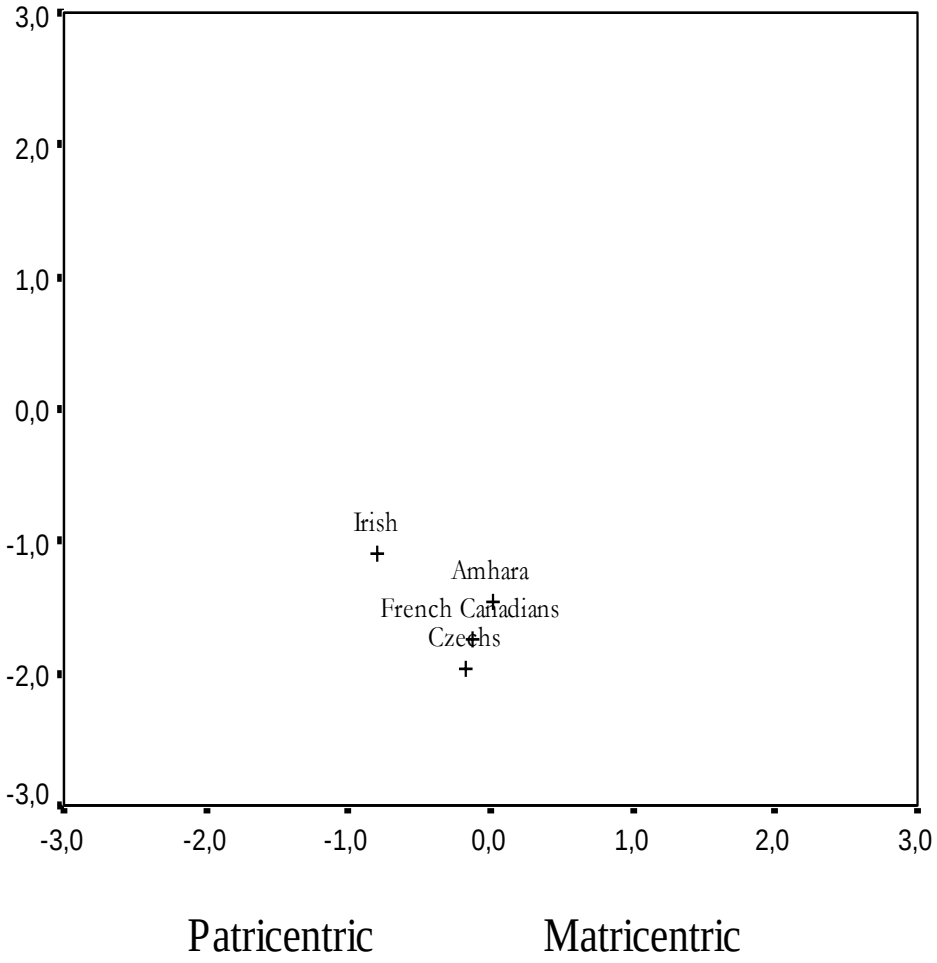

Fig. 6. *Christian Cultures of M. Burton* et al. *Sample.*

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

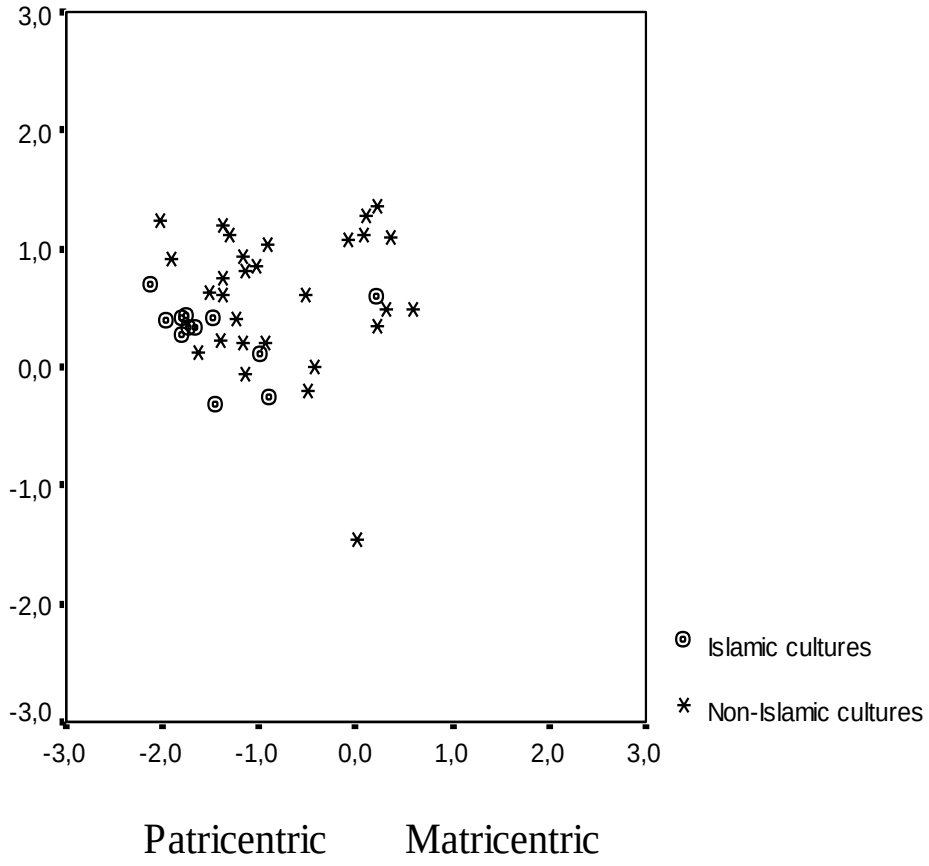

Fig. 7. *Islamic* vs. *Non-Islamic Cultures of the "Middle Old World"*.

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 "Unilineal/Bilateral" one ($t = -3.2$, $p = 0.003$)[7]. 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 M. Burton, Moore, Romney, and J. 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. M. Burton, Moore, Romney, and J. 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 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, on the other. 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

[7] 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 close to normal (see also C. Ember and M. Ember 1992, 1994, 1999:672; 2001:125).

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 M. Burton, Moore, Romney, and J. 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 M. Burton, Moore, Romney, and J. 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. I 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) (see, *e.g.*, Chase-Dunn and Hall 1997).

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 Muslim 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 annual meeting of the representatives of all the societies covered by the respective network in one place, exchange of information between them, constant reintegration of the network, *etc.* (see, *e.g.*, Korotayev, Klimenko, and Proussakov 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 M. 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 1983:44–6; Herlihy 1993, *etc.*). Note that even in the Islamic world the Christian Church imposed the monogamy within the Christian communities in the most rigid way: "The Muslims 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... Khalif al-Mansūr 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 (on the basis of which M. Burton *et al.* developed their ethnographic regionalization of the world) with respect to the Muslim 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).[8]

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 I could not restrict myself to M. 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).

[8] It appears necessary to mention that this was already the founder of cross-cultural research tradition within 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" (M. Burton and Reitz 1981:298–300). I 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, M. 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).

An alternative which I 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, I 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). I decided not to include into analysis Islamic cultures of Sub-Saharan Africa and Southeast Asia, which I shall consider specially in Chapter 4. Otherwise I restricted myself 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. I also decided to restrict myself to the analysis of complex cultures of the Oikumene, leaving outside the analysis stateless cultures. The reason for this decision looks as follows.

My 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 (see Chapter 5). I had all the grounds to expect the same for the rest of the world religions. Hence, as regards the regionalization problems my analysis is only relevant for the regionalization of the most complex cultures of the Old World Oikumene.

The results of the analysis[9] look as follows (see Tables 1–4 and Fig. 8)[10]:

[9] Discriminant analysis using within-groups covariance matrix and dichotomized discriminating variables.

[10] We used as a source of data the most recent version of the electronic *Ethnographic Atlas* database (Murdock *et al.* 2002). We also consulted earlier electronic and printed versions of this database (Murdock 1967, 1981; Murdock *et al.* 1986, 1990; 1999–2000).

T A B L E 1. *Structure Matrix*

Dichotomized discriminating variables	Function 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	+0.41*		+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*	

Dichotomized discriminating variables	Function 1	2	3	4	5
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.

T A B L E 2. *Wilks' Test of Functions*

Test of Functions	Wilks' Lambda	Chi-square	df	Sig.
1 through 5	0.001	292.9	115	0.00000000000000002
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

T A B L E 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.

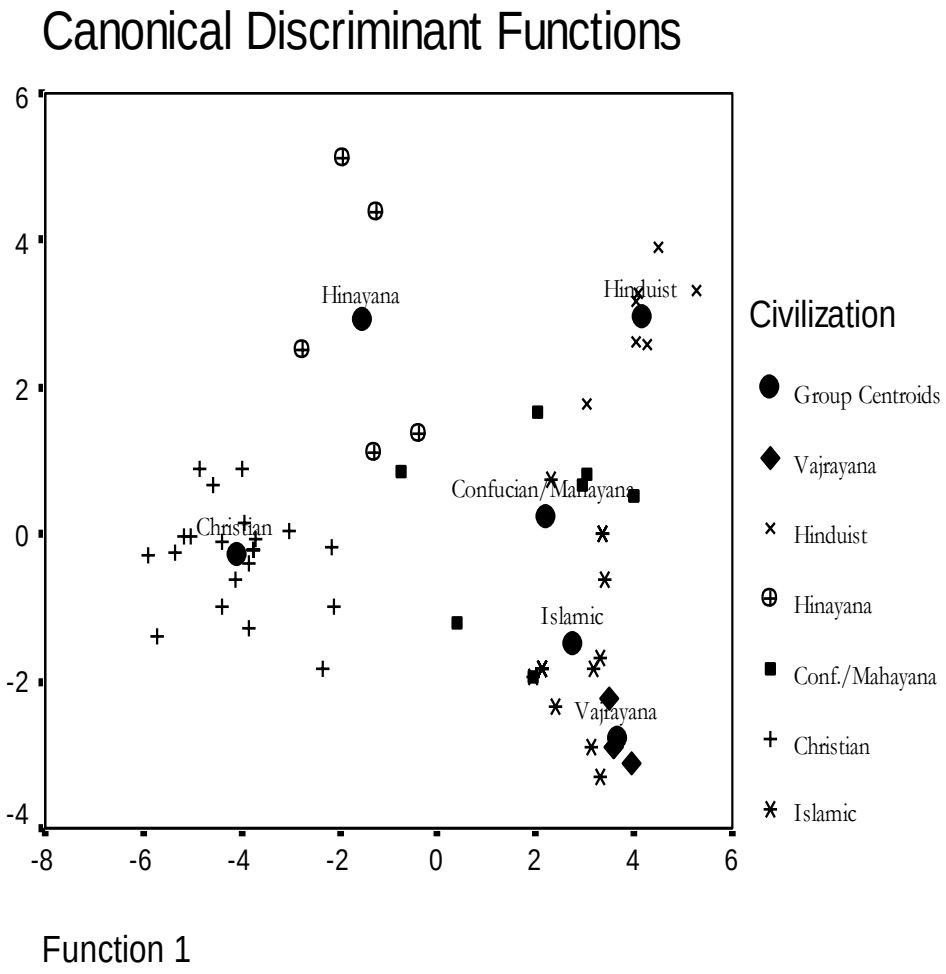

Fig. 8. *Complex Cultures of the Old World Oikumene.*

T A B L E 4. *Classification Results*[11]

		Predicted Group Membership						Totals
	Civilization	*Islamic*	*Christian*	*Confucian/ Mahayana*	*Hinayana*	*Hinduist*	*Vajrayana*	
Original Group Membership	*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".[12]

[11] For additional detail see Appendix 1.

[12] Note that, on the other hand, our analysis confirms that M. 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.

Chapter 2
World Religions
as a Factor of Social Evolution
of the Old World Oikumene:
Islam and Christianity

In order to move further I decided to obtain substitutes for M. 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 I had to drop the variables related to kinship terminology (except the kinship terminology for cousins).

I started with the calculation of the matricentricity scores. I decided to perform a factor analysis using those variables which produced the main loadings for the first dimension in M. Burton's *et al.* study. I 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*[13] *1 First Dimension: Matricentric* vs. *Patricentric*[14]

My Analysis *(Factor Analysis 1, Factor 1)*		**M. 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 M. Burton's *et al.* analysis, the scores which I 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.

[13] Unrotated principal components factor analysis.

[14] 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).

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

T A B L E 6. *Factor Analysis*[15] *2 First Dimension: Unilineal* vs. *Bilateral*

My Analysis ***(Factor Analysis 2, Factor 1)***		**M. Burton's *et al.* Analysis** ***(Dimension 2: Unilineal* versus *Bilateral)***	
Variables	Factor Loadings	Variables	Loadings
Clan Communities	– 0.44	*Clan Communities*	+ 1.83
Non-Sororal 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 M. Burton's *et al.* analysis, the scores which I 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 M. Burton's *et al.* ones ($R = + 0.8$, $p < 0.0000000000000001$).

Note that this way I was able to get matricentricity scores for 816 cultures; unilinearity indexes were obtained for 727 societies, whereas M. Burton's *et al.* database only contains matricentricity and unilinearity scores for 347 cultures of the world.

The number of complex cultures grew in an especially significant way. *E.g.*, M. Burton's *et al.* database only contains scores for 4 complex Christian cultures (Amhara, Czechs, Irish and French Canadians) whereas I managed to calculate scores for 16 more societies of this type (Armenians, Brazilians, Bulgarians, Byelorussians, Dutch, Greeks, Hungarians, Lithuanians, Neapolitans, New England Americans, Portuguese, Romanians, Russians, Spaniards, Ukrainians, and Walloons).

In this chapter I shall restrict myself 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 I had all grounds to expect that it would get split into two "regions based on social structure" – 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.

In Chapter 1 I have already mentioned the enormous amounts of energy dissipated by the Christian clergy in order to impose the strict monogamy in all the Christian cultures. It is also difficult to consider irrelevant in this context the

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[15] Unrotated principal components factor analysis.

fact that the Christian doctrine emphatically rejects unilineal descent group values.[16] On the other hand, as Goody points out (1983:44–6), in the 4th century CE 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).[17] 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.[18]

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 *rijāl al-dīn* ("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 *rijāl al-dīn*, the Christian hierarch has no right to have legitimate descendants. Thus, he cannot be

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[16] 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 4:21–2).

"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. 8:21–2).

"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. 10:35–6).

"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.)

[17] 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.

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 the detail see Chapter 5 below).

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-Sharī`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, 11–2, 176)... granted inheritance rights to... daughters... of the deceased in a patriarchal society 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 *Tāghūt*, "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

[18] Of course, this is not the only channel through which christianization might have led to the

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, Muslims 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 (for more detail see Chapter 3).[19]

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

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destruction of unilineal descent organization (cp., *e.g.*, Stark 1996).

[19] Of course, above I suggested just a few channels through which Christianity and Islam could have shaped the social structure of Christian and Islamic cultures.

general, and patrilineal descent groups in particular, non-corporate bilateral kin 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, I have 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 is the case (see Fig. 9):

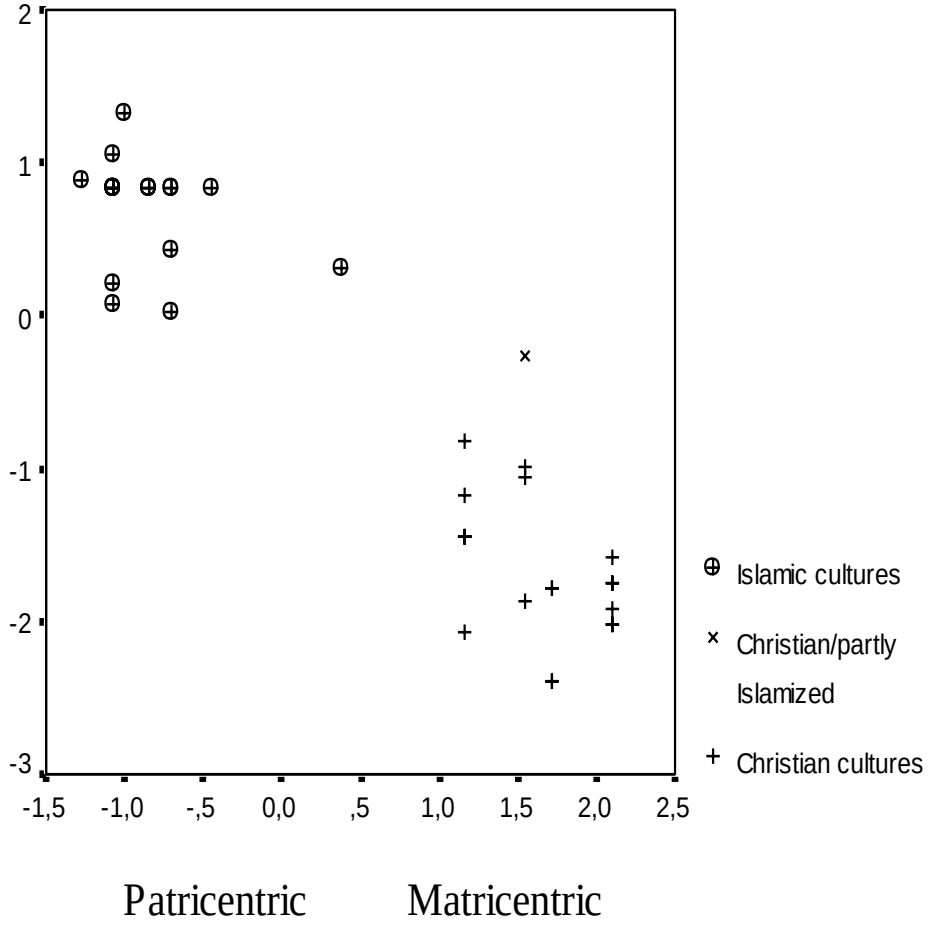


Fig. 9. *Islamic* vs. *Christian Cultures of the "Middle Old World"*.

As we see, Islamic and Christian cultures of this mega-area form two very distinct clusters. They display the most significant differences in the predicted directions both in the Matricentric/Patricentric (t = + 23.0, p = 0.00000000000000003) and Unilineal/Bilateral (t = + 16.9, p = 0.0000000000000002) dimensions.

Similar results were produced by cluster analysis (both hierarchical and K-means one) (see Tables 7–8 and Fig. 10):

T A B L E 7a. *Hierarchical Cluster Analysis: Proximity Matrix (part 1)*

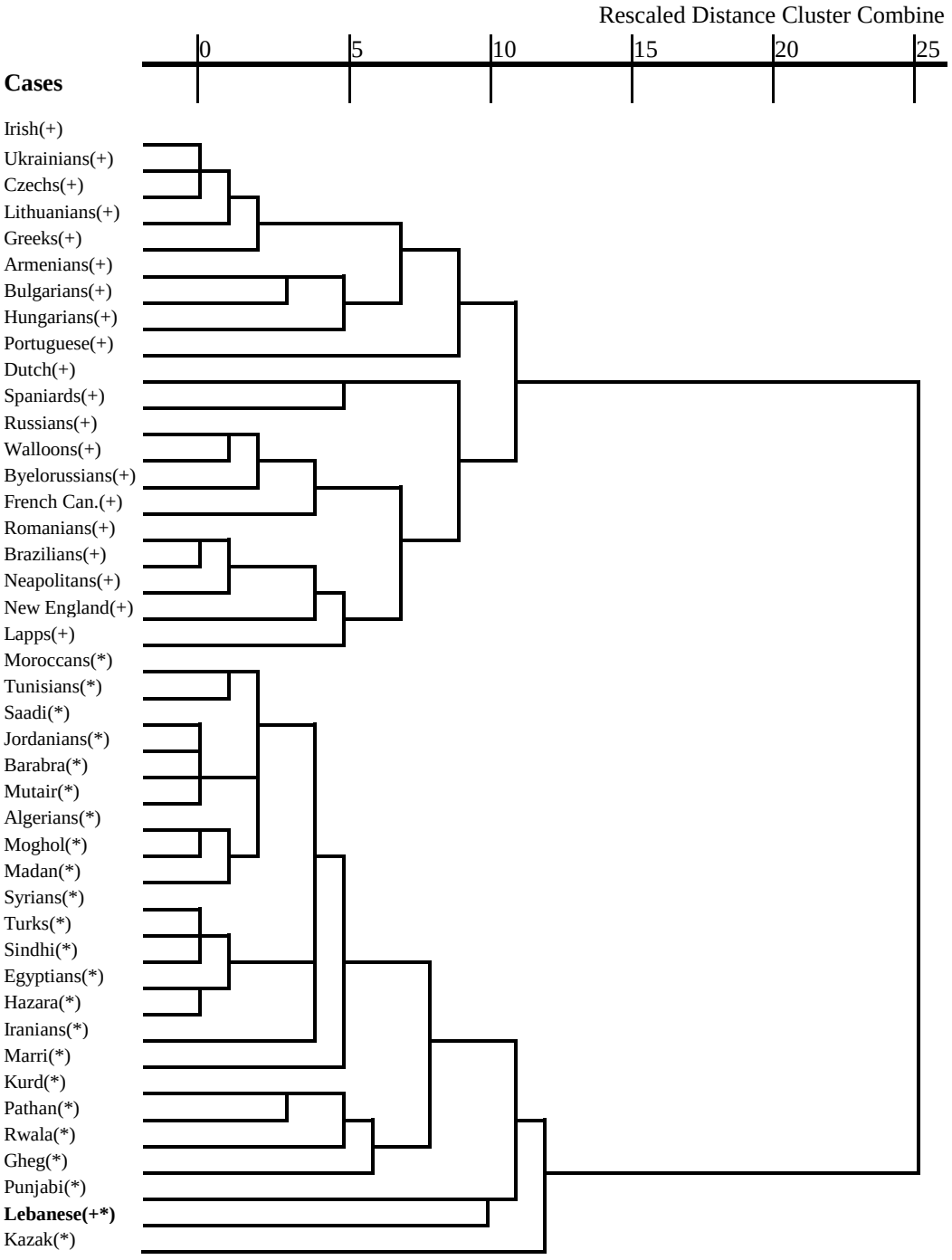
	Binary Squared Euclidean Distance																					
Case	(01)	(02)	(03)	(04)	(05)	(06)	(07)	(08)	(09)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)
(01) Algerians(*)		1	1	5	1	4	7	4	1	3	0	2	1	6	4	5	1	2	2	1	2	1
(02) Barabra(*)	1		2	6	2	5	8	3	2	4	1	1	0	5	5	4	0	3	3	2	3	0
(03) Egyptians(*)	1	2		6	0	3	6	5	2	2	1	3	2	5	5	4	2	1	1	2	1	2
(04) Gheg(*)	5	6	6		6	9	8	3	4	6	5	5	6	5	9	4	6	7	7	4	7	6
(05) Hazara(*)	1	2	0	6		3	6	5	2	2	1	3	2	5	5	4	2	1	1	2	1	2
(06) Iranians(*)	4	5	3	9	3		9	8	5	5	4	6	5	8	8	7	5	2	2	5	2	5
(07) Kazak(*)	7	8	6	8	6	9		9	6	4	7	7	8	9	11	8	8	7	7	6	7	8
(08) Kurd(*)	4	3	5	3	5	8	9		5	7	4	2	3	2	8	3	3	6	6	3	6	3
(09) Madan(*)	1	2	2	4	2	5	6	5		2	1	3	2	7	5	4	2	3	3	2	3	2
(10) Marri(*)	3	4	2	6	2	5	4	7	2		3	5	4	7	7	4	4	3	3	4	3	4
(11) Moghol(*)	0	1	1	5	1	4	7	4	1	3		2	1	6	4	5	1	2	2	1	2	1
(12) Moroccans(*)	2	1	3	5	3	6	7	2	3	5	2		1	4	6	5	1	4	4	1	4	1
(13) Mutair(*)	1	0	2	6	2	5	8	3	2	4	1	1		5	5	4	0	3	3	2	3	0
(14) Pathan(*)	6	5	5	5	5	8	9	2	7	7	6	4	5		10	3	5	6	6	5	6	5
(15) Punjabi(*)	4	5	5	9	5	8	11	8	5	7	4	6	5	10		9	5	6	6	5	6	5
(16) Rwala(*)	5	4	4	4	4	7	8	3	4	4	5	5	4	3	9		4	5	5	6	5	4
(17) Saadi(*)	1	0	2	6	2	5	8	3	2	4	1	1	0	5	5	4		3	3	2	3	0
(18) Sindhi(*)	2	3	1	7	1	2	7	6	3	3	2	4	3	6	6	5	3		0	3	0	3
(19) Syrians(*)	2	3	1	7	1	2	7	6	3	3	2	4	3	6	6	5	3	0		3	0	3
(20) Tunisians(*)	1	2	2	4	2	5	6	3	2	4	1	1	2	5	5	6	2	3	3		3	2
(21) Turks(*)	2	3	1	7	1	2	7	6	3	3	2	4	3	6	6	5	3	0	0	3		3
(22) Jordanians(*)	1	0	2	6	2	5	8	3	2	4	1	1	0	5	5	4	0	3	3	2	3	
(23) Lebanese(+*)	**8**	**7**	**7**	**13**	**7**	**8**	**13**	**10**	**9**	**9**	**8**	**8**	**7**	**10**	**6**	**9**	**7**	**6**	**6**	**9**	**6**	**7**
(24) Armenians(+)	12	13	11	15	11	10	13	14	13	13	12	14	13	14	8	13	13	12	12	13	12	13
(25) Byelorussians(+)	18	17	17	15	17	18	17	14	19	19	18	16	17	14	14	15	17	18	18	17	18	17
(26) Czechs(+)	16	15	15	13	15	14	15	12	17	17	16	14	15	12	12	13	15	16	16	15	16	15
(27) Dutch(+)	15	16	14	12	14	15	18	13	16	16	15	15	16	13	13	14	16	15	15	14	15	16
(28) Greeks(+)	17	16	16	14	16	15	16	13	18	18	17	15	16	13	13	14	16	17	17	16	17	16
(29) Irish(+)	16	15	15	13	15	14	15	12	17	17	16	14	15	12	12	13	15	16	16	15	16	15
(30) Lapps(+)	17	16	16	14	16	15	16	13	18	18	17	15	16	13	15	14	16	17	17	16	17	16
(31) Portuguese(+)	13	12	12	12	12	11	16	11	14	14	13	11	12	11	11	12	12	13	13	12	13	12
(32) Romanians(+)	16	15	15	15	15	16	15	14	17	17	16	14	15	14	14	15	15	16	16	15	16	15
(33) Russians(+)	18	17	17	15	17	18	17	14	19	19	18	16	17	14	16	15	17	18	18	17	18	17
(34) Spaniards(+)	16	15	15	15	15	16	19	14	17	17	16	14	15	14	14	15	15	16	16	15	16	15
(35) Walloons(+)	19	18	18	16	18	19	18	15	20	20	19	17	18	15	15	16	18	19	19	18	19	18
(36) Brazilians(+)	16	15	15	15	15	16	15	14	17	17	16	14	15	14	14	15	15	16	16	15	16	15
(37) Bulgarians(+)	12	13	11	15	11	10	13	14	13	13	12	14	13	14	10	13	13	12	12	13	12	13
(38) French Canadians(+)	17	16	16	14	16	17	16	13	18	18	17	15	16	13	13	14	16	17	17	16	17	16
(39) Hungarians(+)	13	14	12	12	12	11	12	13	14	14	13	13	14	13	11	14	14	13	13	12	13	14
(40) Lithuanians(+)	15	16	14	12	14	13	14	13	16	16	15	15	16	13	11	14	16	15	15	14	15	16
(41) Neapolitans(+)	17	16	16	14	16	17	16	13	18	18	17	15	16	13	15	14	16	17	17	16	17	16
(42) New England(+)	15	14	14	12	14	15	18	11	16	16	15	13	14	11	13	12	14	15	15	14	15	14
(43) Ukrainians(+)	16	15	15	13	15	14	15	12	17	17	16	14	15	12	12	13	15	16	16	15	16	15

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

T A B L E 7b. *Hierarchical Cluster Analysis: Proximity Matrix (part 2)*

	Binary Squared Euclidean Distance																				
Case	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)	(31)	(32)	(33)	(34)	(35)	(36)	(37)	(38)	(39)	(40)	(41)	(42)	(43)
(01) Algerians(*)	8	12	18	16	15	17	16	17	13	16	18	16	19	16	12	17	13	15	17	15	16
(02) Barabra(*)	7	13	17	15	16	16	15	16	12	15	17	15	18	15	13	16	14	16	16	14	15
(03) Egyptians(*)	7	11	17	15	14	16	15	16	12	15	17	15	18	15	11	16	12	14	16	14	15
(04) Gheg(*)	13	15	15	13	12	14	13	14	12	15	15	15	16	15	15	14	12	12	14	12	13
(05) Hazara(*)	7	11	17	15	14	16	15	16	12	15	17	15	18	15	11	16	12	14	16	14	15
(06) Iranians(*)	8	10	18	14	15	15	14	15	11	16	18	16	19	16	10	17	11	13	17	15	14
(07) Kazak(*)	13	13	17	15	18	16	15	16	16	15	17	19	18	15	13	16	12	14	16	18	15
(08) Kurd(*)	10	14	14	12	13	13	12	13	11	14	14	14	15	14	14	13	13	13	13	11	12
(09) Madan(*)	9	13	19	17	16	18	17	18	14	17	19	17	20	17	13	18	14	16	18	16	17
(10) Marri(*)	9	13	19	17	16	18	17	18	14	17	19	17	20	17	13	18	14	16	18	16	17
(11) Moghol(*)	8	12	18	16	15	17	16	17	13	16	18	16	19	16	12	17	13	15	17	15	16
(12) Moroccans(*)	8	14	16	14	15	15	14	15	11	14	16	14	17	14	14	15	13	15	15	13	14
(13) Mutair(*)	7	13	17	15	16	16	15	16	12	15	17	15	18	15	13	16	14	16	16	14	15
(14) Pathan(*)	10	14	14	12	13	13	12	13	11	14	14	14	15	14	14	13	13	13	13	11	12
(15) Punjabi(*)	6	8	14	12	13	13	12	15	11	14	16	14	15	14	10	13	11	11	15	13	12
(16) Rwala(*)	9	13	15	13	14	14	13	14	12	15	15	15	16	15	13	14	14	14	14	12	13
(17) Saadi(*)	7	13	17	15	16	16	15	16	12	15	17	15	18	15	13	16	14	16	16	14	15
(18) Sindhi(*)	6	12	18	16	15	17	16	17	13	16	18	16	19	16	12	17	13	15	17	15	16
(19) Syrians(*)	6	12	18	16	15	17	16	17	13	16	18	16	19	16	12	17	13	15	17	15	16
(20) Tunisians(*)	9	13	17	15	14	16	15	16	12	15	17	15	18	15	13	16	12	14	16	14	15
(21) Turks(*)	6	12	18	16	15	17	16	17	13	16	18	16	19	16	12	17	13	15	17	15	16
(22) Jordanians(*)	7	13	17	15	16	16	15	16	12	15	17	15	18	15	13	16	14	16	16	14	15
(23) Lebanese(+*)		**12**	**16**	**14**	**13**	**13**	**14**	**11**	**9**	**10**	**14**	**10**	**15**	**10**	**10**	**13**	**13**	**15**	**11**	**9**	**14**
(24) Armenians(+)	12		8	4	11	5	4	7	7	8	10	12	9	8	2	7	3	3	9	11	4
(25) Byelorussians(+)	16	8		4	5	5	4	7	9	6	2	6	1	6	10	3	7	5	5	7	4
(26) Czechs(+)	14	4	4		9	1	0	3	5	6	6	10	5	6	6	3	3	1	5	7	0
(27) Dutch(+)	13	11	5	9		10	9	8	6	7	5	3	6	7	9	8	8	8	6	4	9
(28) Greeks(+)	13	5	5	1	10		1	2	6	5	5	9	4	5	7	2	4	2	4	6	1
(29) Irish(+)	14	4	4	0	9	1		3	5	6	6	10	5	6	6	3	3	1	5	7	0
(30) Lapps(+)	11	7	7	3	8	2	3		4	3	5	7	6	3	5	4	4	4	2	4	3
(31) Portuguese(+)	9	7	9	5	6	6	5	4		5	9	5	10	5	5	8	4	6	6	4	5
(32) Romanians(+)	10	8	6	6	7	5	6	3	5		4	4	5	0	6	3	5	7	1	3	6
(33) Russians(+)	14	10	2	6	5	5	6	5	9	4		4	1	4	10	3	7	7	3	5	6
(34) Spaniards(+)	10	12	6	10	3	9	10	7	5	4	4		5	4	10	7	9	11	5	3	10
(35) Walloons(+)	15	9	1	5	6	4	5	6	10	5	1	5		5	11	2	8	6	4	6	5
(36) Brazilians(+)	10	8	6	6	7	5	6	3	5	0	4	4	5		6	3	5	7	1	3	6
(37) Bulgarians(+)	10	2	10	6	9	7	6	5	5	6	10	10	11	6		9	3	5	7	9	6
(38) French Canadians(+)	13	7	3	3	8	2	3	4	8	3	3	7	2	3	9		6	4	2	4	3
(39) Hungarians(+)	13	3	7	3	8	4	3	4	4	5	7	9	8	5	3	6		2	6	8	3
(40) Lithuanians(+)	15	3	5	1	8	2	1	4	6	7	7	11	6	7	5	4	2		6	8	1
(41) Neapolitans(+)	11	9	5	5	6	4	5	2	6	1	3	5	4	1	7	2	6	6		2	5
(42) New England(+)	9	11	7	7	4	6	7	4	4	3	5	3	6	3	9	4	8	8	2		7
(43) Ukrainians(+)	14	4	4	0	9	1	0	3	5	6	6	10	5	6	6	3	3	1	5	7	

NOTES: (*) – Islamic cultures; (+) – Christian; (+*) – Christian, partly Islamized. This is a dissimilarity matrix. 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 Sibs, Dowry, Extended Families, General Non-Sororal Polygyny, Hawaiian Cousin Terminology, Independent Nuclear Family, Iroquois Cousin Terminology, Kindreds, Localized Matrilineal Groups (Matrilineages), Localized Patrilineal Groups (Patrilineages), 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.



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

Fig. 10. *HIERARCHICAL CLUSTER ANALYSIS. Dendrogram using Average Linkage (Between Groups).*

T A B L E 8. *K-Means Cluster Analysis: Cluster Membership*

Society Name	Cluster	Distance	Society Name	Cluster	Distance
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[20]. 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.

I 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 was done in the first factor analysis). Its results look as follows (see Table 9):

[20] Maronites.

T A B L E 9. *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	
Variables	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 sample for the megaregion under consideration 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 is not surprising to find out that the factor analysis performed by us for this megaregion cultures virtually collapsed two dimensions detected by M. 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

+ 1.5	
	Madan (+1.12)
+ 1.0	Algerians (+1.04), Moghol (+1.04), Marri (+1.01), Sindhi (+1.01), Syrians (+1.01), Turks (+1.01),
	Barabra (+0.95), Mutair (+0.95), Saadi (+0.95), Jordanians (+0.95), Egyptians (+0.93), Hazara (+0.93), Turkmen (+0.92), Tunisians (+0.92), Uzbeg (+0.90)
	Moroccans (+0.84)
	Iranians (+0.75), Zekara (+0.73)
	Rwala (+0.67), Afghans (+0.66), Kazak (+0.61)
+ 0.5	Gheg (+0.59), Kurd (+0.57), Qashgai (+0.53)
	Pathan (+0.47), Punjabi (+0.45)
	Lebanese (+0.24)
0.0	
– 0.5	
	Bulgarians (–0.68), Armenians (–0.69)
	Portuguese (–0.74)
	Hungarians (– 0.84)
– 1.0	New England (–1.01), Lithuanians (–1.07), Dutch (–1.08)
	Irish (–1.15), Ukrainians (–1.15), Czechs (–1.15), Spaniards (–1.17),
	Brazilians (–1.17), Romanians (–1.19)
	Lapps (–1.26), Greeks (–1.27)
	Neapolitans (–1.30), French Canadians (–1.32)
	Byelorussians (–1.46), Russians (–1.46)
– 1.5	Walloons (–1.58)
– 2.0	

Bilateral/Less Patricentric/Christian

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/"indirect dowry", 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), dowry, or no marriage exchange, 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 10 and Fig. 12):

T A B L E 10. *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

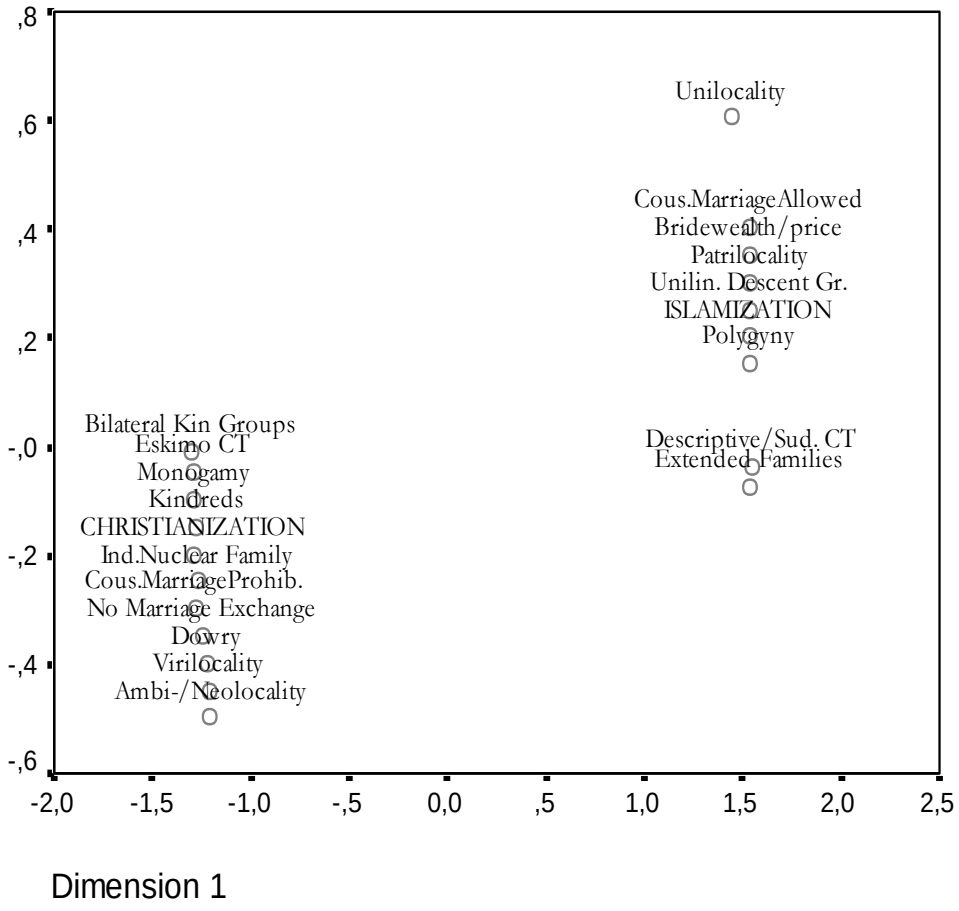


Fig. 12. *Derived Stimulus Configuration: Euclidean distance model.*

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 1985–7; Lavrovskij 1867:33–7, 46–50; Krjukov 1968:376–8, 1995; Korotayev 1987).[21]

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; Bohannan 1963:136; Y. 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.*).[22]

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

[21] This does not appear to be relevant for some peripheral (especially, highland) areas of the Christian world (with very 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).

[22] 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).

the development of state structures, political centralization, on the one hand, and the unilinearity index, on the other (see Regression 1):

Regression 1.

Dependent variable: UNILINEARITY INDEX

INDEPENDENT VARIABLE	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

INDEPENDENT VARIABLE	Standardized Beta Coefficient	Sig.
Class Stratification	– 0.47	0.002

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

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 INDEX[23]

INDEPENDENT VARIABLE	Standardized Beta Coefficient	Sig.
Islam (1) vs. *Christianity (0)*	+ 0.94	0.00000000000000009

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

[23] 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).

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

INDEPENDENT VARIABLES	Standardized Beta Coefficient	Sig.
Political Centralization	– 0.045	0.66
Islam (1) vs. *Christianity (0)*	+ 0.92	0.0000000000000002

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

Regression 5.

Dependent variable: UNILINEARITY INDEX

INDEPENDENT VARIABLE	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 correlate rather well with the results of cross-cultural tests presented in Chapter 5, which also suggest that 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).

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 11–2):

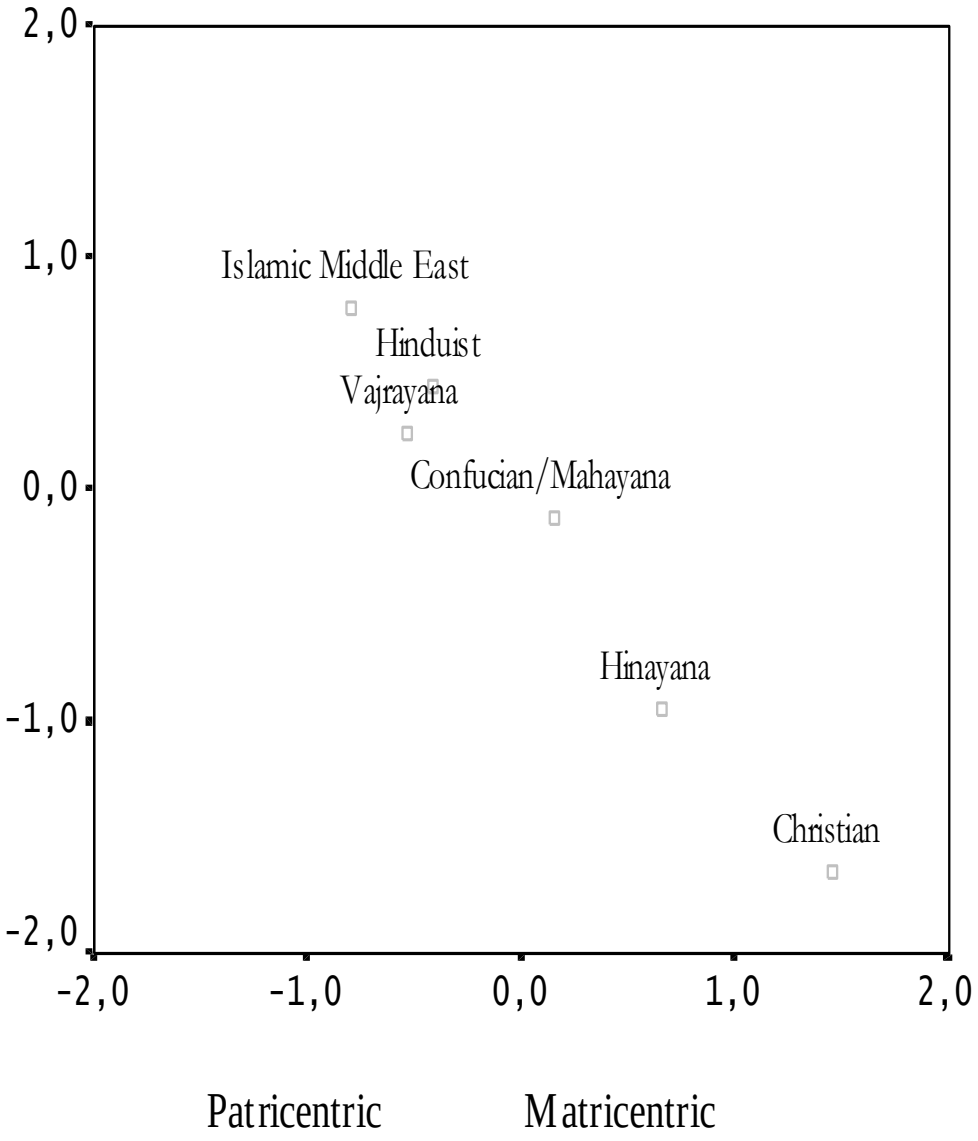


Fig. 13. *Cluster Means for the Old World Oikumene Cultures (for complex cultures only, omitting stateless cultures).*

T A B L E 11. *Group statistics (Matricentrity Index, t-tests)*

	Islamic Middle East[24]	*Hinduist Societies*	*Vajrayana Buddhist Societies*	*Mahayana/ Confucian Region*	*Hinayana Buddhist Societies*	*Christian Societies*
Islamic Middle East		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* < 0.00000000000001
Hinduist Societies	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
Vajrayana Buddhist Societies	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
Mahayana/ Confucian Region	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
Hinayana Buddhist Societies	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
Christian Societies	t = + 14.28; *p* < 0.00000000000001	t = + 8.36, *p* = 0.00002	t = + 5.75, *p* = 0.007	t = + 5.16, *p* = 0.00002	t = + 2.87, *p* = 0.008	

T A B L E 12. *Group statistics (Unilinearity Index, t-tests)*

	Islamic Middles East	*Hinduist Societies*	*Vajrayana Buddhist Societies*	*Mahayana/ Confucian Region*	*Hinayana Buddhist Societies*	*Christian Societies*
Islamic Middle East		t = + 1.75, *p* = 0.10	t = + 2.55, *p* = 0. 03	t = + 4.14, *p* = 0.001	t = + 11.13, *p* = 0.0000000	t = + 16.76; *p* < 0.000000000
Hinduist Societies	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
Vajrayana Buddhist Societies	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
Mahayana/ Confucian Region	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
Hinayana Buddhist Societies	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
Christian Societies	t = – 16.76; *p* < 0.0000000000	t = – 8.72, *p* = 0.00002	t = – 5.48, *p* = 0.008	t = – 7.08, *p* = 0.0000002	t = – 3.18, *p* = 0.02	

[24] The notion of "Middle East" is used throughout this book in the widest possible sense (cf. *al-Sharq al-Awsat* in Arabic), thus including North Africa as well as the western (Islamic) part of Central Asia.

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 J. Whiting (1964*b*) (the statistical significance of this correlation was later confirmed by Strauss and Orans [1975:583]). Their results looked as follows (see Table 13 [same as Table 18 from Strauss and Orans 1975:583] borrowed from J. Whiting 1964*b*):

T A B L E 13. *Male Genital Mutilation * Polygyny*

		Polygyny	
		present	*absent*
Male Genital Mutilations	*present*	**50**	**85**
	absent	**115**	**560**

NOTE: Phi = + 0.185, $p < 0.05$

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 14):

T A B L E 14. *Male Genital Mutilation * Polygyny (for the Circum-Mediterranean region; version 1)*

		Polygyny	
		absent	*present*
Male Genital Mutilations	*absent*	**32**	**3**
	present	**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-Ahādīth*). 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 it 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 15):

T A B L E 15. *Male Genital Mutilation * Polygyny*
(for the Circum-Mediterranean region; version 2 [omitting Christian cultures])

		Polygyny	
		absent	*present*
Male Genital Mutilations	*absent*	**2**	**2**
	present	**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 mutilations 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.[25]

[25] I would like to stress that I 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, I would like to stress as emphatically that the difference between the Islamic and Christian cultures according to the variables studied in this Chapter 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.

Chapter 3
Parallel Cousin (FBD) Marriage, Islamization, and Arabization

Cousin marriages are widespread among the cultures of the world (see, *e.g.*, M. Ember 1983:83; Pasternak, C. Ember, and M. Ember 1997:133). But the vast majority of these are cross-cousin marriage. The other main type, parallel cousin marriage, is much less common. Parallel cousin marriage can be divided into two subtypes; matrilateral (MSD[26]) and patrilateral (FBD[27]). The former is so rare that I am aware of only one ethnographic case; *i.e.*, that of the Tuareg of the Sahara (*e.g.*, Pershits 1998:543). The latter is much more common but still is restricted to a few dozen of the world cultures and the shape of its regional distribution is rather peculiar. The overwhelming majority of these cases appear among the Islamic cultures of North Africa, and those of West and Central Asia. That this marriage arrangement is somehow connected with Islam stems rather logically from this observation, and has been expressed by many students of Middle Eastern Anthropology for a long time (*e.g.*, Barth 1954; Murphy and Kasdan 1959; Bourdieu 1995:30–71, *etc.*; for an almost exhaustive list of corroborative publications in French and English see Rodionov 1999:266).[28]

[26] MSD = "mother's sister's daughter".
[27] FBD = "father's brother's daughter".
[28] The Russian school of Social Anthropology tended to produce a rather different mode of explanation for the respective phenomenon. Russian (or rather, Soviet) anthropologists tended to explain it within an unilinear evolutionary framework, suggesting that the development of parallel cousin marriage must have been correlated with a certain level of the development of the class stratification and political centralization (*e.g.*, Pershits 1955:55; Davydov 1979:123; Negrja 1981:82; Kudelin 1994:181). This theory proposed by my own compatriots is the least plausible, as it does not appear to be able to survive even a preliminary verification/falsification test. For

An initial attempt to test this hypothesis, connecting Islam and FBD marriage, immediately resulted in a problem, which was to test the hypothesis by using the electronic version of the *Ethnographic Atlas* (Murdock *et al.* 1990). Astonishingly, the first test showed that there was no connection at all between islamization and FBD marriage. The next step was to look at the individual cases. The results were even stranger. The sample comprising the societies with FBD marriage were Mbala, Nyasa, Cantonese, Rotinese, Banyun, Konkomba, Yurak, Mentaweians, Sivokakmeit, Goajiro, Songo, Afikpo, Toma, Coniagui, Riffians, Ossetians, Ainu, Yakut, Saramacca, Fon, Kanuri, Shantung, and Tibetans.

Clearly there was something wrong here. The Ainu, Ossetians, *etc.*, could never have practiced parallel cousin marriage. On the other hand, some peoples definitely having the FBD marriage turned out to be listed as having cross-cousin FSD marriage; *e.g.*, Algerians, Moroccans, Tunisians, and Iranians. The answer to this apparent puzzle is, simply, that the authors of the electronic version of the *Ethnographic Atlas* (Murdock *et al.* 1990) mixed up the codes. The codes for variable 24 turned out to be the ones for variable 23. Thus, the actual codes for variable 23 should be read as follows:

0 = Missing data
1 = All four cousins
2 = Three of four cousins
3 = Two of four cousins (*e.g.*, paternal)
4 = One of four cousins (*e.g.*, FaBrDa)
5 = No first cousins
6 = First and some second cousins excluded
7 = No first, unknown for second
8 = No first or second cousins
9 = No preferential or prescriptive unions

However, a closer inspection of the electronic *Ethnographic Atlas* (Murdock *et al.*

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example, it does not explain why so many cultures that achieved a fairly similar level of class stratification and political centralization (in Europe, South, Southeast and East Asia, *etc.*) failed to develop a similar kind of marriage.

1990) data showed that its authors had simply lost the information on parallel cousin FBD marriage while re-coding the original codes of Murdock (1967). The value of the *Atlas* 1967 variable # 25 (*Cousin Marriage*) corresponding to the presence of parallel cousin FBD marriage (Qa) appears not to have been reflected at all in the electronic version. Hence, there was no other choice but to use the printed version (Murdock 1967). (The most recent electronic versions of the Atlas [Murdock *et al.* 1999–2000, 2002] have corrected this mistake.) A straight-forward cross-tabulation of the presence of parallel cousin FBD marriage and islamization (Tishkov 1998 is the basis for coding this variable) produced the following results (Table 16):

T A B L E 16. *Parallel Cousin (FBD) Marriage * Islamization*

		Islamization		Totals
		0 (absent)	*1 (present)*	
Parallel Cousin (FBD) Marriage	*0 (absent)*	702	32	734
		95.6%	*4.4%*	*100.0%*
	1 (present)	4	20	24
		16.7%	*83.3%*	*100.0%*
Totals		706	52	758

NOTE: Fisher's exact test (1-tailed): $p < 0.00000000000000001$
Phi = + 0.55; Gamma = + 0.98, $p = 0.000004$

The results looked immediately promising. The correlation turned out to be in the predicted direction and rather strong.[29] Gamma-coefficients as high as + 0.98 looked especially impressive. Of course, it was not difficult to interpret Phi and

[29] All quantitative cross-cultural researchers know that it is quite unusual to get a correlation coefficient higher than 0.5 for a first crosstabulation of two variables for an *Ethnographic Atlas* size sample. Of course, statistics textbooks teach us that only a correlation of > 0.7 can be regarded as strong, whereas if it is between 0.5 and 0.7 it should only be regarded as a medium-strength one. However, all our experience of cross-cultural statistical analysis has led us to the point that we now actually teach our students that a correlation coefficient of 0.5 level while testing two *Ethnographic Atlas* variables, should be regarded as strong, whereas even if they get a 0.4, they should not regard the respective correlation as weak, but rather as of medium-strength.

Gamma in conjunction with the cross-tabulation: the absence of islamization appears to be a very strong predictor of the absence of parallel cousin marriage; *i.e.*, if a given culture has nothing to do with Islam, it is virtually certain that the preference for FBD marriage does not occur. But knowing that a given culture is Islamic is not a certain predictor that it practices FBD marriage.

The next step was to change the units of comparison. Instead of treating individual cultures as such, culture areas became the units of comparison, merely by taking Murdock's areas. As is well known, Murdock divided the World in six megaregions: [Sub-Saharan] Africa, Circum-Mediterranean, East Asia, Insular Pacific, North America, and South America. He also subdivided each of the regions into ten ethnographic areas. For example, "Insular Pacific" was subdivided into the Philippines-Formosa, West Indonesia, East Indonesia, Australia, New Guinea, Micronesia, West Melanesia, East Melanesia, West Polynesia, and East Polynesia. These areas were chosen as units of comparison. The re-coding for them was done along the following lines. The degree of an area's islamization was coded as 0 (absent) if there were no Islamic cultures at all in the area. If less than 50 per cent of an area's cultures were Islamic, its islamization degree was 1 (low islamization). If most of an area's cultures were Islamic, its islamization degree was 2 (high). The presence of FBD marriage in an area was coded in the following way. The areas where no cultures practiced the preferential parallel cousin marriage were coded as 0 (absent); the areas where less than 35 per cent of cultures practiced it were coded as 1 (rare), and the areas where more than 35 per cent of cultures practiced FBD marriage were coded as 2 (common). The relation between the two variables looked as follows (Table 17):

T A B L E 17. *Presence of Parallel Cousin (FBD) Marriage * Area's Islamization*

		Area Islamization			Totals
		0 (absent)	*1 (low)*	*2 (high)*	
Presence of Parallel Cousin (FBD) Marriage	*0 (absent)*	41	10	0	51
	1 (rare)	0	3	2	5
	2 (common)	0	0	4	4
Totals		41	13	6	60

NOTE: Rho = + 0.71, p = 0.0000000001
Gamma = + 1.0, p = 0.0002

The correlation here is nothing but strong even by the most exacting statistical standards. However, mapping the areas where the FBD marriage is common (North Africa, Sahara, Near and Middle East) immediately reveals that the respective region does not look quite like the Islamic World. The shape of the area much more closely resembles the territory of the 8th century Islamic Khalifate. One evident exception is, of course, the Iberian Peninsular, which was mostly within this Khalifate, but was, however, later reconquered by Christians. This immediately suggests that an area's inclusion into the Khalifate might be a better predictor of preferential FBD marriage than an area's islamization. The results of the respective tests look as follows (cp. Tables 18 and 19):

T A B L E 18. *Area Islamization * Parallel Cousin (FBD) Marriage*

		Parallel Cousin (FBD) Marriage		Totals
		0 (absent, or rare)	*1 (common)*	
Area Islamization	*0 (absent)*	41	0	41
	1 (low)	13	0	13
	2 (high)	2	4	6
Totals		56	4	60

NOTE: Rho = + 0.51, p = 0.00003

T A B L E 19. *Area Inclusion into the 8th Century Arab-Islamic Khalifate (with Remaining in Islamic World Afterwards) * Parallel Cousin (FBD) Marriage*

		Parallel Cousin (FBD) Marriage		Totals
		0 (absent, or rare)	*1 (common)*	
Area Inclusion into the 8th Century Arab-Islamic Khalifate (with Remaining in Islamic World afterwards)	*0 (no inclusion)*	54	0	54
	1 (partial inclusion)	2	1	3
	2 (full inclusion)	0	3	3
Totals		56	4	60

SOURCE: Areas Inclusion into the 8th Century Arab-Islamic Khalifate was coded on the basis of Bol'shakov 1989–2004.
NOTE: Rho = + 0.82, p = 0.00000000000000001

Indeed, an area's inclusion in the Khalifate (and remaining in the Islamic World afterwards) turned out to be a much better predictor of preferential FBD marriage being common in it than an area's islamization. Still, even with Spearman's Rho as high as 0.82 the results are not entirely satisfying. One expects an even stronger correlation.

The next step was to study the individual cases more attentively (ethnographic areas in this instance). It did not take long to discover what brought the correlation strength to the level lower than expected.

The problem was created by the areas which I coded as "partly included in the Khalifate." First, to code Sahara as "partly included" was, of course, a bit of an overstatement. Only small parts of Northern Sahara came under the influence of the Khalifate. Vast areas of the southern Sahara were completely outside any control on the part of this polity. Hence, there was no choice but to split the Sahara into North Sahara and South Sahara. Only North Sahara was coded as "partly included," whereas South Sahara was coded as "not included." A similar problem appeared with Murdock's "Turkey-Caucasus." Only its southernmost part was conquered by the Arabs. This area was also split into two, approximately along the Khalifate borders of the 8th century. The northern part was coded as "not included," the southern part was coded as "fully included." Central Asia, however, created the most problems. A closer inspection of the printed version of the *Ethnographic Atlas* showed that it included just those Central Asian cultures (Kazak, Monguor, Khalka, and Chahar), that occupied territories well outside the Khalifate borders. It did not include any cultures from the southeastern part of Central Asia which was conquered by the Arabs in the 7–8th centuries. Thus, there was nothing to split. I had no choice but to code "South Central Asia" myself. The study of a sample of "South Central Asian" cultures produced the following results: out of eighteen South Central Asian cultures studied, twelve (> 66 %) had preferred parallel cousin (FBD) marriage.[30] Thus, coding this area as "FBD marriage: common" produced the following crosstabulation (see Table 20):

[30] I would like to thank Vladimir Yurlov for his assistance with collecting the data on Central Asia. To collect these data we used the following sources: Andreev 1949, 1953; Davydov 1979; Ishankulov 1972; Kisljakov 1969; Monogarova 1949, 1972; Shaniyazov 1964; Tolstov *et al.* 1963.

T A B L E 20. *Parallel Cousin (FBD) Marriage * Area Inclusion into the 8th Century Arab-Islamic Khalifate (with Remaining in the Islamic World afterwards)*

Area Inclusion into the 8th Century Arab-Islamic Khalifate (with Remaining in Islamic World afterwards)	Parallel Cousin (FBD) Marriage: *0 (absent, or rare)*	Parallel Cousin (FBD) Marriage: *1 (common)*
0 (no inclusion)	**57** (African hunters, South African Bantu, Central Bantu, North-East Bantu, Equatorial Bantu, Guinea Coast, West Sudan, Nigerian Plateau, East Sudan, Upper Nile, Ethiopian Horn, Muslim Sudan, South Sahara, South Europe, Overseas Europeans, North-West Europe, East Europe, Turkey & Northern Caucasus, Northern Central Asia, Arctic Asia, East Asia, Himalayas, Northern & Central India, South India, Indian Ocean, Assam-Burma, Southeast Asia, Philippines & Formosa, West Indonesia, East Indonesia, Australia, New Guinea, Micronesia, West Melanesia, East Melanesia, West Polynesia, East Polynesia, Arctic America, North-West Coast, California, Great Basin, Great Plains, Prarie, East Woodlands, Southwest, North-West Mexico, Central Mexico, Central America, Caribbean, Guiana, Lower Amazonia, Inner Amazonia, Andes, Chile & Patagonia, Gran Chago, Mato Grosso, East Brazil)	**0**
1 (partial inclusion)	**0**	**1** (North Sahara)
2 (full inclusion)	**0**	**5** (North Africa, South Caucasus, Semitic Near East, Middle East, South Central Asia)

NOTE: Rho = + 0.999, p = 0.00000000000000001

So, finally, there was no doubt that an area's inclusion in the 8th century Arab Khalifate (yet remaining in the Islamic World afterwards) is one of the strongest possible predictors of FBD marriage. But why?

On the one hand, there seems to be no serious doubt that there is some functional connection between Islam and FBD marriage. Indeed, this marriage type appears to be highly adaptive within an Islamic context. Hence, the association of parallel cousin (FBD) marriage and Islam is not at all surprising (see Chapter 2 above).

However, here it is necessary to stress a few points. Islamic Law does not prohibit FBD marriage. Nor does it impose (or even recommend) it (*e.g.*, Schacht 1964; al-Jazīrī 1990/1410:60–1). But most traditional cultures have a clear perception that marriage between a man and his FBD is incestous. This is evident in the fact that in most languages a kinship term for FBD (or your MSD) would be identical with a kinship term for one's sister. This normally implies that marriage with a FBD (or MSD) would be perceived as equivalent to marriage with a sister (Korotayev 1999). There appears to be something here that Kronenfeld (2000) called a "cognitive problem."

Within such a context the mere permission to marry a FBD is insufficient to overcome the above mentioned cognitive problem, even if such a marriage brought some clear economic advantages for a groom and his family (as actually occurs, for example, within most Muslim societies of Sub-Saharan Africa). Evidently, there should be something else in addition to islamization to persuade someone to do this. That "something else" was present in the Arab-Islamic Khalifate of the 7th and 8th centuries (at least up to 750 CE). What was it?

Russian Islamic Studies traditionally designated Islamic civilization as "Arab-Muslim" (which often met with strong objections from Muslim colleagues from former Soviet Central Asia [*e.g.*, Ahmadjonzoda 1988]). However, this designation is helpful in some respects. The fact is that this civilization (especially

within the territory of the first Islamic Empire) seems to contain important Arab non-Islamic elements and cannot be understood without taking them into account.

It is important to mention that the Arabs were the dominant ethnos within the Islamic Empire at least until the Abbasid revolution in the middle of the 8th century CE and Arab culture as a whole (including its non-Islamic components, like preferential parallel cousin [FBD] marriage) acquired high prestige and proliferated within the borders of the Empire.

> With the conquests, the Arabs found themselves in charge of a huge non-Arab population. Given that it was non-Muslim, this population could be awarded a status similar to that of clients in Arabia, retaining its own organization under Arab control in return for the payment of taxes... But converts posed a novel problem in that, on the one hand they had to be incorporated, not merely accommodated, within Arab society; and on the other hand, they had forgotten their genealogies, suffered defeat and frequently also enslavement, so that they did not make acceptable *halīf*s; the only non-Arabs to be affiliated as such were the Hamrā' and Asāwira, Persian soldiers who deserted to the Arabs during the wars of conquest in return for privileged status... It was in response to this novel problem that Islamic *walā'* [*i.e.*, the system of integration of non-Arab Muslims into Islamic society as dependent *mawālī* – A.K.] was evolved (Crone 1991:875).

It is amazing that such a highly-qualified specialist in early Islamic history as Crone managed to overlook another (and much more important!) exception; the Yemenis (most of whom do not seem to have belonged to the Arab proto-ethnos by the beginning of the 7th century CE). The possible explanation here might be that Yemeni efforts aimed at persuading the Arabs that southern Arabians had always been Arabs, were as Arab as the Arabs themselves, or even more Arab than the Arabs (*al-`arab al-`āribah* as distinct from *al-`arab al-musta`ribah* [*e.g.*, Piotrovskij 1985:67; Shahid 1989:340–1; Robin 1991:64, *etc.*]) turned out to be so successful that they managed to persuade not only themselves and the Arabs, but the Arabists as well.

However, in order to be recognized as Arabs, hence as competent members of early Islamic society, the Yemenis had to adopt many Arab practices, even those that have no direct connection to Islam. A good example of this is the Yemenis' borrowing of Arab genealogical tradition.

The pre-Islamic South Arabian communities were *sha`b*s, emphatically territorial entities:

> In strong contrast to the North Arabian practice of recording long lists of ancestors (attested also for the pre-Islamic period in the Safaitic inscriptions), E[pigraphic] S[outh] A[rabian] nomenclature consisted simply of given-name plus name of the social grouping (usually the *bayt*), with optional insertion of the father's given-name, but never any mention of an ancestor in any higher degree. One is irresistibly reminded of the remark attributed to the caliph `Umar, "Learn your genealogies, and be not like the Nabataeans of Mesopotamia who, when asked who they are, say 'I am from such-and-such a village'," which Ibn Khaldūn quotes with the very significant comment that it is true also of the populations of the fertile tracts of Arabia... [The] *qabīla*... [is] fundamentally kinship-based and totally different in nature from the *sha`b*...In the Qur'ān (49:13) *ja`alnā-kum shu`ūb*$^{an}$ *wa-qabā'il*$^{a}$ clearly refers to two different types of social organization, and Ibn Khaldūn when speaking of the settled populations of Arabia is careful to use the word *shu`ūb* and not *qabā'il*, reserving the latter for the nomads (Beeston 1972*a*:257–8; see also Beeston 1972*b*:543; Ryckmans 1974:500; Robin 1982*a*, 1982*b*; Piotrovskij 1985:53, 69; Korotayev 1998, *etc*.).

In early Islamic times, under the influence of northern Arabian tribal culture which acquired the highest prestige in the Muslim world, many southern Arabian *sha`b*s, while remaining essentially territorial (Dresch 1989; Serjeant 1989:XI), were transformed into *qabā'il*, tribes structured formally according to genealogical principles. This transformation was also the result of the southern Arabians' intense effort aimed at developing their own genealogies, as well as their passionate (and quite successful) struggle for the recognition of their genealogies by the Arab elite. In this way they were able to attain quite high positions in the

dominant Arab ethnos within the early Islamic state in the 7th – the middle of the 8th centuries (Piotrovskij 1977, 1985).

All this suggests that within the Omayyid Khalifate there was strong informal pressure on the Islamicized non-Arab groups to adopt Arab norms and practices, even if they had no direct connection with Islam (*e.g.*, genealogies and preferential parallel cousin marriage). On the other hand, after these cultural traits were adopted, particularly FBD marriage, their high functional value in the Islamic context would help to reproduce the Arab cultural patterns for generations. In that historical context when the Arabs were the dominant ethnic group, their norms and practices were borrowed by Islamisized non-Arab groups striving to achieve a full social status. Thus a systematic transition to FBD marriage took place when islamization occurred together with Arabization. This was precisely the situation within the Arab Islamic Khalifate in the 7th and 8th centuries. And this might be the principal explanation for such a strong correlation between parallel cousin FBD marriage and the area being included in the Omayyid Khalifate.

Of course, the strong association between FBD marriage and Islam confronts what is traditionally called "Galton's problem" (R. Naroll 1961, 1970; R. Naroll and D'Andrade 1963; Driver and Chaney 1970; M. Ember 1971; Strauss and Orans 1975; C. Ember and M. Ember 1998:677–8). There is little doubt that almost all the known cases of preferential FBD marriage are the result of diffusion from what appears to be a single source. There is some likelihood that the cognitive problem specified above was solved just once, or that just a single solution produced dozens of cultures having FBD marriage that spread in a large but circumscribed area of the Old World.

At the time of its origin FBD marriage had nothing to do with Islam. The cognitive problem solution seems to have occurred somewhere in the Syro-Palestine region well before the birth of Christ (*e.g.*, 1 Chronicles 23:21–2).

Rodionov (1999) has recently drawn attention to the fact that this marriage pattern is widespread in the non-Islamic cultures of this area (*e.g.*, Maronites or Druze) and that it has considerable functional value there in this non-Islamic context with facilitating the division of property among brothers after their father's death (Rodionov 1999). Like Rodionov (1999), I believe that this marriage pattern could hardly be attributed to Islamic or Arab influence here. It seems, rather, that this marriage pattern in the Islamic world and the non-Islamic Syro-Palestinian cultures stems from the same source.

But prior to the time of Islam the diffusion of the FBD marriage pattern was rather limited. The almost only adjacent area where it diffused widely was the Arabian Peninsular (*e.g.*, Negrja 1981; Kudelin 1994), where its diffusion can be linked with a considerable Jewish influence in the area well before Islam (*e.g.*, Crone 1987; Korotayev 1996; Korotayev, Klimenko, and Proussakov 1999). In any case by the 7th century preferential parallel cousin marriage became quite common among several important Arab tribes (*e.g.*, Negrja 1981; Kudelin 1994). In the 7th and 8th centuries an explosive diffusion of this pattern took place when Arab tribes, backed by Islam, spread throughout the whole of the Omayyid Khalifate. Although preferential parallel cousin marriage diffused (together with Islam and Arabs) later beyond the borders of the Omayyid Khalifate, the extent of this diffusion was very limited. Hence the present distribution of the FBD marriage was essentially created by the Muslim Arab conquests of the 7th and 8th centuries. Hence the strong correlation between the degree of the islamization and the presence of FBD marriages is to a considerable extent a product of network autocorrelation produced by the Arab-Islamic historical context.

Incidentally, this research shows once again that both extreme positions regarding Galton's problem – *i.e.* that this problem invalidates all quantitative world-wide cross-cultural research (*e.g.*, Chlenov 1988:197), or that this problem should not be taken seriously (*e.g.*, M. Ember 1971; C. Ember and M. Ember

1998:678) – are not reasonable. Galton's problem must be taken seriously. Yet this is not a problem, but rather an asset of cross-cultural research. That is, any strong and significant correlation should be taken seriously irrespective of whether or not it is a result of Galton's problem (*i.e.* network autocorrelation [see, *e.g.*, Dow, M. Burton, and White 1981, 1982; Dow, M. Burton, White, and Reitz 1984; White, M. Burton, and Dow 1981; M. Burton and White 1987:147; 1991). If it is not, then it shows a world-wide cross-cultural regularity, but if it is, we are then dealing with a result of the functioning of a certain historical communicative network and its influence on the course of human history. And this is not less interesting. This also shows that attempts to restrict cross-cultural research entirely to the study of small random samples are counterproductive. Yes, their use tends to minimize Galton's problem, but this only makes sense if it is considered as a problem, and not as an asset. Of course, analysis of such samples could help find some world-wide cross-cultural regularities, but it can never assist with studying historical communicative networks and their influence on human cultural development (for detail see Appendix 4 to this monograph).

Chapter 4
Islam in Sub-Saharan Africa and Southeast Asia

In Chapter 2 above we have analyzed the Western part of the Old World Oikumene, demonstrating that it could be most appropriately subdivided into the "Islamic" and "Christian" regions based on traditional social structures. However, in the previous chapters I explicitly refrained from the analysis of the traditional Islamic cultures of Sub-Saharan Africa and Southeast Asia, promising to do this in later parts of the book. This is time for me now to fulfill this promise.

To start with, my cross-cultural tests based on the data for Middle Eastern Islamic cultures, Islamic societies of Sub-Saharan Africa and African non-Islamic cultures (using both the sociostructural scores obtained by M. Burton, Moore, Romney, and J. Whiting [1996] and the ones obtained by myself through factor analyses whose results are presented above in Chapter 2) have confirmed the overall soundness of M. Burton's *et al.* decision to include the Islamic cultures of Sub-Saharan Africa into the "African region" rather than the Middle Old World, as the differences between Islamic cultures of Tropical Africa and the Middle East turned out to be significantly greater than the ones between the former and non-Islamic African cultures.

However, there are sufficient grounds to maintain that Islam still influenced significantly the social structure of Sub-Saharan Islamic cultures. In this chapter, I shall restrict myself to the analysis of just one possible channel of such influence. Actually it was already suggested by M. Burton and Reitz (1981:298–300) who noticed that Islam should tend to decrease the levels of

general polygyny, because "societies that seclude their women by means of *purdah* or similar customs will have lower rates of female participation in activities outside of the immediate household" and thus lower female contribution to subsistence, and consequently lower levels of general polygyny (1981:298–300). One could add to this that al-Qur'ān contains explicit prescription for husbands to be the principal breadwinners for their families; in fact, the obedience of wives to their husbands is explicitly connected with husbands providing subsistence to their wives (*e.g.*, al-Qur'ān 4:34). Against such background, we had all grounds to expect that the Islamic societies of Sub-Saharan Africa would have lower levels of female contribution to subsistence than the non-Islamic ones. And this indeed turned out to be the case (see Fig. 14):

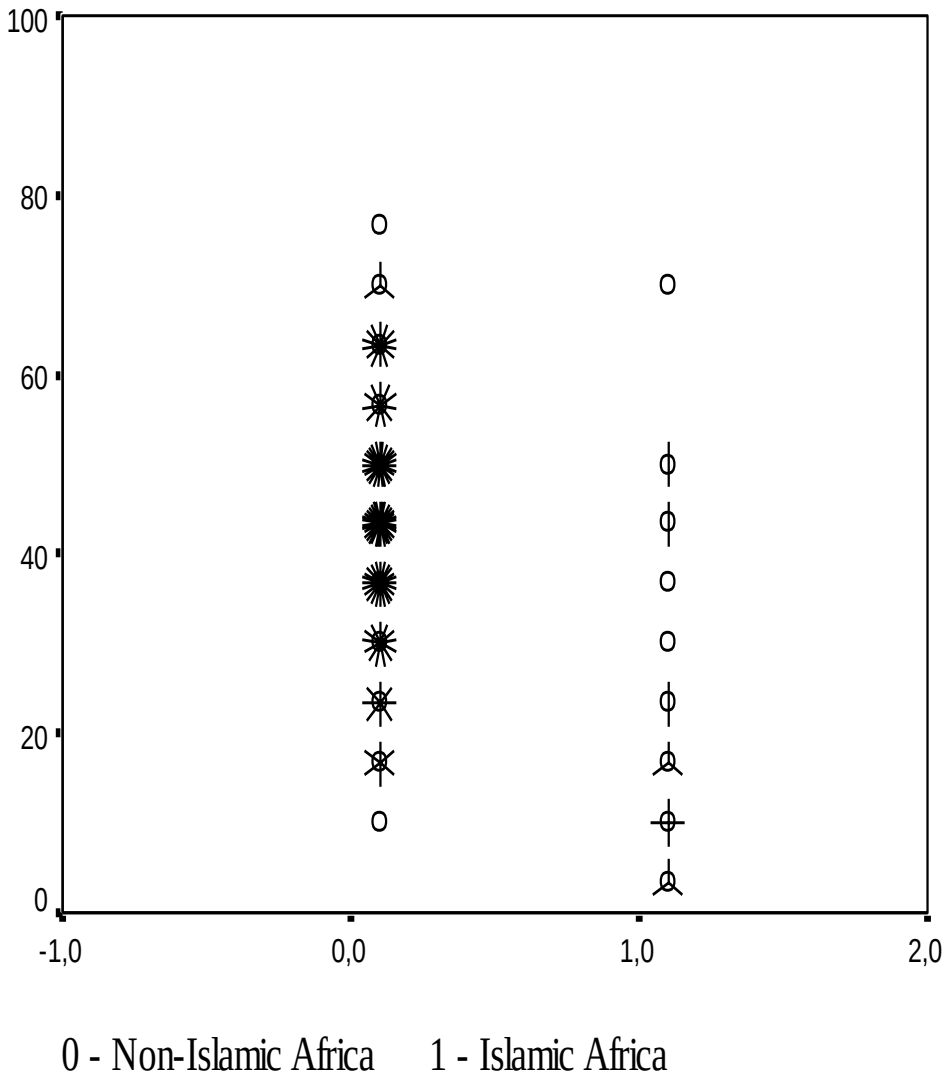

Fig. 14. *Female Contribution to Subsistence:*
Islamic vs. *Non-Islamic Cultures of Sub-Saharan Africa.*[31]

[31] We used as a source of data the most recent version of the electronic *Ethnographic Atlas* database (Murdock *et al.* 1999–2000, 2002). We also consulted earlier electronic and printed versions of this database (Murdock 1967, 1981; Murdock *et al.* 1986, 1990). As the summary data on female contribution to subsistence are not published there, we had to calculate them ourselves using the data on the division of labor in main subsistence spheres and the contribution of these spheres to the overall diet using the calculation scheme suggested by M. Ember and C. Ember (1971, 1983:153–4).

As we can see the Islamic cultures of Sub-Saharan Africa display most significant (t = + 5.7, p = 0.00000005) and strong (Gamma = – 0.6) difference in female contribution to subsistence in the predicted direction in comparison with non-Islamic Africa. But does this actually lead to the lower levels of general polygyny? We tested this and the answer was positive (see Table 21):

T A B L E 21. *General Polygyny * Islamization (for Sub-Saharan Africa)*

		Islamization	
		Absent	*Present*
General Polygyny	*Absent*	**37**	**15**
		9.6%	*27.8%*
	Present	**348**	**39**
		90.4%	*72.2%*

NOTE: p = 0.0005 (Fisher's Exact Test, one-tailed);
Gamma = – 0.57, p = 0.006.

As we can see, the percentage of cultures without general polygyny among the Islamic Sub-Saharan cultures is almost three times as high as among the Non-Islamic African societies. This difference is especially salient among the most complex African cultures possessing the state organization[32] (see Table 22):

[32] In fact, this is totally consistent with our earlier findings (Korotayev 2003) that the world religions tended to make an especially strong impact on the evolution of social structure when they were backed by the state, when they acted as state religions.

T A B L E 22. *General Polygyny * Islamization (for Sub-Saharan African states)*

		Islamization	
		Absent	*Present*
General Polygyny	*Absent*	**0**	**6**
		0%	*50.0%*
	Present	**26**	**6**
		100.0%	*50.0%*

NOTE: $p = 0.0003$ (Fisher's Exact Test, one-tailed);
Gamma = – 1.0, $p = 0.002$; Phi = – 0.64, $p = 0.00002$

Thus, there seem to be sufficient grounds to maintain that the evolution of the social structures of the Sub-Saharan Islamic cultures was indeed significantly influenced by their affiliation to the Islamic world.

In fact, this suggests that appropriate social-structure-based regionalization might be considerably more complicated than this seems to have been thought originally. Even hierarchical regionalization assuming that a given culture could belong to only one sub-region (area), one region and one megaregion might yield in many cases essentially oversimplified results. One wonders if we should not add to such a regionalization an idea of "contested" areas, areas belonging simultaneously to more than one region, areas whose cultures' social structure evolution was significantly influenced by their affiliation to two or more intersecting historical communicative networks.

Another "contested zone" of this sort appears to be represented by the Islamic cultures of Southeast Asia.

As is suggested by Figures 15 and 16, the cluster of Southeast Asian Islamic cultures differs significantly from the Islamic Middle East both in matricentric/patricentric ($t = + 2.9$, $p = 0.003$) and unilineal/bilateral ($t = – 4.3$, $p = 0.0005$) dimensions.

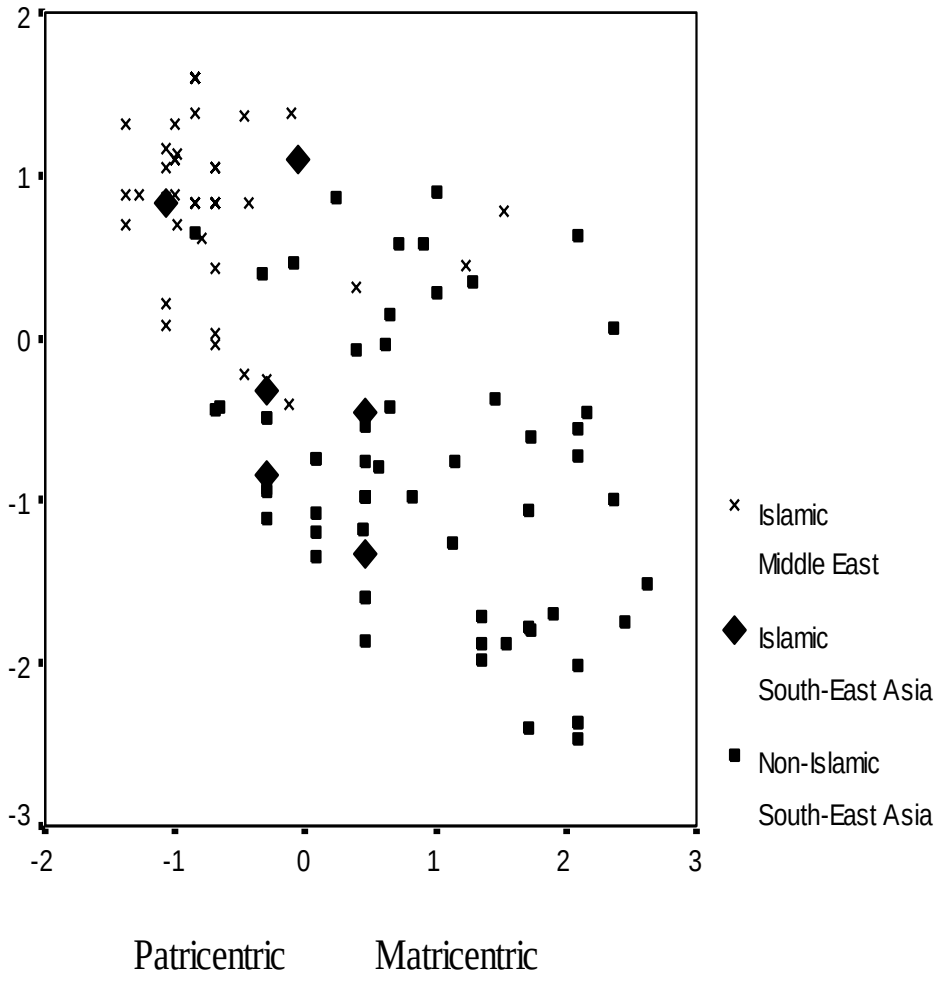

Fig. 15[33]. *Islamic Middle East* vs. *Islamic Southeast Asia.*

Indeed, the social structure of Islamic Southeast Asia, as we shall see below, is closer to the one of the cultures of that very region "based on social structure", to which M. Burton, Moore, Romney, and J. Whiting included the Southeast Asian Islamic cultures, "Southeast Asia and Insular Pacific" and I am entirely ready to admit that they had completely sufficient grounds to do this.

[33] I used the factor scores obtained above in Chapter 2.

Note, however, that those cultures occupy a position almost squarely in between the region, to which they indeed seem to have belonged originally, and the "central" (Middle Eastern) cluster of Islamic cultures, in whose direction the former appear to have started moving after their islamization (see Fig. 15, Fig. 16 and Tables 23 and 24).

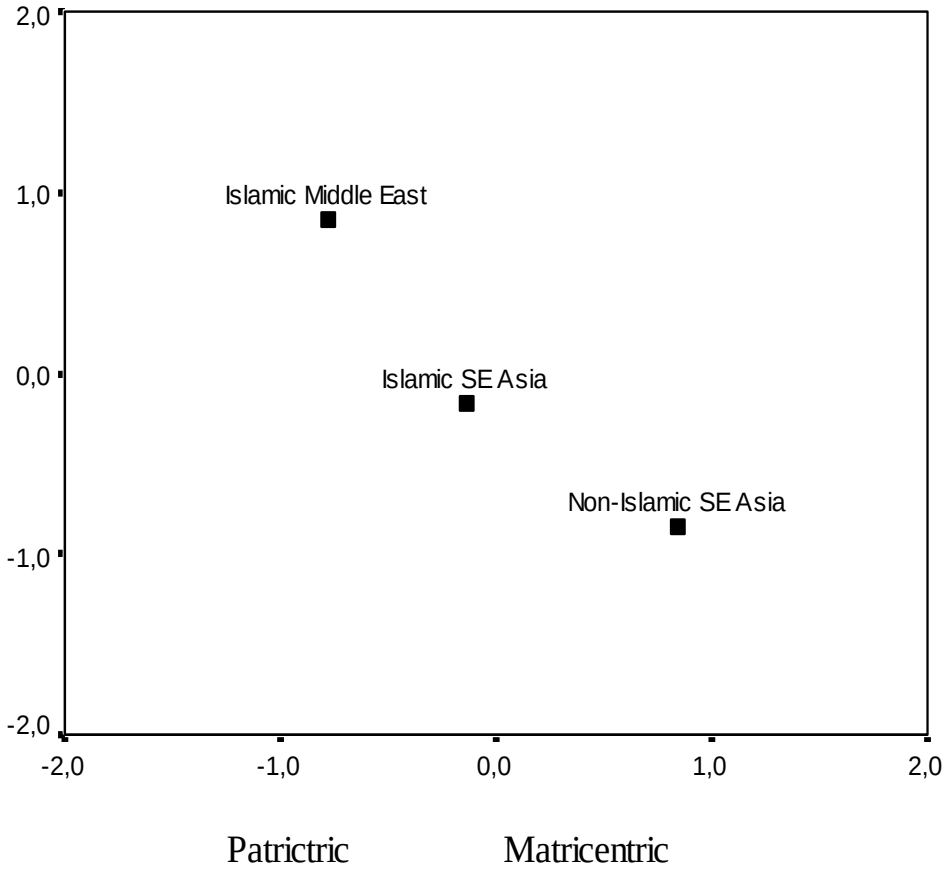

FIG. 16. *Islamic Middle East – Islamic Southeast Asia – Non-Islamic Southeast Asia and Insular Pacific (cluster means).*

T A B L E 23. *Group Statistics (Matricentrity Index) 1-tailed*

	Islamic Middle East	*Islamic Southeast Asia*	*Non-Islamic Southeast Asia and Insular Pacific*
Islamic Middle East		t = – 2.90, p = 0.003	t = – 12.25, p < 0.00000000000000001
Islamic Southeast Asia	t = + 2.90, p = 0.003		t = – 2.60, p = 0.006
Non-Islamic Southeast Asia and Insular Pacific	t = + 12.25, p < 0.00000000000000001	t = + 2.60, p = 0.006	

T A B L E 24. *Group Statistics (Unilinearity Index) 1- tailed*

	Islamic Middle East	*Islamic Southeast Asia*	*Non-Islamic Southeast Asia and Insular Pacific*
Islamic Middle East		t = + 4.35, p = 0.00005	t = + 12.61, p < 0.00000000000000001
Islamic Southeast Asia	t = – 4.35, p = 0.00005		t = + 1.83, p = 0.04
Non-Islamic Southeast Asia and Insular Pacific	t = – 12.61, p < 0.00000000000000001	t = – 1.83, p = 0.04	

Thus, our idea about the utility of non-hierarchical (or, rather, heterarchical) ethnographic regionalization of the world (of course, in addition to the hierarchical one) appears to have been confirmed. On the other hand, we are completely ready to recognize that M. Burton, Moore, Romney, and J. Whiting had entirely sound grounds to include the Islamic cultures of Tropical Africa into the "Sub-Saharan Africa" region, as well as to include the Muslim societies of Southeast Asia into the "Southeast Asia and Insular Pacific" region. On the other hand, our findings confirm the point that cross-cultural researchers should not

forget that the two respective areas are also parts of another megaregion, the Islamic World.

Thus, one may argue the possibility of treating the Islamic World as a "megaregion based on social structure", because the social structure of almost all the cultures of this megaregion appears to have been influenced to some extent by the functioning of the Islamic historical network. One would suggest that this megaregion could be subdivided into its core region, the Islamic Middle East, as well as a few peripheral areas ("sub-regions"), which were parts of other regions at the same time. The most evident areas of this sort are Islamic Sub-Saharan Africa and Islamic Southeast Asia. However, the discriminant analysis, as well as the K-means and hierarchical cluster analyses performed in Chapter 2 suggest a few other peripheral areas of the Islamic World which could be considered at the same time as parts of other regions (most evidently some Islamic cultures of the Indian Subcontinent as well as Northern and Eastern parts of Central Asia).

Chapter 5
Unilineal Descent Organization and Deep Christianization

The development and decline of unilinial descent organization have been the subject of numerous studies (see, *e.g.*, Morgan 1877/1964; Engels 1884/1970; Lowie 1920/1970; Murdock 1949; Fortes 1953; Kirchhoff 1955/1968; Aberle 1961; Service 1962; Bohannan 1963; Coult and Habenstein 1965; Y. Cohen 1969; Sahlins 1972; Murdock and Wilson 1972; Murdock and Provost 1973; Divale 1974; Pasternak 1976; Levinson and Malone 1980; C. Ember, M. Ember, and Pasternak 1983; Korotayev and Obolonkov 1989, 1990; C. Ember and Levinson 1991; Pasternak, M. Ember, and C. Ember 1997, *etc.*). One predictor of unilineal descent organization is, of course, unilocal residence (Lowie 1920/1970:157–62; Murdock 1949:59–60, 184–259; Service 1962:122). Although, as Murdock notes, "Unilocal residence does not necessarily lead to unilinear descent" (Murdock 1949:209), the absence of unilocal residence invariably results in the absence of unilinial descent. The loss of unilocal residence, then, is the main *proximate* cause of the loss of unilinial descent. But what is the *ultimate* cause?

C. Ember, M. Ember and Pasternak (1983) provide evidence that unilineal descent groups would occur in non-state societies with warfare (see also Pasternak, M. Ember, and C. Ember 1997:260). This suggests that the decline of warfare is an important ultimate cause of the decline of unilineal descent organization. However, these results do not apply to the main concern of this chapter – the causes of decline of unilineal descent organization in complex

societies – since complex societies were excluded from the sample used by C. Ember, M. Ember, and Pasternak (1983:395).

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.*).

The most commonly suggested causes of the decline of unilineal descent organization in complex societies are commercialization, and, especially, class stratification and state formation (Morgan 1877/1964; Engels 1884/1970; Fortes 1953; Kirchhoff 1955/1968; Bohannan 1963:136; Y. 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.*).[34]

However, I felt that these explanations were somehow insufficient. Our own previous cross-cultural research on unilineal descent groups in the complex cultures of Eurasia and North Africa (Korotayev and Obolonkov 1989, 1990) reveals that the distribution of unilineal descent organization in the complex cultures of this mega-region has a peculiar shape. In the Western part of this mega-region (the part which virtually coincides with the *Circum-Mediterranean* region of Murdock), the border between the areas traditionally lacking unilineal descent organization and the areas having it ran almost precisely along the border between the Christian and non-Christian worlds.[35] And this was not just in Europe. In the African Horn, for example, only 3 of almost 100 cultures lack

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

unilineal descent groups. Two of them – the Amhara and the Tigrinya – are the only deeply christianized cultures in the area. The exception – the Falasha (professing Judaism) – only confirms the rule. All the Islamic and "pagan" cultures of the area had unilineal descent groups.

Could this be a coincidence? Probably not. A few important characteristics of Christian doctrine and historical network discussed above in Chapter 1 led us to expect a strong significant negative correlation between "deep christianization" and the presence of unilineal descent groups. Why did I choose to consider only "deep" christianization? It took the Christian Church centuries to eradicate pre-Christian norms, values and practices (*e.g.*, Bessmertnyj 1989; Herlihy 1993). One would not expect a superfluous christianization to produce any radical changes in kinship and marriage practices and norms.

Thus, I coded the following cultures (christianized not less than 500 year prior to the "ethnographic present") of the *Ethnographic Atlas* sample as "1 (Deep christianization: present)": Amhara, Armenians, Basques, Boers, Brazilians, Bulgarians, Byelorussians, Cheremis, Czechs, Dutch, French Canadians, Georgians, Greeks, Haitians, Hungarians, Hutsul, Icelanders[36], Irish, Kurd, Lapps, Lebanese[37], Lithuanians, Neapolitans, New England, Portuguese, Romanians, Russians, Serbs, Spaniards, Spanish Basques, Svan, Tigrinya, Tristan, Ukrainians, Walloons. All other cultures were coded as "0 (Deep christianization: absent)".

I started with a strait-forward cross-tabulation of the presence of unilineal descent organization[38] and deep christianization.[39] The results looked as follows (Table 25):

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[35] In East Eurasia the only complex culture area consistently lacking unilineal descent organization was the area of the Hinayana Buddhist states. This area will not be be studied in this chapter, but I shall consider it in my next chapter.

[36] 19–20th centuries.

[37] Maronites.

[38] As the source of the data for this variable I used the electronic version of the *Ethnographic Atlas* (Murdock *et al.* 1990, 2002). I employed the variable V21 (COGNATIC KIN GROUPS, which corresponds to Column 24 in the printed version of the *Ethnographic Atlas* [Murdock 1967:157]), where the value *9* (*Unilineal descent groups*, which corresponds to value *O*

T A B L E 25. *Deep Christianization * Unilineal Descent Groups*

	Unilineal Descent Groups		
Christianization	*0 (absent)*	*1 (present)*	Totals
0 (absent)	382 ***31.3%***	838 ***68.7%***	1220
1 (present)	32 ***88.9%***	4 ***11.1%***	36
Totals	414	842	1256

NOTE: $p = 0.000000000002$ (by Fisher's Exact Test);
Phi = – 0.2, $p < 0.00000000000000001$;
Gamma = – 0.89, $p < 0.00000006$

The results of the statistic analysis looked rather promising. The correlation between christianization and the presence of unilineal descent groups was in the predicted direction and significant beyond any doubt. It did not look strong with Phi ≈ -0.2; however, Gamma of ≈ -0.9 appeared rather impressive. The interpretation of these figures in conjunction with the cross-tabulation does not present any problem: though the lack of unilineal descent groups is a rather poor predictor of christianization, christianization appears to be an extremely strong predictor of the absence of unilineal descent organization.

It was also clear that even Phi for this correlation could be raised to a

"Absence of cognatic kin groups as inferred from the presence of unilineal descent) was re-coded as "1 (Unilineal descent groups: present)". All the other values were re-coded as "0 (Unilineal descent groups: absent)". I also checked variables V17 and V18 (LARGEST PATRILINEAL KIN GROUP, and LARGEST PATRILINEAL EXOGAMOUS GROUP, which correspond to Columns 20–1 [*Patrilineal Kin Groups and Exogamy*] in the printed version of the *Ethnographic Atlas* [Murdock 1967:157]), as well as V18 and V19 (LARGEST MATRILINEAL KIN GROUP, and LARGEST MATRILINEAL EXOGAMOUS GROUP, which correspond to Columns 22–3 in the printed version of the *Ethnographic Atlas* [Murdock 1967:157]). When *Atlas* reported the presence of unilineal groups of any sort (even if the value of variable V21 was other than 9), the respective cases were re-coded as "1 (Unilineal descent groups: present)". Thus, I have taken into consideration all the relevant data on unilineal descent groups contained in *Atlas.*

[39] The coding for this variable was done by myself on the basis of Tishkov (1998).

much higher level. Indeed, the "Christian factor" is not relevant for most of the *Ethnographic Atlas* sample. In the ethnographic record, the majority of the societies lacking unilineal descent groups are bilaterally organized foragers, and Christianity certainly has nothing to do with this fact. Christianity appeared relatively late in human history, and had its deepest impact on highly complex cultures.

Thus I realized that at a certain stage of my study, I would have to omit simple cultures from the sample.

I started by including in the sample only societies relying more than 85% on the "food production" (agriculture and animal husbandry). The cross-tabulation of the presence of unilineal descent organization and christianization for this subsample looked as follows (Table 26):

T A B L E 26. *Deep Christianization * Unilineal Descent Groups (for cultures relying > 85% on the "food production" [agriculture and animal husbandry][40])*

	Unilineal Descent Groups		
Deep Christianization	*0 (absent)*	*1 (present)*	Totals
0 (absent)	36 ***11.0%***	292 ***89.0%***	328
1 (present)	25 ***89.3%***	3 ***10.7%***	28
Totals	61	295	356

NOTE: $p < 0.00000000000000001$ (by Fisher's Exact Test)
Phi = – 0.56, $p < 0.00000000000000001$
Gamma = – 0.97, $p < 0.00000005$

[40] As a source of our data I used the most recent electronic version of the *Ethnographic Atlas* (Murdock *et al.* 2002), variables # 4 and # 5 (ANIMAL HUSBANDRY and AGRICULTURE, which correspond to Columns 10 and 11 in the printed version of the *Ethnographic Atlas* [Murdock 1967:154–5]). In both versions the variables are coded as follows: 0 = 0–5% dependence; 1 = 6–15%; 2 = 16–25%; 3 = 26–35%; 4 = 36–45%; 5 = 46–55%; 6 = 56–65%; 7 = 66–75%; 8 = 76–85%; 9 = 86–100%. I summed up both variables and thus obtained a "food production index". I selected as relying more than 85% on food production those cultures that had values 9 and 10 of the "food production index" variable.

As I expected, the correlation for this sub-sample remained in the predicted direction and became much stronger.

However, at this point one might doubt if christianization can be treated as an independent factor. Within the sub-sample, "pre-colonial" deep christianization appears to be significantly and positively correlated with political centralization, with the statehood[41] for the societies with medium or high cultural complexity (Table 27):

T A B L E 27. *Deep Christianization * Number of Supracommunal Levels (for cultures with > 1 level of political integration above the community)*

Number of Supracommunal Levels	Deep Christianization		Totals
	0 (absent)	*1 (present)*	
2	156 ***96.9%***	5 ***3.1%***	161
3	64 ***75.3%***	21 ***24.7%***	85
≥ 4	22 ***81.5%***	5 ***18.5%***	27
Totals	242	31	273

NOTE: Spearman's Rho = + 0.29, p = 0.000001
Gamma = + 0.66, p = 0.000007

[41] To measure the "political centralization/statehood" variable I used variable # 33 (JURISDICTIONAL HIERARCHY BEYOND LOCAL COMMUNITY) of the electronic version of the *Ethnographic Atlas* (Murdock *et al.* 2002), which corresponds to Column 33 of the printed version of the *Ethnographic Atlas* (Murdock 1967:160). In the electronic version the variable is coded as follows: "0 = Missing data; 1 = No levels (no political authority beyond community); 2 = One level (*e.g.*, petty chiefdoms); 3 = Two levels (*e.g.*, larger chiefdoms); 4 = Three levels (*e.g.*, states); 5 = Four levels (*e.g.*, large states)" (Murdock *et al.* 1990:file ATL.COD). In the printed version the coding is more logical, with 0 corresponding to no levels, 1 – to 1 level, *etc.* (Murdock 1967:160); so, I re-coded this variable in my electronic version according to the printed version of the *Ethnographic Atlas*. To use this variable as a measure of political centralization I accepted the assumption of both the authors of the *Atlas* electronic version (see above), and Murdock himself: "The second digit [corresponding to Column 33 – A. K.] incidentally provides a measure of political complexity, ranging from 0 for stateless societies, through 1 or 2 for petty and larger paramount chiefdoms or their equivalent, to 3 for states or 4 for large states" (Murdock 1967:160).

On the other hand, as I already mentioned, the statehood is considered one of the strongest negative correlates of unilineal descent organization. My test initially supported this theory. Unilineal descent organization is curvilinearly related to political centralization (as is observed with all the other main components of cultural complexity) (Table 28):

T A B L E 28. *Number of Supracommunal Levels * Unilineal Descent Organization*

Number of Supracommunal Levels	Unilineal Descent Groups		Totals
	0 (absent)	*1 (present)*	
0	248	261	509
	48.7%	***51.3%***	
1	65	275	340
	19.1%	***80.9%***	
2	25	134	159
	15.7%	***84.3%***	
3	28	57	85
	32.9%	***67.1%***	
≥ 4	13	13	26
	50.0%	***50.0%***	
Totals	379	740	1119

NOTE: Spearman's Rho = + 0.24, p = 0.0000000000000001
Gamma = + 0.39, p < 0.00000000000000001
Cramer's V = 0.31, p < 0.00000000000000001

Spearman's Rho has a significant positive value for this table simply because of the heavily skewed distribution of the sample – the overwhelming majority of its

cultures belong to the lower ranges of cultural complexity, whereas political centralization correlates positively with the presence of unilineal descent groups.

However, for societies with higher levels of cultural complexity, we observe a significant negative correlation: the higher the political centralization is, the less frequent the presence of unilineal descent groups becomes. The development of the state organization looks like a significant cause of the decline of unilineal descent organization (Table 29):

T A B L E 29. *Number of Supracommunal Levels * Unilineal Descent Organization (for cultures with > 1 level of political integrationabove the community)*

Number of Supracommunal Levels	Unilineal Descent Groups		Totals
	0 (absent)	*1 (present)*	
2	25	134	159
	15.7%	***84.3%***	
3	28	57	85
	32.9%	***67.1%***	
≥ 4	13	13	26
	50.0%	***50.0%***	
Totals	66	204	270

NOTE: Spearman's Rho = – 0.26, p = 0.00001
Gamma = – 0.49, p = 0.00005

Hence, an alternative explanation for the negative correlation between deep christianization and the presence of unilineal descent groups would suggest that the real cause of the decline of unilineal descent organization is the formation and development of the state. The negative correlation between deep christianization

and unilinial descent groups would be explained by the fact that, in the pre-colonial era, Christianity was present mainly within states (there were almost no Christian bands, or chiefdoms).

This explanation seems convincing, but I have strong doubts about it. To start with, the negative correlation between christianization and the presence of unilineal descent organization for the cultures with 2–4 supracommunal levels (Phi = Rho = – 0.55; see Table 30 below) is much stronger than the correlation between unilineal descent organization and the statehood (Rho = – 0.26; see Table 29 above). It is also stronger than the positive correlation between the statehood and christianization (Rho = +0.29; see Table 27 above):

T A B L E 30. *Deep Christianization * Unilineal Descent Groups (for the cultures with more than one level of political integration above the community)*

Deep Christianization	Unilineal Descent Groups		Totals
	0 (absent)	*1 (present)*	
0 (absent)	38 ***15.9%***	201 ***84.1%***	239
1 (present)	28 ***90.3%***	3 ***9.7%***	31
Totals	66	204	270

NOTE: p = 0.0000000000000001 (by Fisher's Exact Test)
Phi = – 0.55, p < 0.00000000000000001
Gamma = – 0.96, p < 0.00000000000000001

This evidence alone shows that the negative correlation between christianization and the presence of unilineal descent groups is not a by-product of the negative influence of the developing statehood on unilineal descent organization. However,

there is additional evidence against the "Alternative Explanation". Let us control the influence of the *political centralization* variable by taking a sub-sample with a similar number of levels of supracommunal political integration. I chose the sub-sample with 3 such levels (which would mostly correspond to medium complex states), as this sample is of reasonable size and comprises a considerable number of Christian cultures.

For this sub-sample, the negative correlation between christianization and unilineal descent organization is unequivocally strong (> 0.7; see Table 7), and much higher than the correlation between unilineal descent organization and political centralization (whose value is just – 0.26; see Table 31):

T A B L E 31. *Deep Christianization * Unilineal Descent Groups (for medium complex states, 3 levels of political integration above the community)*

	Unilineal Descent Groups		
Deep Christianization	*0 (absent)*	*1 (present)*	Totals
0 (absent)	9	55	64
	14.1%	***85.9%***	
1 (present)	19	2	21
	90.5%	***9.5%***	
Totals	28	57	85

NOTE: $p = 0.0000000003$ (by Fisher's Exact Test)
Phi = – 0.7, $p < 0.0000000001$
Gamma = – 0.97, $p < 0.000000001$

The negative correlation between deep christianization and unilineal descent organization is so much stronger than the one between the unilineal descent organization and political centralization that a question arises: is the negative correlation between the traditional statehood and unilineal descent organization an illusion produced by the heavy presence of Christian cultures within any world-

wide sample of traditional developed states (including Murdock's sample)? If we remove from our sample of complex societies (the one used for Table 5, *i.e.*, the societies with more than 1 level of political integration above the community) all the deeply christianized cultures, the strength of the negative correlation between political centralization and unilineal descent organization drops to an insignificant level (Table 32):

T A B L E 32. *Number of Supracommunal Levels * Unilineal Descent Groups (for non-Christian cultures with more than one level of political integration above the community)*

Number of Supracommunal Levels	Unilineal Descent Groups		Totals
	0 (absent)	*1 (present)*	
2	21 ***13.6%***	133 ***86.4%***	154
3	9 ***14.1%***	55 ***85.9%***	64
≥ 4	8 ***38.1%***	13 ***61.9%***	21
Totals	38	201	239

NOTE: Spearman's Rho = – 0.11, p = 0.08
Gamma = – 0.27, p = 0.12

Unsurprisingly**,** the same thing happens to the other components of cultural complexity proposed as causes of the decline of unilineal descent organization – class stratification and commercialization.

Class stratification shows a curvilinear relationship with unilineal descent organization: societies lacking unilineal descent organization occur more

frequently both among egalitarian societies and societies with complex class stratification (Table 33):

T A B L E 33. *Class Stratification*[42] * *Unilineal Descent Organization*

Class Stratification	Unilineal Descent Groups		Totals
	0 (absent)	*1 (present)*	
1 = Absence among freemen	199	329	528
	37.7%	***62.3%***	
2 = Wealth distinctions	73	131	204
	35.8%	***64.2%***	
3 = Elite (based on control of land or other resources)	8	31	39
	20.5%	***79.5%***	
4 = Dual (hereditary aristocracy)	58	164	222
	26.1%	***73.9%***	
5 = Complex (social classes)	36	44	80
	45.0%	***55.0%***	
Totals	374	699	1073

NOTE: Spearman's Rho = + 0.053, p = 0.084
Gamma = + 0.089, p = 0.085
Cramer's V = 0.124, p = 0.002. That the relation is insignificant according to the measures of significance associated with Rho and Gamma (which assume the linear relationship between the variables), but unequivocally significant according to the measure of significance associated with Cramer's V (and finally, Chi Square, which is sensitive to any type of relationship) shows that we are dealing with a significant *curvilinear*

[42] To measure this I used variable # 65 (CLASS STRATIFICATION) of the electronic version of the *Ethnographic Atlas* (Murdock *et al.* 1990), which corresponds to Column 67 of the printed version of the *Ethnographic Atlas* (Murdock 1967:165–6). In the electronic version the variable is coded as follows: "0 = Missing data; 1 = Absence among freemen; 2 = Wealth distinctions; 3 = Elite (based on control of land or other resources); 4 = Dual (hereditary aristocracy); 5 = Complex (social classes)" (Murdock *et al.* 1990, file *ATL.COD*). The same codings are retained in the 1999 and 2002 electronic editions of the *Ethnographic Atlas* (Murdock *et al.* 1999:113; 2002:V65).

relationship.

Of course, there is a problem with how the authors of the 1990 (and subsequent) electronic versions of the *Ethnographic Atlas* ranked the values of this variable. Indeed, it is difficult to accept the argument that "Dual Stratification" – defined by Murdock as "stratification into a hereditary aristocracy and a lower class of ordinary commoners or freeman, where traditional ascribed noble status is at least as decisive as control over scarce resources" (1967:166) – is a more developed form of class stratification (and, hence, should be ranked higher) than "Elite Stratification" – defined by Murdock as stratification "in which an elite class derives its superior status from, and perpetuates it through, control over scarce resources, particularly land, and is thereby differentiated from a propertyless proletariat or serf class" (1967:166).[43] One may also wonder if we should not merge Elite and Dual stratification into a single category.

Thus, to measure the degree of social stratification I used three versions of ranking. *Version 1* was suggested by the authors of the 1990 electronic edition of the *Ethnographic Atlas*: "1 = Absence among freemen; 2 = Wealth distinctions; 3 = Elite (based on control of land or other resources); 4 = Dual (hereditary aristocracy); 5 = Complex (social classes)". *Version 2* was previously used in Korotayev 1999: "1 = Absence among freemen; 2 = Wealth distinctions; 3 = Elite (based on control of land or other resources), or Dual (hereditary aristocracy); 4 = Complex (social classes)". *Version 3* was suggested by Korotayev (1999): "1 = Absence among freemen; 2 = Wealth distinctions; 3 = Dual (hereditary aristocracy); 4 = Elite (based on control of land or other resources); 5 = Complex (social classes)".

As one might expect after a careful study of Table 33, the results according to all three versions are quite similar. All suggest a significant curvilinear (but not

linear) relationship.

T A B L E 34. *Class Stratification * Unilineal Descent Organization (summary table)*

	Spearman's Rho	*Gamma*	*Cramers's V*
Version 1	Rho = + 0.05, p = 0.08	Gamma = + 0.09, p = 0.09	V = 0.12, p = 0.002
Version 2	Rho = + 0.06, p = 0.07	Gamma = + 0.09, p = 0.08	V = 0.12, p = 0.001
Version 3	Rho = + 0.06, p = 0.07	Gamma = + 0.09, p = 0.07	V = 0.12, p = 0.002

Once again, for complex societies (selected this time as societies with dual, elite and complex class stratification, thus omitting more or less egalitarian cultures) class stratification shows a significant negative correlation with unilineal descent organization (*version 1:* Rho = – 0.18, p = 0.001; Gamma = – 0.35, p = 0.001; *version 2:* Rho = – 0.18, p = 0.001; Gamma = – 0.42, p = 0.002; *version 3:* Rho = – 0.14, p = 0.01; Gamma = – 0.28, p = 0.01) and a significant positive correlation with deep christianization (*version 1:* Rho = + 0.33, p = 0.0000000003; Gamma = + 0.74, p = 0.00003; *version 2:* Rho = + 0.42, p = 0.0000000000000001; Gamma = + 0.91, p = 0.0000004; *version 3:* Rho = + 0.41, p = 0.000000000000004; Gamma = + 0.9, p = 0.00000003). However, these correlations are weaker than the negative correlation between deep christianization and unilineal descent organization (p = 0.000000000001 [by Fisher's Exact Test]; Gamma = – 0.93, p = 0.0000001).

[43] I already expressed similar concerns in an earlier paper (Korotayev 1999). In that paper, I argued that Elite stratification is *more* developed than dual, and re-coded the variable accordingly for some calculations.

Similar to what we observed above with respect to political centralization, when the "Christian Factor" is controlled for social stratification, it remains strong and significant (Table 11):

T A B L E 35. *Deep Christianization * Unilineal Descent Groups (for societies with complex class stratification only)*

Deep Christianization	Unilineal Descent Groups: *0 (absent)*	Unilineal Descent Groups: *1 (present)*	Totals
0 (absent)	14 ***25.0%***	42 ***75.0%***	56
1 (present)	22 ***91.7%***	2 ***8.3%***	24
Totals	36	44	80

NOTE: p = 0.00000002 (by Fisher's Exact Test)
Gamma = – 0.94, p = 0.0000000002
Phi = Rho = – 0.61, p = 0.00000004

However, once again, the strength of the negative correlation between class stratification and unilineal descent organization drops to an insignificant level as soon as the deeply Christianized cultures are removed from the sample (*version 1:* Rho = – 0.06, p = 0.33; Gamma = – 0.74, p = 0.3; *version 2:* Rho = – 0.007, p = 0.9; Gamma = – 0.02, p = 0.9; *version 3:* Rho = + 0.43, p = 0.44; Gamma = + 0.11, p = 0.44).

A similar thing happens with commercialization. As there are no data on degrees of commercialization in the *Ethnographic Atlas*, I had to use the variable on the use of money for the Standard Cross-Cultural Sample from Murdock and Provost 1973, 1985. Though for societies with 2 or more supracommunal levels we do not observe a significant negative correlation between commercialization and unilineal descent groups, the correlation becomes marginally significant if the

variable is dichotomized (0: "True money: absent" *vs.* 1: "True money: present": $p = 0.079$ by Fisher's exact test; Rho = – 0.23; Gamma = – 0.47). However, again, this correlation is much weaker than the negative correlation between deep christianization and unilineal descent organization for the same sample (Phi = Rho = – 0.4, $p = 0.003$; Gamma = – 0.88, $p = 0.003$).

Similar to what we observed above with respect to political centralization and class stratification, when the "Christian Factor" is controlled for commercialization, it remains strong and significant (for societies with > 1 supracommunal level and true money $p = 0.02$ [by Fisher's Exact Test]; Gamma = – 1.0, $p = 0.01$; Phi = Rho = – 0.52, $p = 0.01$).

And again, the strength of the negative correlation between commercialization and unilineal descent organization drops to an insignificant level as soon as the deeply Christianized cultures are omitted from the sample: $p = 0.28$ by Fisher's exact test; Phi = Rho = – 0.13 (for the dichotomized variable).

Thus, among the extra-kinship-and-marriage causes of the decline of unilineal descent organization considered in this chapter (the development of state organization, class stratification, commercialization, and deep christianization), deep christianization is the strongest and most significant.[44] What is more, after being controlled for christianization, all the other factors are insignificant, whereas when christianization is controlled for the other factors, it retains its strength and significance. This suggests that the significant negative correlation between the three above-mentioned factors and unilineal descent organization might result from the presence of Christian cultures in all samples of complex

[44] A problem that might be discussed at this point is the Galton one. In some sense all of the Christian cases discussed in this chapter come from the same source, and most of them are also neighboring societies. So does the Galton problem invalidate my findings? I do not think so. As far as I understand, the Galton problem arises when we observe a simultaneous diffusion of certain characteristics. Indeed, if Christianity had spread simultaneously with the diffusion of bilateral social organization, the causal link between christianization and the destruction of unilineal descent organization would not be so clear. However, in many cases christianization preceeded the disappearance of unilineal descent groups by a few centuries (see, *e.g.*, Lavrovskij 1867:33–7, 46–50; Krjukov 1968:376–8; 1995; Shkunaev 1989:74–93, 107–14).

societies. Hence, the development of the state, class stratification, and commercialization might not have an independent effect on the decline of unilineal descent organization.

Incidentally, I do not insist that the results of my tests destroy the theory maintaining that the development of the state leads to the decline of unilineal descent organization. My previous qualitative research on this subject persuades me that this theory cannot be entirely wrong (Korotayev and Obolonkov 1989, 1990; Korotayev 1995*a*, 1995*b*, 1995*c*, 1996*a*, 1996*b*, 1996*c*, 1997, 1998). The above research suggests that though average, non-Christian traditional states normally failed to destroy unilineal descent organization, the strongest, most complex traditional states often succeeded. Hence, in order to "save" the "Statehood Factor" we might contrast the most complex states (with 4, or more administrative levels above the community) to less complex polities (with 2–3 supracommunal levels). The results looked as follows (Table 36):

T A B L E 36. *Supercomplex* vs. *Less Complex States * Unilineal Descent Groups (for non-Christian cultures with more than one level of political integration above the community)*

	Unilineal Descent Groups		
Number of Supracommunal Levels	*0 (absent)*	*1 (present)*	Totals
2–3	30	188	218
	13.8%	***86.2%***	
≥4	8	13	21
	38.1%	***61.9%***	
Totals	38	201	239

NOTE: $p = 0.008$ (by Fisher's Exact Test)
Gamma = – 0.59, $p = 0.04$
Phi = – 0.19, $p = 0.004$

Thus, 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 "Deep Christianization".

This conclusion may not seem convincing to many readers. Clearly, the development of the modern state, stratification and commercialization has led to the decline of unilineal descent structures throughout the modern world, including some entirely unchristianized areas. By contrast, the decline of modern state structures revives and strengthens unilineal descent organization (as happened, for example, in Southern Yemen in the 1990s[45]).

Of course, it is difficult to argue with Pasternak, C. Ember, and M. Ember's statement that "Descent groups lose viability in complex state-organized, commercial-*industrial* societies because non-kin agencies of the state assume many kin functions (*e.g.*, defense, education, welfare, adjudication). In complex societies, it is individuals (not families or larger kin groups) who take advantage of economic or occupational opportunities; when someone moves to a new job, parents and siblings are not likely to go along (and cousins and aunts and uncles even less likely)" (1997:262–3; my emphasis). However, this statement applies to the *industrial* (and, hence, modern) statehood, stratification and commercialization. I 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 the conclusions of this chapter only apply to traditional cultures.[46] The effect of *traditional* statehood, social

[45] My personal observations based on my fieldwork in South Yemen in 1982–3 and 1996.

[46] One may argue, of course, that most European cultures of the 19th and 20th centuries (when they were observed by ethnographers whose data Murdock included in the *Ethnographic Atlas*) were already quite modernized. Yet it seems necessary to stress that Murdock tried to use the least modernized villages best preserving the traditional culture as focal communities for his database. On the other hand, the combination of characteristics attested by the *Ethnographic Atlas* for the European cultures (simultaneous occurrence of Christianity, statehood and the absence of the unilineal descent groups) cannot be treated as a result of modernization. Christianization, state formation and the disappearance of unilineal descent groups took place in the whole of Christian lowland Europe (including its Eastern part) long before the modernization. And already in the

stratification and commercialization appears to be radically different from the effect of *modern* state organization, stratification and commercialization. The *modern* state organization, stratification and commercialization do appear to destroy (more or less successfully) unilineal descent organization, whereas *traditional* class stratification and commercialization *per se* do 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 of 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". In the world of traditional complex cultures, the disappearance of unilineal descent organization appears to have occurred systematically only when both factors acted together – *i.e.* when the Christian church was backed by the state.

However, a careful study of data for Table 31 suggests that in addition to Christianity there seems to exist another religion which (in "cooperation" with the state) systematically destroyed the unilineal descent organization. This religion is Hinayana Buddhism. Christianity and the Buddhism, it should be noted, are both religions of non-violence. Could this be a coincidence? I shall try to answer this question in the next Chapter.

High Middle Ages all the lowland Christian European cultures were states and lacked unilineal descent organization (*e.g.*, Kotel'nikova 1986). Of course, unilineal descent organization survived in some highland and peripheral areas of Europe until the 20th century (*e.g.*, Kosven 1963:103, 104, 108, 111, 171, 172, 175, 178), and it is difficult not to relate this fact to the weakness (or sometimes absence) of state structures in those areas.

Chapter 6
Unilineal Descent Organization and Religions of Non-Violence

The factor analyses performed in Chapter 2 have shown that the social structure of the Hinayana Buddhist cultures, while being very different from the most of the other complex cultures of the Middle Old World Oikumene, are not so much different at all from the Christian cultures, especially in the unilineal/bilateral dimension (see Fig. 13 and Tables 11–2 above, as well as Fig. 17 below):

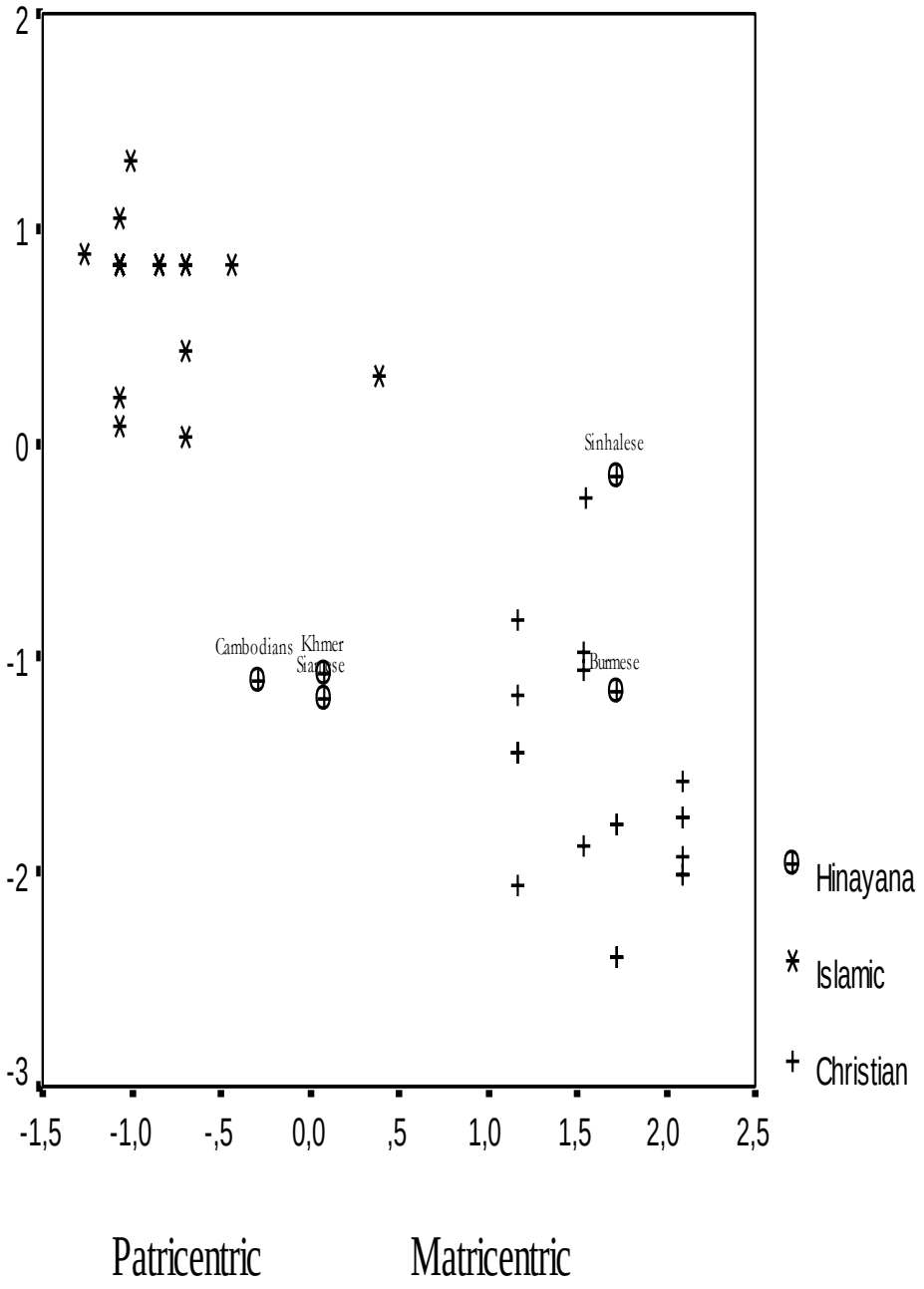

Fig. 17. *Islamic Middle East – Christian World – Hinayana Buddhist Cultures.*[47]

[47] "Cambodians" = the mid 20th century Cambodians; "Khmer" = the Khmer at the age of Angkor Empire (*c.* 13th century).

It is difficult not to connect this with findings of the previous chapter – this is quite notable that both Christianity and Buddhism are religions of non-violence; the rejection of violence is one of the most important official principles of both religions. Could it be a coincidence? I doubted it was.

To test this let us re-formulate the hypothesis. First (in contrast with Chapter 5 above), let us hypothesize that the factor which systematically destroyed unilineal descent organization in traditional societies with intermediate level of political centralization was not just Christianity, but religions of non-violence (*i.e.* Christianity and Buddhism), in general, when they became state ideology.

The results of our cross-cultural testing of this initial hypothesis with *Ethnographic Atlas* database (Murdock 1967; Murdock *et al.* 1986, 1990, 1999–2000, 2002) look as follows (Table 37):

T A B L E 37. *Religion of Non-Violence as State Ideology * Unilineal Descent Organization (for societies with 3 political integration levels beyond local community)*

	Unilineal Descent Organization		
Religion of Non-Violence as State Ideology	*0 (absent)*	*1 (present)*	Totals
0 (absent)	6 *9.8%*	55 *90.2%*	61
1 (present)	22 *91.7%*	2 *8.3%*	24
Totals	28	57	85

NOTE: p = 0.00000000000006 (by Fisher's Exact Test)
Phi = – 0.81; p < 0.00000000000000001
Gamma = – 0.99; p < 0.00000000000000001

We can see that in comparison with our earlier test of the correlation between "deep christianization" and unilineal descent organization which produced Phi-coefficient with the value of – 0.7 (see Table 31 above) the correlation strength grows up to – 0.81 (Phi = Rho = r), thus we are dealing now with a correlation

which is not just strong, but very strong. Thus, the previous explanation of negative correlation between Christianity and unilineal descent organization turns out to be insufficient. One may wonder if some features present in both religions might not produce destructive influence on the unilineal descent organization. Celibate requirement for priests might be one of the possible channels of such influence (see Chapters 1–2). Another might be connected just with the non-violence principle playing such a salient role in the basic ideology of both religions.

As has been shown by C. Ember, M. Ember and Pasternak (1983), the internal warfare is one of the most important factors favoring the development of unilineal descent organization. The general logic of this connection looks like this:

The internal warfare leads to patrilocal marital residence. The reproduction of this pattern whereby sons live together with their parents in the span of several generations leads to the formation of groups of families whose male members have the same patrilineal ancestor, *i.e.* unilineal descent group. Even if a society had no unilineal descent organization before failing into the state of endless internal warfare, this organization is very likely to appear within the span of a few generations. On the other hand, while the state of constant internal warfare continues, it is difficult to expect the decline of unilineal descent organization. At the meantime cross-national and cross-cultural research tends to concur that war is also one of the major factors predicting interpersonal violence: societies waging frequent wars tend to have higher levels of it, whereas within a nation levels of interpersonal violence tend to increase following a war, irrespective of the war result (victory or defeat) (Russell 1972; Eckhardt 1973; Archer and Gartner 1984:63–97; Gurr 1989:47–8, *etc.*).

Other factors suggested to be implicated in higher rates of homicide and assault include frustrating socialization (low need-satisfaction/ low warmth and affection, harsh/directly punishing socialization [Dollard *et al.* 1939; Berkowitz

/1962/ 1980; Bacon, Child, and Barry 1963; Palmer 1970; Allen 1972, *etc.*]), father absence (R. Burton and J. Whiting 1961; Bacon, Child, and Barry 1963; B. Whiting 1965; R. L. Munroe, R. H. Munroe, and J. Whiting 1981, *etc.*), and socialization for aggression (Bandura /1973/ 1980:146; Montagu 1976:3–4, *etc.*). However, the subsequent studies in this field suggest that by far the most important factor among the above-mentioned ones is socialization for aggression in late childhood (C. Ember and M. Ember 1994). The Embers' multiple regression analysis has produced the following results: the total impact of the combination of the above-mentioned factors on the interpersonal violence rate has turned out to be rather strong ($R^2 = 0.560$), yet the independent effect of the socialization for aggression in late boys is very much stronger than the one of any other factor (its standardized coefficient being 0.739, which is to be compared with 0.135 for warfare frequency, 0.112 for father absence and 0.095 and less for indicators of frustrating socialization). Thus, the socialization for aggression in late boys appears to overshadow greatly the effects of the other socialization variables. The Embers' path analyses have suggested that war affects the interpersonal violence rate more through its impact on increasing socialization for aggression rather than as a direct effect.

Is it not possible to suggest that Christianity and Hinayana[48] Buddhism could have produced destructive effect on the unilineal descent organization

[48] Why do I prefer to speak about the Hinayana Buddhism and not about the Buddhism in general? One of the reasons is simply empirical. As has been mentioned above, this is just the Hinayana Buddhism which correlates systematically with the absence of the unilineal descent organization. What could be the reason for this? One of the possible reasons is that it was the Hinayana Buddhism which played the role of official state religion in a substantial number of fairly strong states, whereas, as has already been mentioned above, the most effective destructive influence on the unilineal descent organization is produced by the religions of non-violence when they are backed by a fairly strong state, whose official ideology is represented by those religions. Mahayana Buddhism in most cases functioned not as a sole dominant state religion, but on the par with other religions and ideologies (most notably with the Confucianism which quite favors the unilineal descent values). On the other hand, Mahayana Buddhism (and especially Vajrayana Buddhism) tended not to eradicate the pre-Buddhist and non-Buddhist cults, but rather to absorb them, which must have reduced the Buddhist potential to decrease the socialization for aggression intensity (see, *e.g.*, Vasiliev 1983).

through lowering the socialization for aggression intensity, which (as one could see above) is very likely to lead to the decrease of internal warfare intensity or its total ending, thus eliminating the main *raison d'être* of the unilineal descent organization?

Let us test first if there is any significant positive correlation between the presence of the unilineal descent organization and socialization for aggression in late boys using the *Standard Cross-Cultural Sample* database (Barry *et al.* 1976, 1985; SCCS 2001:STDS13.SAV]. The results of the test look as follows (see Table 38):

T A B L E 38. *Socialization for Aggression * Unilineal Descent Organization*

Socialization for Aggression Intensity	Unilineal Descent Organization *0 (absent)*	*1 (present)*	Totals
1 (low)	3 *5.1%*	1 *1.1%*	4
2	3 *5.1%*	6 *6.7%*	9
3	4 *6.8%*	6 *6.7%*	10
4	7 *11.9%*	2 *2.2%*	9
5 (intermediate)	18 *30.5%*	23 *25.8%*	41
6	15 *25.4%*	28 *31.5%*	43
7	2 *3.4%*	3 *3.4%*	5
8	6 *10.2%*	13 *14.6%*	19
9 (high)	1 *1.7%*	7 *7.9%*	8
Totals	59	89	148

NOTE: Rho = + 0.18; p = 0.01 (1-tailed);
Gamma = + 0.26; p = 0.03

As one can see, there is a significant correlation in the predicted direction; however, this correlation is rather weak. Yet, for Eurasia and North Africa (including Muslim Sudan), the situation is quite different (see Table 39):

T A B L E 39. *Socialization for Aggression * Unilineal Descent Organization (for societies of Eurasia and North Africa)*

Socialization for Aggression Intensity	Unilineal Descent Organization		Totals
	0 (absent)	*1 (present)*	
1 (low)	3 *15.8%*	1 *2.9%*	4
2	2 *10.5%*	2 *5.9%*	4
3	2 *10.5%*	3 *8.8%*	5
4	2 *10.5%*	1 *2.9%*	3
5 (intermediate)	7 *36.8%*	10 *29.4%*	17
6	3 *15.8%*	9 *26.5%*	12
7		2 *5.9%*	2
8		4 *11.8%*	4
9 (high)		2 *5.9%*	2
Totals	19	34	53

NOTE: Rho = + 0.39; p = 0.002 (1-tailed);
Gamma = + 0.55; p = 0.001

Thus, one can observe a fairly strong positive correlation between socialization for aggression and unilineal descent groups just for the area where "Axial" Religions traditionally existed. That means that the above-mentioned hypothesis has passed its initial statistic cross-cultural test.

However, is there any negative correlation between the presence of official state religions of non-violence and lower socialization for aggression?

The results of the first test of the correlation between the presence of state religions of non-violence (Christianity and Hinayana Buddhism)[49] and socialization for aggression intensity looked as follows:

Rho = – 0.18; p = 0.01 (1-tailed)

Gamma = – 0.53; p = 0.03 (1-tailed)

For Eurasia and North Africa (including Muslim Sudan) the correlation looks as follows:

Rho = – 0.29; p = 0.02 (1-tailed)

Gamma = – 0.62; p = 0.02 (1-tailed)

As we see, the correlation turned out to be in the predicted direction and statistically significant. However, the correlation strength turned out to be rather week (especially, for the worldwide sample). At the meantime for Eurasia and North Africa (*i.e.* the only world megaregion where the factor under consideration was traditionally really relevant) the correlation is much stronger (whereas the value of Gamma-coefficient is simply high). Yet, these results suggest that the above-described mechanism of the destructive influence of the non-violence religions on the unilineal descent organization through the lowering of socialization for aggression intensity may account only partly for this influence. At the meantime, the hypothesis suggesting the very existence of such a mechanism turns out to have passed successfully the statistic cross-cultural test.

[49] The presence of those religions was coded as "1", their absence was coded as "0".

Chapter 7
Christianity and Democracy:
A Cross-Cultural Study

4 years ago Dmitry Bondarenko and I undertook a study of the correlations between the family size and communal democracy (Bondarenko and Korotayev 2000). Our theoretical expectations looked as follows: according to J. Whiting and Child (1953) the dependence training is associated with extended families, whereas the respective socialization pattern tends to ensure the compliance in the performance of assigned tasks and dependence on the family, rather than reliance on oneself, which would tend to produce a personality type compatible with "hierarchical" (rather than democratic "non-hierarchical") sociopolitical systems. Hence, we hypothesized that the family size and the communal democracy will be negatively correlated. The correlation turned out to be in the predicted direction, significant beyond any doubt ($p < 0.001$), but rather weak (Phi = – 0.19).

At the meantime we (Korotayev and Bondarenko 2000) also found a significant (and a bit stronger) negative world-wide correlation between communal democracy and polygyny (Rho = – 0.26, $p < 0.001$).

What could account for the significant negative correlation between polygyny and communal democracy? The first explanation which comes to one's mind is to consider the communal democracy as an independent variable, whereas the polygyny would appear as a dependent one. It appears natural that within undemocratic communities the members of their elites would use their monopoly over power resources in order to maximize the number of their wives; hence, the

polygyny would appear as just one more dimension of a lack of democracy in the respective communities.

However, some data turned out to cast doubt on to such an interpretation. Those data come first of all from the Circum-Mediterranean region. This region could be easily divided into two subregions – the Christian and Islamic ones. The point is that the communal elites in the Christian Circum-Mediterranean subregion had no option of having more than one wife, as this was most strongly prohibited by the Christian Church (see above, Chapter 1). Yet, in this region the negative correlation between the polygyny and communal democracy is even more clear than in all the other regions (Rho = – 0.32, p = 0.005).

Hence, one would suppose that the monogamy could well be one of the possible factors of the development of the communal democracy and not only its result.

What could account for the "democratizing" influence of the monogamy? It seemed reasonable to connect it with the difference in the socialization practices within polygynous *vs.* monogamous families. The "non-democratizing" influence of the polygyny might be connected, among other factors, with the well-known "father-absence" factor (R. Burton and J. Whiting 1961; Bacon, Child, and Barry 1963; B. Whiting 1965; R. L. Munroe, R. H. Munroe, and J. Whiting 1981; Kon 1987:32–3, *etc.*). The above-mentioned authors have shown that the boys raised within the environment consisting mainly of women tend to develop personalities inclined towards aggressive domination-oriented behavior. Another important contribution belongs to Rohner (1975) who has shown that the development of the above-mentioned personality strongly correlates with the lack of the parental warmth, whereas such a lack is most typical for the polygynous families (especially for the non-sororal ones) characterized by the low degree of co-wives' co-operation – as a result, the co-wives are left too often face-to-face with their children without any hope for external assistance. It is well-known that such a

situation provokes the lack of sufficient parental warmth and affection, excessively severe punishment of children (J. Whiting 1960; Minturn and Lambert 1964; Rohner 1975; Levinson 1979), which tend to produce the aggressive domination-oriented personality specified above. One would expect that the presence of the respective modal personality would contribute to the prevalence of the non-democratic power structures.[50]

Our cross-cultural tests support this theory. We found a rather strong and significant negative correlation between polygyny, on the one hand, and warmth and affection of mother to son (Rho = – 0.55, p = 0.06[51]), on the other, whereas the latter variable displayed a rather strong and significant correlation with democracy (Rho = + 0.64, $p < 0.05$).

At this point we came to the most difficult problem of any cross-cultural research, the problem of the causation direction. Is it really possible to consider the strict prohibition of the polygyny by the Christian Church as one of the causes of the development of the modern democracy in Europe? On the one hand, the transition from the general to occasional polygyny among the intensive plow agriculturalists seems to be caused mainly by economic factors (M. Burton and Reitz 1981; White 1988; White and M. Burton 1988) which made the polygyny impossible for the main part of the intensive agriculturalists. However, this does not appear to explain the total prohibition of the polygyny for everybody including the members of the upper strata (who always retained the economic opportunities

[50] Note that the positive correlation between the presence of polygyny and hierarchical power structures seems to be attested even with respect to the non-human primates (Shnirel'man 1994:63–4), among whom, however, the polygyny is more likely to be treated as a dependent variable.

[51] Such correlations are generally considered insignificant. However, as Rosnow and Rosenthal (1989:1277) put it: "Surely, God loves the .06 nearly as much as the .05" (see also Rosenthal 1991:220; R. L. Munroe *et al.* 2000:17). In general I prefer to call the correlations which are significant at 0.05–0.1 levels "marginally significant", and I believe that they need special treatment. My general recommendation is to avoid the statements like both "the hypothesis is rejected", or "the hypothesis is supported" on the basis of such results. I believe, that such results do not provide sufficient grounds to make both of those statements, but rather suggest that the hypothesis needs to be tested further before any accurate conclusions regarding it could be made.

to support more than one wife). Hence, the total absence of the polygyny in the Christian part of the Circum-Mediterranean region (but not in its Muslim part[52]) could be hardly explained by anything else but by the strict prohibition of the polygyny by the Christian Church (see Chapter 1 above).

Of course, it might be not coincidental either that within the two religions strictly prohibiting the polygyny (classical Judaism and Christianity) the respective norms originated in the 1st millennium BCE within the intensive agriculturalist society of Palestine mainly through the activities of the independent (non-temple) prophets (coming basically from non-elite strata) who appear to have managed to impose the monogamous marriage already predominant among the commoners on the elites (*e.g.*, Diakonoff, Neronova, and Jakobson 1983).[53]

Of course, when in the 4th century CE the Christian Church imposed the regulations which made the monogamous nuclear family the predominant family form (*i.e.* the ones which prohibited close marriages, discouraged adoption, condemned polygyny, concubinage, divorce and remarriage) it in no way tried to contribute to the development of modern democracy in Western Europe more than one millennium later. As has been suggested by Goody (1983:44–6), the Church appears to have striven towards obtaining the property left by couples lacking legitimate male heirs. However, the unintended consequence of those actions was the formation of a relatively homogenous macro-region consisting of nuclear monogamous families, with almost no corporate suprafamily kinship entities.[5411] We do not believe this is a coincidence that a few centuries later we find this

[52] It appears remarkable that we would find the total absence of polygyny in Christian societies neighboring the Muslim societies living under entirely similar economic and ecological conditions and practicing (at least occasionally) polygyny (*e.g.*, the Montenegrans [Jelavic 1983:81–97; Fine 1987:529–36] *vs.* the Highland Albanians [Pisko 1896; Durham 1909, 1928; Coon 1950; Hasluck 1954; Jelavic 1983:78–86; Fine 1987:49–54, 599–604, *etc.*]).

[53] It might be not a coincidence either that the Prophet of Islam (whose social status moved during his life from the middle to upper-class level) retained the legitimacy of the polygyny.

[54] Of course, the Greeks and Romans were monogamous well prior to the christianization. Note, however, that the pre-Christian Germans, Celts, and Slavs were quite polygynous in the pre-

region consisting predominantly of democratic communities (Kotel'nikova 1986). And it could also hardly be a coincidence that it was this very region where the modern supracommunal democracy originated.[55]

The cross-cultural tests whose results have been presented in Chapter 5 above also show that the deep christianization correlates negatively and very strongly with the presence of the unilineal descent organization. On the other hand, a study of relationships between the presence of the unilineal descent organization and communal democracy has also revealed a significant (and quite strong) negative correlation between those two variables.

Certainly, there is reason to expect that unilineal descent organization will correlate negatively with communal democracy. The presence of unilineal descent groups would inhibit the development of communal democracy – indeed, their presence would favor hereditary communal leadership when the leadership position is transmitted within a certain descent group (normally the strongest one within the community and the one whose members would act as natural supporters of this leadership system). Thus, one would expect that the destruction of unilineal descent groups would contribute to the transition from the less democratic, hereditary communal headmanship to the more democratic, elected headmanship (and the other way round). Hence, I had some grounds to expect that there would be a negative correlation between the presence of unilineal descent

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Christian period (Herlihy 1993:41). Hence, the formation of the zone of uninterrupted monogamy in Europe could be hardly attributed to anything but the christianization.

[55] This point seems to be able to clarify the causal direction of the link between the communal and supracommunal democracy. In this respect, it appears to be rather significant that the formation of the communal democracy in Europe preceded the development of democracy of the supracommunal political structures. On the other hand, I do not argue that the formation of democratic communal organization in Europe was the only (or even sufficient) cause of the transition to modern democracy in Europe. No doubt, it is possible to find many other factors and mechanisms of this process. For example, Collins (1999) presents evidence for diplomatic coalitions in balances of power as a source of collegially shared power structures, a mechanism ("from outside in") which seems to be entirely independent from the one described above ("from inside out").

groups and communal democracy. To test this hypothesis I used the *Ethnographic Atlas* database. The results looked as follows (Table 40):

T A B L E 40. *Communal Democracy * Unilineal Descent Groups (for all world cultures)*

Communal Democracy	Unilineal Descent Groups		Totals
	0 (absent)	*1 (present)*	
0 (absent – hereditary leadership)	131 ***25.8%***	376 ***74.2%***	507
1 (present – elected leadership [formally, or through consensus])	102 ***56.4%***	79 ***43.6%***	181
Totals	233	455	688

NOTE: $p = 0.0000000000002$ (by Fisher's Exact Test)
Gamma = – 0.58, $p < 0.000000000000000001$
Phi = – 0.28, $p < 0.000000000000000001$

The correlation is in the predicted direction, significant beyond any doubt, but not particularly strong. However, here we are only interested in knowing if the absence of unilineal descent groups is an important predictor of communal democracy in *complex* societies. In this part of the sample, the negative correlation between the presence of the unilineal descent groups and communal democracy is much stronger than in the sample as a whole (Table 41):

T A B L E 41. *Communal Democracy * Unilineal Descent Groups (for complex class societies)*

Communal Democracy	Unilineal Descent Groups		Totals
	0 (absent)	*1 (present)*	
0 (absent – hereditary leadership)	2	12	14
	14.3%	***85.7%***	
1 (present – elected leadership [formally, or through consensus])	17	9	26
	65.4%	***34.6%***	
Totals	19	21	40

NOTE: $p = 0.002$ (by Fisher's Exact Test)
Gamma = – 0.84, $p < 0.0003$; Phi = – 0.49, $p < 0.001$

Thus, as we can see, in complex class societies, the absence of unilineal descent groups is a significant and strong predictor of communal democracy.

This suggests that the christianization of Europe might have contributed to the development of modern democracy not only by prohibiting polygyny (Korotayev and Bondarenko 2000) and promoting the small nuclear family (Bondarenko and Korotayev 2000), but also by helping to destroy unilineal descent organization.

These findings were presented at various venues on more than dozen occasions (starting with the 28th Annual Meeting of the Society for Cross-Cultural Research in Santa Fe [February, 1999]). Numerous discussions have shown that our research was not quite complete, that we have not provided some answers to a few quite legitimate questions. The main aim of this chapter is to try to provide answers to those questions.

Our findings suggested that the christianization of Europe must have contributed to the development of the communal democracy in this part of the world. This implies that christianization should correlate positively with

communal democracy. However, we did not test this implication of our theory. Thus, I decided to perform this test. Its results are presented below (see Table 42):

T A B L E 42. *Communal Democracy * Deep Christianization (for "politically complex" societies [> 2 levels of political integration over community])*

Communal Democracy	Deep Christianization		Totals
	0 (absent)	*1 (present)*	
0 (absent – leadership is hereditary/by appointment, etc.*)*	41 ***69.5%***	3 ***20.0%***	44
1 (present – elected leadership [formally, or through consensus])	18 ***30.5%***	12 ***80.0%***	30
Totals	59	15	74

NOTE: p = 0.001 (by Fisher's Exact Test); Gamma = + 0.8, p = 0.001; Phi = + 0.41, p = 0.0003. The data on communal democracy are from Murdock 1967; Murdock *et al.* 1986, 1990, 1999–2000, 2002 (V72). The Christianization was coded by me for the *Etnhographic Atlas* cultures earlier (see Chapter 5 above).

Indeed, as we see the correlation between the christianization and communal democracy is in the predicted direction, it is significant beyond any doubt and quite strong. Hence, the test has supported our theory.

However, the main (and very reasonable) objection to our findings could be formulated as follows: Christianity was not the only characteristic which distinguished Europe from most other parts of the world (see, *e.g.*, Sanderson 1995:168–78). And some more or less unique features of the socio-political evolution of Europe may well be explained by a certain combination of those features, but not necessarily by all of them. However, all the features characteristic for the traditional European sociocultural organization would show significant correlation with other typical characteristics of the cultures belonging to the

Christian European historical network, even if in fact any real functional link between those variables is lacking. Indeed, one can easily find a significant negative correlation between the communal democracy and the presence of male genital mutilations for the Circum-Mediterranean region (see Table 43):

T A B L E 43. *Communal Democracy * Male Genital Mutilations (for the Circum-Mediterranean region)*

Communal Democracy	Male Genital Mutilations		Totals
	0 (absent)	*1 (present)*	
0 (absent – leadership is hereditary/by appointment, etc.)	11 ***50.0%***	38 ***71.7%***	49
1 (present – elected leadership [formally, or through consensus])	11 ***50.0%***	15 ***28.3%***	26
Totals	22	53	75

NOTE: $p = 0.001$ (by Fisher's Exact Test);
Gamma = – 0.43, $p = 0.04$ (1-tailed);
Phi = – 0.21, $p = 0.04$ (1-tailed). The data on communal democracy and male genital mutilations are from Murdock 1967; Murdock *et al.* 1986, 1990, 1999–2000, 2002 (V37 and V72).

However, one would hardly insist on the male genital mutilations being a factor inhibiting the development of communal democracy (or the other way round).

On the other hand, even if Christianity really contributed to the development of the communal democracy, how could we tell which of the features associated with Christianity were responsible for this? Indeed, some features associated with Christianity and having no functional connection with the communal democracy would still display a significant correlation with the latter characteristic. The correlation demonstrated above could serve as a good illustration for this point too.

In fact the problem which our critics identified is quite real. Within the cross-cultural studies it is known as the Galton (or network autocorrelation) problem. Indeed, there are all grounds to believe that in the case discussed above we are dealing with a clear network autocorrelation effect. The significant correlation could be regarded as a result of the functioning of two historical networks – the Islamic and Christian ones. Indeed the diffusion of Christianity in the region resulted in the diffusion of a virtual (and effective!) prohibition on circumcision. Conversely, the diffusion of Islam resulted in the diffusion of precisely the opposite pattern (see Chapter 2 above).

The Christian factor is felt most strongly just within the region under consideration. Consequently, it is not surprising at all (al least for us) that within the Circum-Mediterranean region Christianity correlates with the communal democracy in a particulary strong and highly significant way (see Table 44):

T A B L E 44. *Communal Democracy * Christianization (for the Circum-Mediterranean region)*

Communal Democracy	Deep Christianization		Totals
	0 (absent)	*1 (present)*	
0 (absent – leadership is hereditary/by appointment, etc.)	53 ***79.1%***	5 ***26.3%***	58
1 (present – elected leadership [formally, or through consensus])	14 ***20.9%***	14 ***73.7%***	28
Totals	67	19	86

NOTE: p = 0.00004 (by Fisher's Exact Test);
Gamma = + 0.83, p = 0.0001;
Phi = + 0.47, p = 0.00001. The data on communal democracy are from Murdock 1967; Murdock *et al.* 1986, 1990, 1999–2000, 2002 (V72). The Christianization was coded by me for the *Etnhographic Atlas* cultures earlier (see Chapter 5).

Against this background it is easy to predict that any feature correlating negatively with Christianity will correlate negatively with the communal democracy for the cultures of this region. And if we control for the Christian factor testing only the non-Christian cultures of the region, the significant negative correlation will disappear (see Table 45):

T A B L E 45. *Communal Democracy * Male Genital Mutilations (for non-Christian cultures of the Circum-Mediterranean region)*

	Male Genital Mutilations		
Communal Democracy	*0 (absent)*	*1 (present)*	Totals
0 (absent – leadership is hereditary/by appointment, etc.*)*	8 ***100%***	36 ***72.0%***	44
1 (present – elected leadership [formally, or through consensus])	0 ***0%***	14 ***28.3%***	14
Totals	8	50	58

NOTE: p = 0.092 (by Fisher's Exact Test, 1-tailed);
Gamma = + 1.0, p = 0.003 (1-tailed);
Phi = + 0.23, p = 0.04 (1-tailed). The data on communal democracy and male genital mutilations are from Murdock 1967; Murdock *et al.* 1986, 1990, 1999–2000, 2002 (V37 and V72).

In fact we are dealing here with a marginally significant **positive** correlation (which is also likely to be accounted for by the Galton effect produced by the functioning of historical networks of the Sub-Saharan parts of the sample – "Muslim Sudan" and the "African Horn").

Hence, it appears to be necessary to re-perform some of the tests performed by us earlier controlling for the Galton effect produced by the functioning of the Christian European historical network.

Indeed, to test cross-culturally the hypothesis that the christianization of Europe contributed to the development of the communal democracy in this part of world through the destruction of large extended families, unilineal descent

organization and polygyny it does not appear sufficient to demonstrate that these features correlate negatively with both the christianization and the communal democracy. It seems also necessary to test if those features correlate negatively with the communal democracy in the non-Christian world. The positive results of such tests would support the idea about the presence of the general regularity manifested in the significant negative correlations between the communal democracy, on the one hand, and large extended families, unilineal descent organization and polygyny, on the other, rather than just by the functioning of the Christian European historical system.

Hence, I decided to test this. The results of these tests are presented below (see Tables 46–8):

T A B L E 46. *Communal Democracy * Polygyny*
(for non-Christian cultures of the world)

Communal Democracy	Polygyny		Totals
	0 (absent)	*1 (present)*	
0 (absent – leadership is hereditary/by appointment, etc.*)*	52 ***54.7%***	481 ***81.0%***	533
1 (present – elected leadership [formally, or through consensus])	43 ***45.3%***	113 ***19.0%***	156
Totals	95	594	689

NOTE: $p = 0.0000001$ (by Fisher's Exact Test, 1-tailed);
Gamma = – 0.56, $p = 0.00001$; Phi = – 0.22, $p = 0.00000001$. The data on communal democracy and polygyny are from Murdock 1967; Murdock *et al.* 1986, 1990, 1999–2000, 2002 (V9 and V72).

T A B L E 47. *Communal Democracy * Unilineal Descent Organization (for non-Christian cultures of the world)*

Communal Democracy	Unilineal Descent Organization		Totals
	0 (absent)	*1 (present)*	
0 (absent – leadership is hereditary/by appointment, etc.*)*	166 ***64.6%***	443 ***84.7%***	609
1 (present – elected leadership [formally, or through consensus])	91 ***35.4%***	80 ***15.3%***	171
Totals	257	523	780

NOTE: $p = 0.0000000004$ (by Fisher's Exact Test, 1-tailed);
Gamma = – 0.5, $p = 0.000000004$; Phi =– 0.23, $p = 0.0000000001$.
The data on communal democracy and unilineal descent organization are from Murdock 1967; Murdock *et al.* 1986, 1990, 1999–2000, 2002 (V17–21 and V72).

T A B L E 48. *Communal Democracy * Large Extended Family as Predominant Family Type (for non-Christian cultures of the world)*

Communal Democracy	Large Extended Family as Predominant Family Type		Totals
	0 (absent)	*1 (present)*	
0 (absent – leadership is hereditary/by appointment, etc.*)*	497 ***76.8%***	120 ***83.9%***	617
1 (present – elected leadership [formally, or through consensus])	150 ***23.2%***	23 ***16.1%***	173
Totals	647	143	790

NOTE: $p = 0.04$ (by Fisher's Exact Test, 1-tailed);
Gamma = – 0.22, $p = 0.02$ (1-tailed);
Phi = – 0.07, $p = 0.03$ (1-tailed). The data on communal democracy and family organization are from Murdock 1967; Murdock *et al.* 1986, 1990, 1999–2000, 2002 (V8 and V72).

Thus the negative correlation between the extended family organization, unilineal descent groups and polygyny, on the one hand, and the communal democracy, on the other, turns out to be a universal regularity which cannot be explained by the

functioning of the Christian European historical network only. Note, however, an extremely low strength of the correlation between the extended family organization and the communal democracy.

There also seems to be another weakness in our argument which does not appear to have been noticed by our critics. In fact, we have only tested the correlation between deep christianization and the presence of unilineal descent organization, which turned out to be negative, highly significant and really strong (especially for cultures possessing state organization: $p = 0.0000000003$ [by Fisher's Exact Test]; Phi = – 0.7, $p < 0.0000000001$; Gamma = – 0.97, $p < 0.000000001$ [see Chapter 5]).

However, we did not test the correlation between the christianization, on the one hand, and polygyny as well as the extended family organization, on the other. The first correlation looked self-evident, and the second seemed to be also very plausible. However, one of the most basic principles of cross-cultural research (as well as the scientific method, in general) is that even the most plausible hypotheses must still be tested.

For these tests I chose a subsample of cultures for which the Christian factor turns out to be really relevant, *i.e.* the ones having 3 or more levels of political integration over community (that is, almost exclusively states). The results of these tests look as follows (see Tables 49–50):

T A B L E 49. *Deep Christianization * Polygyny (for "politically complex" societies [> 2 levels of political integration over community])*

	Deep Christianization		
Polygyny	*0 (absent)*	*1 (present)*	Totals
0 (absent)	13	20	33
	16.9%	***100%***	
1 (present)	64	0	64
	83.1%	***0%***	
Totals	77	20	97

NOTE: p = 0.000000000002 (by Fisher's Exact Test, 1-tailed);
Gamma = – 1.0, p = 0.0000000002;
Phi = – 0.71, p = 0.00000000000000001.
The data on polygyny are from Murdock 1967; Murdock *et al.* 1986, 1990, 1999–2000, 2002 (V9).
The christianization was coded by me for the *Etnhographic Atlas* cultures earlier (see Chapter 5).

T A B L E 50. *Deep Christianization * Large Extended Family as Predominant Family Type (for "politically complex" societies [> 2 levels of political integration over community])*

	Deep Christianization		
Large Extended Family as Predominant Family Type	0 (absent)	0 (absent)	Totals
0 (absent)	75	17	92
	84.3%	***85.0%***	
1 (present)	14	3	17
	15.7%	***15.0%***	
Totals	89	20	109

NOTE: p = 0.62 (by Fisher's Exact Test, 1-tailed);
Gamma = – 0.03, p = 0.47, 1-tailed;
Phi = – 0.008, p = 0.47, 1-tailed.
The data on family organization are from Murdock 1967; Murdock *et al.* 1986, 1990, 1999–2000, 2002 (V9).
The christianization was coded by me for the *Etnhographic Atlas* cultures earlier (see Chapter 5).

As one can see, in this sample the christianization turns out to correlate negatively, very strongly, highly significantly (and quite predictably) with the polygyny. However the extended family factor has failed to pass this test. The

Christian states are as likely to have large extended families as non-Christian ones. Hence, one has sufficient grounds to doubt that christianization contributed to the development of the communal democracy in Europe through the destruction of the extended family organization.

Thus, my new tests have provided additional support to the theory that polygyny, unilineal descent organization and large extended families could be regarded as universal negative predictors of the communal democracy. My tests have confirmed that that the christianization correlates positively with the communal democracy. My tests have also confirmed that the christianization correlates negatively with polygyny (though no one hardly doubted this). However, my tests (contrary to my expectations) have failed to confirm the presence of negative correlation between christianization and the presence of large extended families. Hence, the main channels through which the christianization of Europe might have contributed to the development of the communal democracy in this part of the world are the destruction of the unilineal descent organization and polygyny (but not the large extended families).

In general, the overall explanatory model looks as follows. I suggest that the kinship and family structures (determined in its turn by a large number of independent factors, both material [*e.g.*, economic] and ideal [*e.g.*, religious]) could affect significantly the overall political evolution of the respective societies. I believe, that the family structures affect primarily the political organization of the community (and I think I have provided enough substantial support for this point above). However, I also believe that the communal political structure could influence significantly the political organization of the supracommunal levels as is suggested by the following test (see Table 51):

T A B L E 51. *Communal Democracy * Supracommunal Democracy*

(for Standard Cross-Cultural Sample*)*

	Democracy of Supracommunal Organization		
Communal Leadership	*0 (absent)*	*1 (present)*	Totals
0 = Non-Democratic	52 ***90%***	6 ***10%***	58
1 = Democratic	7 ***35%***	13 ***65%***	20
Totals	59	19	78

NOTE: p = 0.000005 (by Fisher's Exact Test);
Phi = + 0.56

As a source for the data regarding *Democracy* of the political organization we used Tuden and Marshall 1972.

The variable which we have chosen is *SELECTION OF EXECUTIVE* which has the following values: *1 = Absent; 2 = Patrilineal, Fa to So; 3 = Patrilineal, Fa to FaBr, then to So; 4 = Matrilineal, MoBr to SiSo; 5 = Matrilineal, MoBr to MoBr; 6 = Ruling family; 7 = Decision by limited power group; 8 = Elected by council; 9 = Informal recognition; 10 = Formal elections; 11 = Appointee of alien society; 12 = Divination*. We have not considered the societies with value 1, whereas the values 8-9 have been re-coded as 1 (*Democracy Present)* and all the other values have been re-coded as 0 (*Democracy Absent*).

As a source of data on the communal democracy for the *Standard Cross-Cultural Sample* we used Murdock and Wilson 1972 (*Local Political Succession, Primary*). The re-coding has been done along the same lines as with respect to the previous variable. This table, naturally, does not consider the societies lacking supracommunal levels of political administration.

As one could see the correlation between the democracy of the communal organization and the democracy of the supracommunal political organization turns out to be really strong and significant beyond any doubt.

At this point we come to the most difficult problem of any cross-cultural research, the problem of the causation direction. I think that though the democratization of communal organization under the influence of the previously democratized state is perfectly possible (for example, this could be observed in the post-Communist Eastern Europe), the communal democracy in its turn could contribute to the democratization of the supracommunal political organization. Note that in Europe the development of democratic communal organization preceded the formation of modern supracommunal democracy (Kotel'nikova 1986). There are certain grounds to believe that the democratic organization of European communities facilitated the formation of democratic structures on the supracommunal level. On the other hand, the non-democratic communal organization appears to inhibit the development of democratic state organization as seems to be evidenced by Near Eastern data. Thus, the possible relationship between christianization and democracy could be presented in the following way (see Fig. 18):

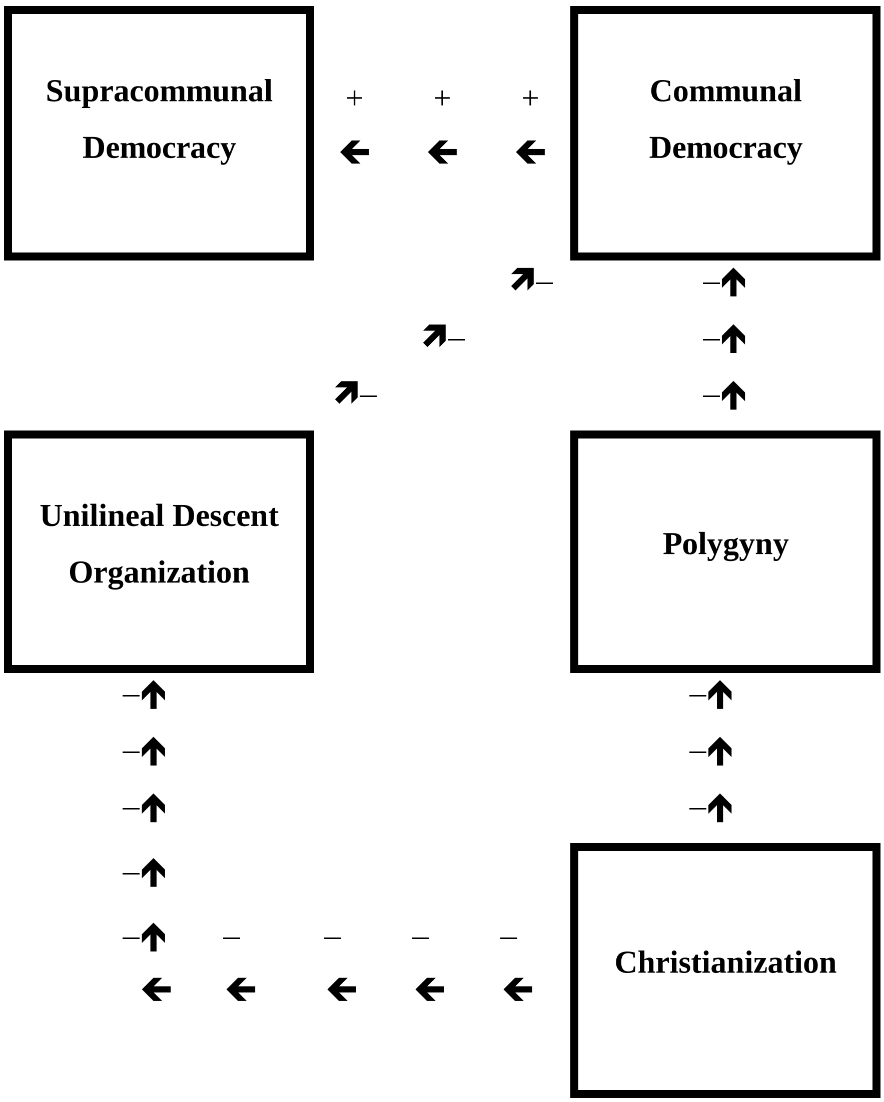

Fig. 18. *Relationship between Christianization and Democratization.*

Conclusion

Beyond Materialism and Idealism

Why do the religions appear to shape to such a considerable extent the social structure of the traditional cultures of the Old World Oikumene, whereas nothing like that seems to be observed in the rest of the world, for regionalization (based on traditional social structure) of which one does not appear to have to take into account the functioning of any particular religious historical networks?[56]

The sociocultural evolution of the humankind for the most part of the period of its existence can be considered as a "natural-historical" process where the role of subjective factor was relatively small. Indeed, the evolution of archaic societies, the formation of ranked and early stratified societies, the evolution of early political systems (the formation of simple and, later, complex chiefdoms, and then early states), genesis and evolution of early civilizations could well be regarded as processes which developed under almost exclusive influence of only objective evolutionary factors.

Of course, in the respect which is of interest for us in this context the social agent / subject (*i.e.* individuals and groups of individuals comprehending the existence of their own interests, often different from the common ones, and exerting conscious efforts aimed at achieving them) appeared with the formation of *Homo Sapiens Sapiens* (if not earlier). But at the early stages of sociocultural evolution the influence of the subjective factor on the social *macro*evolution appears to have been negligible. On the other hand, already in band societies the

[56] Note that we are speaking here about the social structure described in the ethnographic record and not about the present-day social organization of the respective ethnic groups.

activities of a single individual, the manifestation of his or her subjective qualities could lead to some structural change of respective sociums for some periods of time (for an analysis of a few concrete instances described in the ethnographic record when social organization of respective communities was substantially changed by conscious activities of outstanding early political leaders see, *e.g.*, Korotayev 1999). However, after the death of such outstanding early political leaders under their less outstanding successors the situation appears to have normally returned to the starting point. On the other hand, the above-mentioned data suggest that even with respect to the study of the early sociocultural evolution the influence of the subjective factor should still be taken into consideration. From our point of view, its influence manifested itself first of all in the fact that an archaic society in any given moment of time cannot be regarded as existing in the state of full, perfect equilibrium with entirely stable and constant sociological characteristics. Its state could be much more accurately described as the one of constant non-critical fluctuations around some "normal point". The fluctuations caused by the subjective factor should be, of course, added to the ones caused by objective ecological factors, cyclical natural processes (the change of a hunter-gatherer community from a concentrated state in one season to a dispersed one in another with subsequent re-concentration, *etc.*), as well as fluctuations caused by cyclical changes between economically favorable (*e.g.*, rainy) and unfavorable (*e.g.*, dry) years. As a result, the influence of all those factors (including the subjective one) causes constant significant (but not very strong, "non-critical") fluctuations of some important sociocultural characteristics (a community becomes more egalitarian at one time and less egalitarian at another; more politically centralized at one time and less centralized at another; more militant at one time and less militant at another, *etc.*). Thus, the process of, say, the growth of political centralization cannot be adequately described as a gradual movement from politically decentralized loose communities through uninterrupted political

centralization up to the state system. It should be rather described as a process whereby in favorable conditions the fluctuation pendulum remains for a longer time at one of the poles and on the backward swing does not return completely to the other pole. Finally, the movement of the fluctuation center turns out to be possible; *i.e.* the "norm" also changes.

Thus, there are certain grounds to maintain that already at the earliest stages of sociocultural evolution the role of subjective factor was quite significant, but much less strong than at the later stages. The main directions of sociocultural evolution were determined not by it, but by objective evolutionary regularities and factors. It was the spontaneous appearance of favorable objective conditions which created the possibilities for the realization of the subjective aspirations of certain social subjects (agents), and at these stages the process of sociocultural evolution developed in a quite spontaneous, "natural-historical" way. The subjective factor played an explicitly secondary role in those processes. The main bulk of the most important social transformations was caused mainly by quite objective socionatural factors, and they took place almost entirely independently of the wishes and feelings of people (simply because they did not try to influence them consciously).[57]

E.g., the "zoological catastrophe" of the late Pleistocene – early Holocene (*c.* 11,000–12,000 years BP) created the necessity to search for the ways of subsistence which were alternative to the large land mammal hunting (*e.g.*, Bar-Yosef 1998; Alley 2000). As a result of human adaptations to changing objective conditions in the Mesolithic we observe the development of small mammal hunting (including the one using bows and arrows invented and diffused just at this time), fishing, hunting of large aquatic animals, specialized gathering, *etc.*

[57] When, as a result of growing internal warfare caused, *e.g.*, by the increasing population density, parents make efforts to arrange their sons living with them after their marriage, their aim would never be the formation of the unilineal descent organization within the given cultures. When an agriculturalist starts using the plow technology, his aim would never be to decrease the relative

The development of specialized and later complex gathering appears to have created in a few places preconditions for the transition to agriculture. The transition to agriculture and intensive specialized foraging (the "Neolithic Revolution") led to the radical growth of the land/territory productivity[58], and consequently, to the "first demographic revolution". The resultant radical growth (in a few places) of the population density and community size led to the growth of the density of social ties and complexity of social relations which created more favorable conditions for the development of more complex social institutions for their regulation. The intercommunity distances shrank; the intercommunity relations became more complex. The intercommunity warfare intensified, its character changed. All these (plus a few other factors not mentioned here) created favorable conditions for the development and institutionalization of social functions regulating this more and more complex system of dense social relations both within community and at the intercommunity level (see *e.g.*, Adams 1975; Carneiro 1970, 1981, 1987, 1988, 1991, 2000*a*, 2000*b*; M. Cohen 1977; Fried 1967*a*; Harris 1978; Johnson and Earle 1987; Service 1975; Claessen and Skalnik 1978, 1981; Claessen and van de Velde 1987; Hallpike 1986; G. Lenski, Nolan, and J. Lenski 1995; Earle 1997; Muller 1997; Claessen 2000*a*, 2000*b*; Southall 2000; C. Spencer 2000, *etc.*). From our point of view, those processes can well be regarded as fairly spontaneous, whereas the role of the subjective factor as a determinant of the direction of sociocultural evolution may well be considered as almost negligible here.[59] In the last analysis this is the existence here which mainly determined the consciousness (at least as regards those respects which are

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female contribution to subsistence and, consequently, to achieve the transition from the general to occasional polygyny, and so on.

[58] The land productivity of the given socium is defined as the quantity of product which (for the given technological level and type) may be produced (the "potential productivity of land") and is produced (the "actual productivity of land") from a unit of its territory within the given unit of time (normally a year). The "territory" is understood as all the territory controlled by the given socium, and not only as an area of directly cultivated land.

[59] Though, on the other hand, this factor may be regarded as one of the main moving forces of sociocultural evolution in this type of cultures (as in all types of cultures in general).

important for socioevolutionary processes); and the orthodox Marxist (or "cultural materialist") scheme of the interrelations between the objective laws of sociocultural evolution and subjective factor (see, *e.g.*, Carneiro 2000*a*) turns out to be quite applicable here (though, naturally, with considerable reservations taking into account nonlinearity of sociocultural evolution, *etc.*).

It appears that the main pre-conditions of the "neutralization" of the subjective factor as a major determinant of the direction of sociocultural macroevolution could be identified as follows.

The social macroevolution speed among archaic societies was rather slow. Considerable macrosocial transformations (the transition from foraging to agriculture, formation of unilineal descent organization, developed social stratification, centralized political systems: chiefdoms, and early states; transition from general to occasional polygyny, *etc.*) took such long time that they were virtually not noticed by the human consciousness. By the time a society reached a qualitatively new state, the memory of a previous qualitatively different state would have normally practically disappeared. It began looking like it had been always so as it was that moment; and what is more, that "We", "the people" (*i.e.* our ethnos) could not live at all any other way. The predominant time concepts were normally cyclical (see, *e.g.*, Eliade 1959); and *what is* was usually considered to be identical with *what ought to be.* The problem of the choice of the way of sociocultural development was not normally relevant, as the very fact of such development was usually not noticed at all. The sociocultural macroevolution constituted a "process of natural history" to a considerable extent just because it was not noticed by people, it missed their consciousness and was not an object of their concerns and interests. The "choice" of the way of sociocultural development was conducted practically without the participation of

people[60], which makes it possible to consider social evolution of such cultures as a quite spontaneous natural process.

The situation changes considerably only after the formation of complex "urbanistic" civilizations. The main preconditions for this change may be described as follows:

1) general acceleration of the sociocultural evolution speed; as a result it starts to be noticed by the human consciousness; people start to notice that their society today is not the same as it was at the age of their grandparents;

2) development of techniques[61] of information production, procession, transmission and storage, which also helped people to notice that their society changed in time;

3) immanent unevenness and nonunilinearity of evolution of different social systems in context of intensification of the information exchange between them.[62]

Notwithstanding the fact that the human ideas of real directions of sociocultural evolution were usually far from adequate, the very idea that social systems experience changes and those changes can be influenced by human actions could well contribute to the activation of the subjective factor. The main point is that the social evolution became to be noticed, and more or less conscious attempts to influence its direction, to change one's society in a particular way started to be undertaken with increasing intensity.

These circumstances appear to be tightly connected with the appearance of ideas that the *what is* is different from the *ought to be*, that what exists is not identical at all with what should be. More and more systematic and organized attempts to bridge this gap start to be undertaken. What is observed could be

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[60] To a considerable extent simply because people did not usually try to influence this "choice". Of course, the very word "choice" is used within such a context in the most metaphoric way. It would be more correct to say that the direction of sociocultural evolution of a given society was normally determined by objective factors, whereas the role of subjective factor was virtually negligible.

[61] In most general sense of this word, including, *e.g.*, the mnemotechniques of the creation and transmission of complex oral historical traditions.

termed the "institutionalization" of subjective factor. As was mentioned above, the subjective factor influenced to some extent the sociocultural evolution of primitive and archaic societies. But this influence was not strong and firm, to a considerable degree because subjective actions of some persons in one generation were normally extinguished by subjective actions (or subjective inaction) of other persons in another generation. In the end, the main result of the subjective factor influence on the evolution of archaic societies was mainly the non-critical fluctuation of some of their significant (and insignificant) sociocultural characteristics (which was quite important), but this did not cause any significant deviation in the evolutionary trajectory of the given society as a result. **At the macrolevel** the process of sociocultural evolution took place under almost exclusive influence of objective factors and regularities, virtually irrespective of human wishes, desires and aspirations.

As a result of the processes specified above (which seem to have achieved the threshold level during the Axial Age [8^{th}–4^{th} centuries BCE]) the subjective "deviating" influences of individual persons in different generations tended to get somewhat ordered. Those actions of individual subjects within one generation, which could affect the direction of socioevolutionary processes, tended to get more ordered too. As a result, we observe the weakening of the mutual extinguishing effect of the actions of different subjects; more and more the resonance effect is observed.

Thus, the role of the subjective factor becomes more and more important. It becomes especially substantial with the formation and development of various social ideals,[63] *i.e.* ideal models of desirable social systems, in order to achieve

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[62] The role of the *ought*-model may be played *inter alia* by a model (normally, very idealized) of social system of another society (or several other societies).

[63] It does not seem to matter if the role of such an ideal is performed (as this is observed, *e.g.*, for Confucius and Confucianists) by the idealized past. Even in this case the subjective factor remained a factor of **sociocultural evolution,** and not social regress, *inter alia* because the "idealized past" is always substantially different from the real past and even a full realization of such an ideal would mean the creation of a new reality, and not a regress, a return to some

which efforts of more and more people start to be directed. We also observe the development of organizational forms within whose framework we can see more and more purposeful activities aimed at "bridging the gap between *is* and *ought*", between what exists and what should exist (notwithstanding the fact that after this gap appeared nobody has ever managed to liquidate it fully), at changing the society in accordance with respective ideal models. In any case it seems possible to speak about the transformation of the subjective factor into really significant factor of sociocultural evolution. This may be called "subjective factor institutionalization".

The processes described above started to appear sporadically among late archaic cultures and early civilizations. However, the qualitative breakthrough appears to have occurred within the Old World Oikumene civilizations during the Axial Age (the 8^{th} – 4^{th} centuries BCE) which could be regarded as a turning point in the human history in this respect too. Indeed, it was in this Age when we could observe rapid and intensive development of all the processes described above (the formation and diffusion of ideas implying that the society changes substantially in time, that *ought to be* is substantially different from *what is*, that a more just social system is possible and that it could be attained through conscious human efforts; we can also see the formation, development and diffusion of various organization forms within whose framework the activities aimed at bringing those ideals into reality are conducted). These took place at least in all the main centers of the Axial Age "revolutions" (Greece, Rome, Palestine, Zoroaster's Middle East, India and China) (see, *e.g.*, Jaspers 1953; Eisenstadt 1982, 1986; Gellner 1988).[64]

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previous state. We do not speak here about the fact that the full realization of social ideals is impossible in principal; as a result, any sincere attempt to regress, to go backward (if it did not fail all together) would result to some or another movement forward, to a state not attested to in the past.

[64] It is this Age after which the sociocultural evolution of the humankind (at least of those of its parts which went directly or indirectly through the Axial Age) cannot be regarded as a completely (or almost completely) "natural-historical" process determined (even in the end) only (or almost only) by objective material factors. The consciousness starts to determine the existence more and more.

It is this Age after which the sociocultural evolution of the humankind (at least of those of its parts which went directly or indirectly through the Axial Age) cannot be regarded as a completely (or almost completely) "natural-historical" process determined (even in the end) only (or almost only) by objective material factors. The consciousness starts to determine the existence more and more. Note that during the age when the traditional social organization of the Old World Oikumene was formed (*i.e.* approximately the millennium preceding the modernization age) it was the organization forms of the world religions which mainly played this role. And as the models of ideal social order of the respective religions normally contained a considerable amount of elements pertinent to the social structure, this could account for the phenomenon which we analyzed in this book.

As a rather spectacular illustration of the fact that the process of sociocultural evolution in the post-Axial Age lost to a considerable extent features of entirely (or even mostly) "natural-historical" process, that the consciousness here tends to begin determining the existence to a greater extent than it itself is determined by the existence, that the subjective factor began playing a role comparable to the one of the objective factors, may be provided by the case of the global "liberation of slaves", *i.e.* the liquidation on the world scale[65] of almost all the strong legal forms of hard personal dependence (including, naturally, not only the slavery in the narrow sense of this word, but also, of course, the serfdom) in the 19th century. Indeed, within just a few decades (*i.e.* instantly on the global historical scale) the legal forms of slavery and serfdom (which had existed for millennia before that in most of "civilized" areas of the Oikumene) disappeared in the most zones of their previous existence. The number of legal slaves and serves in the world decreased by orders of magnitude. And it appears impossible to give

[65] With the exception of a very few "superperipheral"/hinterland zones and niches of the World System.

a consistently "materialist" explanation to this process[66].

One possible (and rather spectacular) "materialist" explanation connects this process with the rapidly developing in the 19th century industrial revolution. Indeed in the process of this revolution we observe the transition from the dominance of the live labor over the materialized one to the dominance of the materialized labor over the live one; as a result the control over the producer's person stops being a necessary condition of the exploitation and dominance – it turns out sufficient to control the materialized labor only. But, as is easy to see, we confront here even not necessary (and all the more, not sufficient), but only a "stimulating" (though stimulating quite effectively) condition of the Liberation.

An important point is also that the same process produces influence in the opposite direction, leading to the loss by huge numbers of producers of their economic independence, suppression of their individualities (at least within the production process), the submission of their will to the "necessity of production" over which they have no control, *etc.* In the course of those (and subsequent) processes the "human element" turns out to be

> the most insecure and unreliable component. Either it should be taken out and replaced by material structures – computers, self-regulating machines, *etc.*, or it should be made as reliable as possible, *i.e.* machinelike, conformist, manageable and standardized. Speaking more bluntly, within the Big System the human should be – and to considerable extent already is – an intellectually underdeveloped button-pusher or an educated idiot, *i.e.* an individual highly qualified in the area of his or her specialization, but in all other respects being just a part of a machine. In accordance with a well-known principle of the general system theory – the principle of progressing mechanization – the individual more and more becomes a gear within some complex mechanism (Bertalanffy 1969: 34).

As a result, in order to counteract these objective factors, to secure the real

[66] Though it seems possible to suggest it to some local manifestations of this global process.

personal freedom of the producers it turns out necessary to create (to a considerable extent quite consciously) a whole system of social and political institutions protecting this freedom. It seems also important to stress that in the most branches of economy where the main mass of the "slaves" was employed (and this is predominantly the agricultural production), in general it was extremely far from the "dominance of the materialized labor over the live one" by the moment of the Liberation.

There are all grounds to believe that the Liberation was not caused (at least in many cases) by the "economic necessity". For example, the counterfactual modeling performed already in the 1960s by the American representatives of the school of New Economic History showed that the American economy (and especially the economy of the South) would have developed (at least for a few post-1866 decades) quite successfully even if the slavery had not been abolished. The slave-using economic system of the South was quite viable by the moment of its abolition, whereas the Liberation led here to a considerable economic crisis (Conrad and Meyer 1964; Yasuba 1961; Engerman 1971; Fogel and Engerman 1971, 1974; Engerman, Sutch, and Wright 2004).[67] (One may also recollect at this point economic crises caused by the abolition of slavery by the British in Jamaica and other analogous colonies of the Hemisphere.)

It seems possible to explain by the objective material causes (though usually not in quite a convincing way) the "abolition of slavery" in certain branches of economy, but for some other branches such an explanation appears to be impossible in principle. For example, if such an explanation could be imagined

[67] It is very remarkable that a Soviet reviewer of this research noticed here first of all an apologia of slavery (Promahina 1975:318–9). At the meantime, it seems possible to find it here from the point of view of vulgar materialism only, as vulgar materialism considers the slavery an evil first of all because of its economic ineffectivity. However, for a consistent "liberal" there is no apologia of slavery here at all, as for her or him the slavery is an evil because of the fundamental humanitarian reasons irrespective of its economic effectivity or ineffectivity which is for him or her simply irrelevant at this point. Even if the slavery were most effective economically, for a consistent "liberal" it would not become a lesser evil.

for the liberation of the Russian peasant serfs, it seems impossible to imagine even a remotely plausible materialist explanation for the liberation of the Russian manor serfs (who had no land, lived in their masters' households and performed house servant functions).

In general, if the 19th century Liberation were[68] a result of, say, some objective "natural" law of the correspondence of the relations of production to the productive forces development level, one would have to expect that this process must have occurred in an entirely different way: the slavery would have died out first in some most developed branches of economy, whereas it would have been preserved in some other branches (with a high proportion of hard, low-qualification, or humiliating labor), possibly expanding to some newly appearing spheres of production (like, say, the conveyor production).

The Liberation, as it occurred in the 19th century, was to a very considerable extent a result of influence of conscious attempts to change the *what is* so that it would be in accordance with the *ought to be*, to eliminate a scandalous gap between them[69].

Thus, beginning from the Axial Age the sociocultural evolution of the humankind (at least in those of its parts which directly or indirectly went through the Axial Age) cannot be considered to be any more as absolutely (or, even mostly) "natural-historical" process determined (even in the final consideration) by objective material factors only. The social consciousness becomes more and more important determinant of the social existence.

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[68] Of course, History does not know the subjunctive mood; but Sociology and Anthropology of Evolution cannot do without it.

[69] For the subject of this monograph it appears very relevant that a very important role in this process was played by some Protestant Christian denominations whose representatives belived that slavery had no place in their religiously colored ideal model of the just social system and who undertook systematic activities in order to bring the social reality in accordance with this ideal model (see, *e.g.*, Jennings 1997; Walvin 1997; Longenecker 2002). However, the myth of the absolute economic ineffectiveness of slavery must have also played some positive role in this process. Favorable "material" conditions for this process which had arisen by the 19th

In this connection it seems reasonable to draw the readers' attention to the following phenomenon noticed by Sanderson (1990:103–68), which I have already mentioned in the introduction: among the neoevolutionist anthropologists one observes the dominant positions belonging to the materialist theories of sociocultural evolution which consider it as virtually a process of natural history developing under the influence of almost only objective factors (demographic, ecological, *etc.*), according to objective evolutionary laws (*e.g.*, Adams 1975; Carneiro 1970, 1981, 1987, 1988, 1991; 2000*a*; 2000*b*; M. Cohen 1977; Fried 1967*a*; Harris 1978; Johnson and Earle 1987; Service 1975; Claessen and Skalnik 1978, 1981; Claessen and van de Velde 1987*a*; Hallpike 1986; Earle 1997; Muller 1997; Claessen 2000*a*; 2000*b*; Southall 2000; C. Spencer 2000). At the meantime among the classical neoevolutionist sociologists we rather observe the dominance of essentially idealist theories of sociocultural evolution (Parsons 1966, 1971; Eisenstadt 1964, 1970, 1978, 1982, 1986, 1993; Habermas 1979, 1984; Luhmann 1982; Alexander 1983). And it appears difficult not to connect this point with the fact that the former construct their evolutionary models mainly on the basis of the "pre-Axial" archaic cultures, whereas the latter rely predominantly on the materials of the "Axial cultures".

And one more conclusion. While studying the network autocorrelation effects the cross-cultural scholars usually pay most attention to the linguistic data (see, *e.g.*, Dow, M. Burton, and White 1981, 1982; Dow, M. Burton, White, and Reitz 1984; White, M. Burton, and Dow 1981; M. Burton and White 1987:147, 1991; M. Burton 1999). However, our results appear to show that the religious data should be taken here as seriously especially with respect to the Old World Oikumene cultures.

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century, as well as ones which formed in the 19th century itself, were also of considerable importance here.

Appendix 1

Discriminant Scores from Functions 1–5 for Discriminant Analysis

Cultures & Civilizations	Function					Predicted Group for Discriminant Analysis
	1	*2*	*3*	*4*	*5*	
Vajrayana cultures						
Buryat	+ 3.59	– 2.90	– 0.20	+ 3.26	– 0.25	Vajrayana
Kalmyk	+ 3.95	– 3.12	+ 0.54	+ 5.37	– 3.14	Vajrayana
Khalka	+ 3.59	– 2.90	– 0.20	+ 3.26	– 0.25	Vajrayana
Tibetans	+ 3.51	– 2.23	+ 0.93	+ 1.59	– 0.69	Vajrayana
Hinduist cultures						
Balinese	+ 4.29	+ 2.58	+ 0.38	– 0.77	– 1.73	Hinduist
Gujarati	+ 4.09	+ 3.29	+ 0.04	– 1.13	– 0.27	Hinduist
Kerala	+ 4.49	+ 3.90	– 0.66	– 0.76	– 3.04	Hinduist
Pahari	+ 3.02	+ 1.76	+ 1.36	– 0.39	– 1.25	Hinduist
Tamil	+ 4.04	+ 3.18	– 1.75	– 0.50	– 1.41	Hinduist
Telugu	+ 5.25	+ 3.33	– 0.22	+ 0.70	– 1.50	Hinduist
Uttar Pradesh	+ 4.02	+ 2.63	– 2.17	– 0.31	– 1.42	Hinduist
Hinayana Buddhist cultures						
Burmese	– 2.77	+ 2.51	– 0.52	+ 1.59	+ 2.19	Hinayana
Khmer (Angkor Empire, 13th century)	– 0.37	+ 1.36	– 1.26	+ 2.57	+ 2.03	Hinayana
Siamese	– 1.26	+ 4.40	– 1.11	+ 3.12	+ 2.31	Hinayana
Sinhalese	– 1.95	+ 5.11	– 1.28	+ 1.49	+ 0.58	Hinayana

Cultures & Civilizations	Function					Predicted Group for Discriminant Analysis
	1	*2*	*3*	*4*	*5*	
Cambodians (1950)	– 1.28	+ 1.09	– 2.20	+ 0.81	+ 2.26	Hinayana
Confucian/Mahayana Buddhist cultures						
Annamese	+ 2.02	+ 1.65	+ 4.02	– 3.23	+ 2.62	Confucian/ Mahayana
Cantonese	+ 3.99	+ 0.52	+ 1.69	+ 0.26	+ 0.97	Confucian/ Mahayana
Chekiang	+ 2.94	+ 0.66	+ 3.80	+ 0.23	+ 1.67	Confucian/ Mahayana
Japanese	– 0.76	+ 0.86	+ 1.53	+ 1.32	+ 2.27	Hinayana
Koreans	+ 0.41	– 1.20	+ 4.72	– 1.02	– 2.01	Confucian/ Mahayana
Minchines	+ 3.99	+ 0.52	+ 1.69	+ 0.26	+ 0.97	Confucian/ Mahayana
Okinawans	+ 3.03	+ 0.82	+ 4.55	– 0.15	– 0.87	Confucian/ Mahayana
Shantung	+ 1.95	– 1.95	+ 1.65	– 0.54	+ 1.04	Confucian/ Mahayana
Christian cultures						
Amhara	– 4.41	– 0.98	+ 1.07	– 1.24	– 1.78	Christian
Armenians	– 4.12	– 0.63	– 1.30	– 0.36	+ 0.43	Christian
Bulgarians	– 5.33	– 0.24	– 0.60	– 0.96	– 0.65	Christian
Byelorussians	– 3.97	+ 0.87	+ 0.28	– 0.03	+ 0.49	Christian
Czechs	– 3.78	– 0.23	+ 0.38	+ 0.07	– 0.55	Christian
Dutch	– 3.93	+ 0.17	+ 0.27	– 1.04	+ 0.24	Christian
Greeks	– 5.71	– 1.41	– 0.34	+ 0.33	– 1.36	Christian
Haitians	– 4.60	+ 0.66	– 1.72	+ 0.72	– 1.87	Christian
Hungarians	– 2.14	– 0.17	+ 1.63	– 0.39	+ 0.06	Christian
Irish	– 3.78	– 0.23	+ 0.38	+ 0.07	– 0.55	Christian
Lebanese	– 2.35	– 1.82	+ 0.40	– 1.02	– 0.07	Christian
Portuguese	– 3.03	+ 0.05	+ 0.98	+ 0.47	+ 0.42	Christian
Russians	– 4.84	+ 0.90	+ 0.82	+ 0.48	+ 0.45	Christian
Spaniards	– 5.16	– 0.02	+ 0.16	+ 0.62	+ 0.66	Christian
Tigrinya	– 2.11	– 0.97	– 0.63	– 1.06	– 1.21	Christian
Walloons	– 5.90	– 0.30	– 0.43	+ 0.23	– 0.31	Christian
Brazilians	– 4.41	– 0.10	+ 0.42	– 0.21	– 0.69	Christian
French Canadians	– 3.84	– 0.41	– 0.57	+ 0.04	– 0.15	Christian

Cultures & Civilizations	Function					Predicted Group for Discriminant Analysis
	1	*2*	*3*	*4*	*5*	
Lithuanians	– 3.85	– 1.29	+ 0.08	– 0.99	– 1.24	Christian
Neapolitans	– 5.05	– 0.02	+ 0.12	– 0.56	– 1.23	Christian
New England	– 3.73	– 0.05	– 0.28	+ 0.10	+ 0.29	Christian
Ukrainians	– 3.78	– 0.23	+ 0.38	+ 0.07	– 0.55	Christian
Islamic cultures						
Algerians	+ 3.32	– 1.70	– 0.43	– 0.35	+ 1.29	Islamic
Bengali	+ 2.32	+ 0.73	– 1.18	+ 0.23	– 1.17	Hinduist
Egyptians	+ 3.35	+ 0.01	– 2.39	– 2.80	– 0.64	Islamic
Iranians	+ 2.41	– 2.33	– 1.28	– 2.42	+ 1.24	Islamic
Jordanians	+ 3.39	– 0.63	– 0.13	+ 0.71	+ 1.97	Islamic
Kashmiri	+ 3.35	+ 0.01	– 2.39	– 2.80	– 0.64	Islamic
Kazak	+ 3.33	– 3.31	– 1.50	+ 1.04	+ 0.29	Islamic
Moroccans	+ 3.19	– 1.83	– 1.52	+ 0.13	+ 0.63	Islamic
Punjabi	+ 1.95	– 1.95	+ 1.65	– 0.54	+ 1.04	Confucian/ Mahayana
Sindhi	+ 2.10	– 1.85	– 1.96	– 1.54	+ 1.38	Islamic
Syrians	+ 2.10	– 1.85	– 1.96	– 1.54	+ 1.38	Islamic
Tunisians	+ 3.13	– 2.90	– 1.82	– 0.93	– 0.05	Islamic
Turks	+ 2.10	– 1.85	– 1.96	– 1.54	+ 1.38	Islamic

Appendix 2

New "Matricentricity/Patricentricity" and "Unilinearity/Bilaterality" Scores for Cultures Analyzed in this Monograph

Cultures & Civiliza-tions	Matri-/Patri-centricity Scores	Uni-linearity/Bi laterality scores	Cultures & Civiliza-tions	Matri-/Patri-centricity Scores	Unilinearity/Bi laterality scores	Cultures & Civiliza-tions	Matri-/Patri-centricity Scores	Unilinea rity/Bilat erality Scores
Christian cultures			*Islamic cultures*			*COMPLEX CULTURES OF THE EASTERN PART OF THE MIDDLE OLD WORLD*		
Armenians	+ 1.16	– 0.82	Algerians	– 1.07	+ 0.83	*Vajrayana cultures*		
Basques	+ 1.16	.	Barabra	– 1.07	+ 0.83	Buryat	– 1.38	+ 1.10
Boers	+ 1.16	.	Cherkess	– 1.07	.	Kalmyk	+ 0.19	+ 0.14
Brazilians	+ 2.10	– 1.74	Egyptians	– 0.70	+ 0.83	Khalka	– 0.26	– 0.50
Bulgarians	+ 1.54	– 1.06	Gheg	– 1.07	+ 0.07	Tibetans	– 0.70	+ 0.22
Byelo-russians	+ 1.16	– 1.07	Hazara	– 0.70	+ 0.83	*Hinduist cultures*		
Czechs	+ 1.16	– 1.45	Iranians	– 0.44	+ 0.83	Balinese	– 0.33	+ 0.39
Dutch	+ 1.54	– 1.87	Jordanians	– 1.07	+ 0.83	Gujarati	– 0.70	+ 0.64
French Canadians	+ 1.72	– 1.78	Kazak	– 1.27	+ 0.88	Kerala	+ 0.65	+ 0.28
Greeks	+ 1.72	– 1.78	Kohistanis	– 0.70	.	Pahari	– 1.07	– 0.42
Hungarians	+ 1.16	– 1.18	Kumyk	– 0.30	.	Tamil	– 0.47	+ 1.14
Hutsul	+ 1.72	.	Kurd	– 1.07	+ 0.21	Telugu	– 0.70	+ 1.14
Icelanders	+ 1.16	.	Madan	– 1.07	+ 1.05	Uttar Pradesh	– 0.33	– 0.04
Irish	+ 1.16	– 1.45	Marri	– 1.01	+ 1.32	*Hinayana cultures*		
Lapps	+ 2.10	– 1.02	Moghol	– 1.07	+ 0.83	Burmese	+ 1.72	– 1.17

Cultures & Civiliza-tions	Matri-/Patri-centricity Scores	Uni-linearity/Bi laterality scores	Cultures & Civiliza-tions	Matri-/Patri-centricity Scores	Unilinearity/Bi laterality scores	Cultures & Civiliza-tions	Matri-/Patri-centricity Scores	Unilinearity/Bilaterality Scores
Lithuanians	+ 1.16	– 1.45	Moroccans	– 1.07	.	Khmer[70]	+ 0.08	– 1.08
Neapolitans	+ 2.10	– 1.02	Mutair	– 1.07	+ 0.83	Siamese	+ 0.08	– 1.19
New England	+ 2.10	– 1.58	Pathan	– 0.70	+ 0.02	Sinhalese	+ 1.72	– 0.15
Portuguese	+ 1.54	– 0.98	Punjabi	+ 0.38	+ 0.31	Cambodians[71]	– 0.30	– 1.11
Romanians	+ 2.10	– 1.74	Rwala	– 0.70	+ 0.43	*Mahayana/Confucian cultures*		
Russians	+ 1.72	– 1.39	Saadi	– 1.07	+ 0.83	Annamese	– 0.70	+ 0.18
Serbs	+ 0.61	.	Sindhi	– 0.85	+ 0.83	Cantonese	– 1.07	+ 0.64
Spaniards	+ 2.10	– 1.92	Syrians	– 0.85	+ 0.83	Chekiang	+ 1.34	– 0.20
Spanish Basques	+ 1.72	.	Tunisians	– 1.07	.	Japanese	+ 1.16	– 0.74
Tristan	+ 2.10	.	Turks	– 0.85	+ 0.83	Koreans	+ 0.77	– 0.73
Ukrainians	+ 1.16	– 1.45				Minchines	– 1.07	+ 0.64
Walloons	+ 1.72	– 1.39				Okinawans	+ 0.38	– 1.11
Christian/partly Islamized						Shantung	+ 0.38	+ 0.31
Lebanese	+ 1.54	– 0.26						

[70] Angkor Empire, the 13th century.
[71] Mid 20th century.

Appendix 3
An Apologia
for Comparative Evolutionary Method
of Anthropology

By Andrey Korotayev, Alexander Kazankov, Leonid Dreier, and Natalia Dmitrieva

"Cross-culturalists do not generally assume that synchronic associations can lead to inferences about specific evolutionary developments" (C. Ember and Levinson 1991:80). This is really so. The reluctance to do such inferences (at least within the American anthropology) seems to ascend to a very important paper originally published by Boas in 1896, "The Limitations of the Comparative Method of Anthropology" (1896/1940). In this paper Boas argued (apparently with complete justification) that "if anthropology desires to establish laws governing the growth of culture it must not confine itself to comparing the *results* of the growth alone, but whenever such is feasible it must compare the *processes* of growth" (p. 280).

Indeed, it is difficult to argue against this. No doubt, the evolutionary theory based on the inferences derived from the comparative analysis of the evolutionary processes would be much more grounded than the one based on synchronic associations only.

However, later this position was developed to its extreme and stopped being as convincing as in its original form. It started to be argued not just that the evolutionary anthropologists should not confine themselves to comparing

synchronic data (which, incidentally, as has been convincingly shown by Sanderson [1990:37–9, 211–5], they never did), but that the evolutionary inferences cannot and should not be made from the synchronic data at all (*e.g.*, Goldenweiser 1937; Nisbet 1969; Mandelbaum 1971). What is a bit surprising is that this critique appears to have affected even evidently evolutionary minded cross-cultural scholars who now prefer to speak about "explaining variation" rather than "explaining evolution", about "predictors" rather than "factors", *etc.* (see, *e.g.*, most papers in C. Ember and M. Ember 1996).

But is it really so? Is the comparative evolutionary method of anthropology entirely illegitimate indeed? We have the strongest possible doubts about this.

As has been argued by M. Ember and C. Ember (1983:5):

> "The fundamental assumption of [cross-cultural evolutionary] methodology is that, if a [socioevolutionary[72]] theory or hypothesis has merit, the presumed cause(s) and effect(s) should generally be associated synchronically (cf. J. Whiting 1954; Otterbein 1969; R. Naroll, Michik, and F. Naroll 1976). That is, in a sample of societies drawn randomly from some worldwide list of societies, there should be a statistically significant synchronic association between the presumed causes(s) and effect(s). A synchronic association is one that involves data (for each sample case) from more or less the same point in time, as if we were examining a large number of cultural snapshots, each one capturing a society at a single point in time. Regardless of the different times those snapshots were taken (*i.e.*, whatever the ethnographic present in the different sample cases), a statistically significant correlation should be obtained if there is any law-like or systematic relationship between the variables at issue…" (see also C. Ember and M. Ember 1992:246; 1998, 2001).

Note that the illegitimacy of the comparative evolutionary method of anthropology has been always argued in very general terms. Up to our knowledge nobody has ever produced any more or less rigorous proofs of that. What could be such a proof? We cannot imagine any such a proof except the following. It should

be shown with diachronic data that the evolutionary inferences made on the basis of synchronic associations are wrong. *E.g.*, Murdock on the basis of synchronic data comes to the conclusion that the transition from unilocal "to neolocal and bilocal residence results ultimately in the loss of unilinear descent" (1949:209). To discredit the comparative evolutionary method it should be shown with the use of as rigorous diachronic data as the synchronic ones used by Murdock that the transition from unilocal to neolocal and bilocal residence actually resulted ultimately in the appearence of unilinear descent, or at least that it did not result in the loss of unilineal descent even after a few hundred years after the transition in a statistically significant proportion of cases. What is more a statistically significant random sample of such hypothesis supported by synchronic associations should be tested, and it should be shown that the results obtained on the basis of synchronic associations contradict significantly the results obtained with the diachronic data in a significant proportion of such tests.

Needless to mention that none of the ardent critics of the comparative evolutionary method of anthropology has ever bothered to do anything like this. What is more, none of them has ever bothered to perform a single test of the validity of the attacked method.

Well, if they have never done these tests, let us (more than a century after the start of the attacks on the comparative evolutionary method) test its validity ourselves.

To test it we chose a classical anthropological theme of interrelations between the kinship terminology and kinship organization. We decided to restrict ourselves to the Circum-Mediterranean region (roughly as it was defined by Murdock [1967]).

What were the reasons for our choice of this region? One of them was that the overwhelming majority of its cultures possess one of just two major types of

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[72] We have added "socioevolutionary", as in the quoted paper M. Ember and C. Ember discuss the

kinship terminology systems,[73] *i.e.* either lineal, or bifurcate collateral. This, of course, highly facilitates statistic analysis, as otherwise the whole range of kinship terminologies could be hardly ranked along one line in any meaningful way. On the other hand, the cultures of the region possess a generally similar level of complexity (being predominantly highly complex cultures) which arose some hope that it could be possible to find within such a region a single kinship organization factor affecting kinship terminology. However, one of the most important reasons was, of course, the fact that a very large number of this region cultures possessed really deep and rich historical traditions which promised to supply us with sufficient diachronic data necassary for the test of the results obtained through the analysis of synchronic associations.

What sample to choose? We decided to choose the one most widely used at present to derive evolutionary inferences from synchronic associations – the Standard Cross-Cultural Sample (SCCS throughout [Murdock and White 1969]).

We started with the test of synchronic association between kinship terminology types and the presence/absence of unilineal descent groups.

The data on the unilineal descent groups were taken from: Murdock and Wilson 1972, 1985; SCCS 2002:stds3.sav. We used variables V70 and V71 of the electronic version of the SCCS database:

V70 *Descent – membership in corporate kinship groups* with the following values: "1 = matrilineal – through female line"; "2 = double descent – separate groups through male and female lines"; "3 = patrilineal – through male line"; "4 = ambilineal – through one parent in each generation"; "5 = bilateral – not a corporate kin group";

V71 *Descent groups, location of core gender group* with the following values: "0 = none – bilateral"; "1 = localized lineages – in community, more than

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applicability of "synchronic" cross-cultural research to the study of sociocultural evolution.

one per community"; "2 = clan communities – core group and spouses constitute community"; "3 = dispersed sibs – core group dispersed in different communities".

Cases with values 4–5 for variable 70 and value 0 for variable 71 were re-coded as "0 = unilineal descent groups: absent"; cases with values 1–3 for variables 70 and 71 were re-coded as "1 = unilineal descent groups: present".

The data on kinship terminologies were taken from: Murdock 1970, 1985; SCCS 2002:stds25.sav. We used variables V639 and V640 of the electronic version of the SCCS database:

V639 *Patterns for uncles* with the following values: "1 = simple bifurcate merging pattern"; "2 = simple bifurcate collateral pattern"; "3 = skewed bifurcate collateral pattern"; "4 = lineal pattern"; "5 = generation pattern"; "6 = age-differentiated bifurcate collateral pattern"; "7 = relative age pattern"; "8 = speaker-differentiated bifurcate merging pattern"; "9 = speaker-differentiated bifurcate collateral pattern"; "10 = rare patterns".

V640 *Patterns for aunts* with the following values: "1 = simple bifurcate collateral pattern"; "2 = bifurcate merging pattern"; "3 = lineal pattern"; "4 = generation pattern"; "5 = skewed bifurcate collateral pattern"; "6 = relative age pattern"; "7 = age-differentiated bifurcate collateral pattern"; "8 = speaker-differentiated bifurcate collateral pattern"; "9 = rare patterns".

The overwhelming majority of the region cultures have values 2 or 4 of variable 639 and values 1 or 3 of variable 640. Cases with value 2 of variable 639 and value 1 of variable 640 were re-coded as "2 = bifurcate collateral kinship terminology". Cases with value 4 of variable 639 and value 3 of variable 640 were re-coded as "0 = lineal kinship terminology". Cases with value 2 of variable 639

[73] Especially if we exclude from it parts of Tropical Africa included rather artificially into it by Murdock on the basis of its (mostly rather superficial at the time of the "ethnographic presence") islamization (see, *e.g.*, M. Burton *et al.* 1996).

and value 3 of variable 640 were re-coded as "1 = intermediate kinship terminology".

The SCCS database contains necessary relevant data for the following "Circum-Mediterranean" cultures: Abkhaz (*c.* 1880), Amhara (*c.* 1953), Armenians (*c.* 1843), Babylonians (*c.* 1750 BCE), Basques (*c.* 1934), Bogo (*c.* 1855), Egyptians (*c.* 1950), Gheg Albanians (*c.* 1910), Hebrews (*c.* 621 BCE), Irish (*c.* 1932), Kaffa (*c.* 1905), Kurd (*c.* 1951), Romans (*c.* 110 CE), Rwala Bedouin (*c.* 1913), Teda (*c.* 1950), Turks (*c.* 1950). In general, the data on most SCCS cultures refer to the 19th and 20th centuries. However, the Circum-Mediterranean part of this sample is the only significant exception from this rule. It includes 3 ancient cultures (ancient Romans, Hebrews, and Babylonians), hence, it is not quite synchronic. Thus, for the "purity of experiment" we decided to substitute these cultures with the contemporary ones existing in the same areas where the respective ancient cultures existed (and which to a certain extent could be regarded as "descendants" of the respective cultures) – modern Romans (*i.e.* the 20th century inhabitants of Rome / Italians), Ashkenazi Israeli Jews, and Iraqis.[74]

The SCCS contains representatives of all major Murdock's subregions of "Circum-Mediterranean", except one – what Murdock (1967) called "Overseas Europeans". However, the sample contains a culture which in some respects could be included in this "sub-region" – the Haitians. Indeed, in respect to the variables under consideration this culture appears to be entirely similar to the other "Overseas European" cultures. As this attribution could still be questioned, we decided to substitute the Haitians with the French Canadians the relevant data on whom are easily available in the electronic *Ethnographic Atlas* (Murdock *et al.* 1999–2000:ea09–10.sav) database. Note that if we had left the Haitians in the

[74] The data for these cultures were taken by us from: Krasnovskaja 1989, 1999; Zor'ko, Majzel', and Skvortsova 1998; Chlenov 1999; Even-Shoshan 1998:117; Pershits 1958; Amir'jants 1979, 1999; Kirej 1996; Van Ess 1956.

sample, the results would have been identical (as with respect to the variables under consideration the two cultures do not display any differences at all).

Finally, the Russians (*c.* 1955) are present in the SCCS. However, to our surprise the SCCS database does not contain any data on the modern Russian kinship terminology. Naturally, the authors (who are Russians themselves) could not avoid making additional coding for this variable (on the basis of both our personal observations [both in Central and Northern Russia where the SCCS focus, the village of Vyrjatino, is situated] and Dal' 1955; Moiseev 1963; Sumnikova 1969; Ozhegov 1978:100, 170, 713, 732; Vlasova 1987; Shmajlova 1999).

The results of the statistic analysis of this quite synchronic sample look as follows (see Table 52):

*T A B L E 52. Kinship Terminology * Unilineal Descent Groups*

Kinship Terminology	Unilineal Descent Groups	
	0 (absent)	*1 (present)*
0 (lineal)	**6** Amhara Basques Canadians Israelis Italians Russians	**0**
1 (intermediate)	**0**	**1** Armenians
2 (bifurcate collateral)	**1** Irish	**10** Abkhaz Bogo Egyptians Gheg Albanians Iraqis Kaffa Kurd Rwala Bedouin Teda Turks

NOTE: Rho = + 0.83; p = 0.00002
Gamma = + 0.97; p = 0.000001

It is not difficult to see that this statistic test suggests that the bifurcate collateral kinship terminology is positively associated with the presence of the unilineal

descent groups, whereas such a correlation for the lineal kinship terminology is negative. The correlation is very strong and significant beyond any doubt.

Of course, these results are just what one would expect.

Indeed, if the unilineal descent groups are present (note that for the Circum-Mediterranean region these are overwhelmingly patrlineal descent groups), in egocentric perspective, *e.g.*, your father's brother (FB throughout) would be your clansman (and, normally, the second important one [after your father]), whereas your mother's brother (MB throughout) would not be normally your clansman at all.[75] The total amount and contents of your rights and duties with respect to your FB would be significantly different from the ones with respect to your MB.

Hence, it does not even seem necessary to read, *e.g.*, Radcliffe-Brown (1941, 1950, 1952) to suggest that within such a context it would be most logical to denote your FB and your MB with two different kinship terms.

In absence of the unilineal descent groups, within the bilateral kinship organization context, when none of your descent lines is discriminated, your FB would be a relative rather similar to your MB. The total amount and contents of your rights and duties with respect to your FB would not be significantly different from the ones with respect to your MB (or rather these would not be determined by the line to which your uncle belongs). Of course, within such a context it would be most logical to denote your FB and your MB with one kinship term.

Does the synchronic association discussed above have any evolutionary implications? Could it lead to any "inferences about specific evolutionary developments"? We believe it could. What is more, to our mind, these inferences are quite clear. From our point of view, it suggests quite clearly that the

[75] Of course, if the parallel cousin (FBD) marriage prevails within the given patrilineal culture (which is actually the case for a substantial proportion of the patrilineal Circum-Mediterranean cultures), your MB may well be your clansman, but even in this case your FB would be a relative very different from your MB. Most evidently, your FBD (if you are male) would be your preferential bride, whereas your MBD would not.

disappearance of the unilineal descent organization within a complex culture with the bifurcate collateral kinship terminology would tend to lead to the transition from the bifurcative collateral kinship terminology to the lineal one, whereas the development of the unilineal descent organization within a complex culture (at least of the Circum-Mediterranean type) with the lineal kinship terminology would tend to lead to the transition from the lineal kinship terminology to the bifurcate collateral one. One of the other possible implications is that if you have, *e.g.*, the data that the cultures of a certain area experienced, say in the 9–15th centuries, the transition from the bifurcate collateral to lineal kinship terminology, you could suppose with a considerable confidence that at least most of these cultures experienced around this time the transition from the unilineal to bilateral kinship organization.[76]

Let us test now if the evolutionary inferences from a synchronic association which we arrived at above will be rejected by a test performed with diachronic data.

As one would expect, it was not so easy for us to collect the relevant data. Of course, it turned out impossible to collect the diachronic data for all the cultures in our sample. What is more, it turned out impossible to collect these data for a random sample (where the Circum-Mediterranean subsample of the *Ethnographic Atlas* sample was used as a sampling universe) of the Circum-Mediterranean cultures, as all our attempts of this kind resulted in the situation where it appeared impossible to collect data for a significant proportion of the Circum-Mediterranean areas. Hence, we found no other choice but to try to collect diachronic data whenever it appeared possible, trying to cover as many Circum-Mediterranean areas as possible.

Finally, we tried to collect for any relevant culture the relevant data for temporal foci separated in time by at least three centuries (the minimum time

[76] What is more, we have even to confess that in our earlier paper published in the *Current*

which, as we assumed, would be normally necessary for a noticable change in the kinship terminology to occur in the pre-modern era within complex cultures).

The database which we collected looked as follows (see Table 53; the codes used for this table are identical with the ones used for table one):

T A B L E 53. *Kinship Terminology * Unilineal Descent Groups (Dataset I)*

CULTURE	TIME	VARIABLES	
		Unilineal Descent Groups	*Kinship Terminology*
Albanians	10th century	0absent	0lineal
	c. 1910	1present	2bifurcate collateral
Armenians	10th century	1present	1intermediate
	c. 1843	1present	1intermediate
Ethiopians (Amhara)	6th century	1present	1intermediate
	c. 1953	0absent	0lineal
French	12th century	0absent	0lineal
	19th century	0absent	0lineal
Germans	11th century	0absent	0lineal
	19th century	0absent	0lineal
Iraqi Arabs	7–8th centuries	1present	2bifurcate collateral
	early 20th century	1present	2bifurcate collateral
Irish	12th century	1present	2bifurcate collateral
Irish-1 (rural)	*c.* 1932	0absent	2bifurcate collateral

Anthropology (Korotayev and Kazankov 2000) we actually used this inference.

CULTURE	TIME	VARIABLES	
		Unilineal Descent Groups	*Kinship Terminology*
Irish-2 (urban)	late 20th century	0absent	0lineal
Italians of the Rome area	3rd century BCE (Romans)	1present	2bifurcate collateral
	20th century CE	0absent	0lineal
Jews of Israel	*c.* 621	1present	2bifurcate collateral
	late 20th century	0absent	0lineal
Ossetians	13th century	1present	2bifurcate collateral
	19th century	1present	2bifurcate collateral
Polish	11th century	1present	2bifurcate collateral
	early 20th century	0absent	1intermediate
Russians	11th century	1present	2bifurcate collateral
	19th century	0absent	0lineal
Soqotrans	16th century	1present	2bifurcate collateral
	20th century	1present	1intermediate
Syrians	3–4th centuries	0absent	0lineal
	early 20th century	1present	2bifurcate collateral

CULTURE	TIME	VARIABLES	
		Unilineal Descent Groups	*Kinship Terminology*
Turks	16th century	1present	2bifurcate collateral
	c. 1950	1present	2bifurcate collateral
West Ukrainians	11th century	1present	2bifurcate collateral
	20th century	0absent	1intermediate
N.E.Yemenis	10th century	1present	2bifurcate collateral
	20th century	1present	2bifurcate collateral

NOTE. Sources for Dataset I:

CULTURE	TIME	SOURCES
Albanians	10th century	Zhugra 1998; Korkuti 1969; Peinsipp 1985
	c. 1910	Murdock *et al.* 1999–2000, 2002; SCCS 2002; Ivanova 1973:88–92, 125–9; Zhugra 1998
Armenians	10th century	Asmanguljan 1983:17–21, 42, 47–8, 71–3; Tumanjan 1971
	c. 1843	Murdock *et al.* 1999–2000, 2002; SCCS 2002; Asmanguljan 1983; Bdojan 1952; Zelinskij 1899; Bakhia 1986
Ethiopians	6th century	Kobishchanov 1966:145–6, 148; Leslau 1987:13, 123
	c. 1953 (Amhara)	Murdock *et al.* 1999–2000, 2002; SCCS 2002; Titov 1959:174
French	12th century	Bloch 1931; Bessmertnyj 1986; Kotel'nikova 1986; Hippeau 1873; Borodina *et al.* 1955; Gremais 1987:619
	19th century	Bloch 1931; Segalen 1983; Littré 1875–7

CULTURE	TIME	SOURCES
Germans	11th century	Majer 1986; Kotel'nikova 1986; Schultze 1987; Tschemodanow 1940
	19th century	Evans and Lee 1986; Sander 1893
Iraqi Arabs	7–8th centuries	Bol'shakov 1989–2003; Lane 1865–93
	early 20th century	Pershits 1958; Amir'jants 1979, 1999; Kirej 1996; Van Ess 1956
Irish	12th century	Osipova 1973:33 ; Shkunaev 1989; MacLysaght 1957; Kalygin 1986; Korolev 1984
Irish-1 (rural)	*c.* 1932	Murdock *et al.* 1999–2000, 2002; SCCS 2002; Messenger 1969:72–5
Irish-2 (urban)	20th century	Kennedy 1973; Brown 1981
Italians of the Rome area	3rd century BCE (Romans)	Majak 1983:120–82; Westrup 1934, 1952; Krjukov 1968:378, 1972:55–8, 1995:116; Balsdon 1962:179; Heurgon 1973
	20th century CE	Krjukov 1968:379, 1972:55–8, 1995:117; Krasnovskaja 1989:109–12, 1999; Zor'ko, Majzel', and Skvortsova 1998:986–7;
Jews of Israel	*c.* 621	Murdock *et al.* 1999–2000, 2002; SCCS 2002
	late 20th century	Simonovskij and Strepetova 1995; Even-Shoshan 1998; field work data of the third author in 1999
Ossetians	13th century	Abaev 1958–78; Bushuev 1959; Chochiev 1985; Gaglojti 1966; Gutnov 1989; Vaneev 1959:120, 149; Kuznetsov 1971:40; 1992:254
	19th century	Abaev 1950:38, 133, 226, 303, 442, 485; Kokiev 1989:51–8, 60–1

CULTURE	TIME	SOURCES
Polish	11th century	Lavrovskij 1867:42; Koroljuk 1957; Matseevskij 1877; Kosven 1963; Berneker 1908–11
	early 20th century	Thomas and Znaniecki 1918; Krjukov 1968:375–6; 1972:55–8; 1995:112–3; Miller and Hrenov 1955; Shchavinskij 1913; Brueckner 1974:64, 107
Russians	11th century	Kosven 1963; Lavrovskij 1867:33–7; Filin 1948; Shmajlova 1999; Berneker 1908–11
	19th century	Lavrovskij 1867:33–7; Dal' 1989, I:512, IV:404; Ozhegov 1978:100, 170, 713, 732; Moiseev 1963; Vlasova 1987:361–71; Shmajlova 1999; field work data of the authors
Soqotrans	16th century	Naumkin and Porhomovskij 1981; Naumkin 1988
	20th century	Naumkin and Porhomovskij 1981; Naumkin 1988
Syrians	3–4th centuries	Pigulevskaja 1979; Brockelmann 1928:144, 231, 528; Shifman 1977
	early 20th century	Velers 1952; Kirej 1996; al-Massarini and Segal 1978; Shmajlova 1999
Turks	16th century	Novichev 1960; Dilaçar 1964
	c. 1950	Murdock *et al.* 1999–2000, 2002; SCCS 2002; Makal 1967; Dirks 1969

CULTURE	TIME	SOURCES
West Ukrainians	11th century	Ivanov 1895; Lavrovskij 1867:33–7; Kotljar 1998; Aleksandrov 1997; Bagalij 1928; Kosven 1963; Berneker 1908–11; Vlasova 1987:367, 369, 371
	20th century	Burjachok 1954:4, 10–2; Bandrivs'kij 1960; Vlasova 1987:361–71; field work data of the authors
N.E. Yemenis	10th century	al-Hamdānī 1948, 1966, 1980, 1990; Abū Ghānim 1985/1405, 1990/1410; Dresch 1989; Gochenour 1984
	20th century	Abū Ghānim 1985/1405, 1990/1410; Chelhod 1970, 1975, 1979, 1985; Dresch 1989; Rossi 1939; field work data of Korotayev in 1996

Of course, this is still a "static" dataset describing states of a given culture rather than its dynamics. However, it appears rather easy to transform it into a "dynamic" dataset. The latter records the change which occurred in the value of a given variable between two temporal foci of observation of a given culture.

The "dynamic codes of dataset II (Table 54) were arrived at on the basis of the "static" codes of dataset I. Thus, if a given culture is recorded in dataset I (Table 53) at moment *t* as "0 (unilineal descent groups: absent)" and at moment *t* + *dt* as "1 (unilineal descent groups: present)", it will have in dataset II in column *Change in unilineal descent organization* a record "+ 1" ($x_{t+dt} - x_t = +1 - 0 = +1$). If the given culture is recorded in dataset I (Table 53) at moment *t* as "2 (kinship terminology: bifurcate collateral)" and at moment *t* + *dt* as "0 (kinship terminology: lineal)" it will have in database II (Table 3) in column *Change in*

kinship terminology a record "– 2" ($y_{t+dt} - y_t = 0 - 2 = -2$). Dataset II is presented below (see Table 54).

T A B L E 54. *Kinship Terminology * Unilineal Descent Groups (Dataset II)*

CULTURE	The 1st temporal focus of observation	The 2nd temporal focus of observation	VARIABLES	
			Change in Unilineal Descent Organization	*Change in kinship terminology*
Albanians	10th century	*c.* 1910	+ 1	+ 2
Armenians	10th century	*c.* 1843	0	0
Ethiopians	6th century	*c.* 1953	– 1	– 1
French	12th century	19th century	0	0
Germans	11th century	19th century	0	0
Iraqi Arabs	7–8th centuries	early 20th century	0	0
Irish-1	12th century	*c.* 1932	– 1	0
Irish-2	12th century	late 20th century	– 1	– 2
Italians of the Rome area	3rd century BCE (Romans)	20th century CE	– 1	– 2
Jews of Israel	*c.* 621	late 20th century	– 1	– 2
Ossetians	13th century	19th century	0	0
Polish	11th century	early 20th century	– 1	– 1
Russians	11th century	19th century	– 1	– 2
Soqotrans	16th century	16th century	0	– 1

CULTURE	The 1st temporal focus of observation	The 2nd temporal focus of observation	VARIABLES	
			Change in Unilineal Descent Organization	*Change in kinship terminology*
Syrians	3–4th century	early 20th century	+ 1	+ 2
Turks	16th century	*c.* 1950	0	0
West Ukrainians	11th century	20th century	– 1	– 1
N.E.Yemenis	10th century	20th century	0	0

As could be seen, the dataset above makes it possible to compare just cultural changes, and not mere cultural states, thus overwhelming the main objection of antievolutionists (and evolutionary pedants) against the comparative evolutionary method of anthropology.

Let us test now using this dataset how change in unilineal descent organization correlates with change in kinship terminology. It seems reasonable to remind readers at this point that on the basis of synchronic association we predicted that disappearance of unilineal descent organization within a complex culture with bifurcate collateral kinship terminology would tend to lead to the transition from bifurcative collateral kinship terminology to lineal one, whereas the development of unilineal descent organization within a complex culture (at least of the Circum-Mediterranean type) with lineal kinship terminology would tend to lead to transition from lineal kinship terminology to bifurcate collateral one, and that the absence of change in unilineal descent organization would correlate with the absence of change in kinship terminology (of course, with regard to the kinship terminology dimension considered in this appendix).

The results of the test are presented in Table 55:

T A B L E 55. *Change in Kinship Terminology * Change in Unilineal Descent Organization*

Change in Kinship Terminology	Change in Unilineal Descent Organization		
	– 1	*0*	*+ 1*
– 2	**5** Russians Italians Irish-2 Israelis Syrians	**0**	**0**
– 1	**2** W.Ukrainians Polish Ethiopians	**1** Soqotrans	**0**
0	**1** Irish-1	**7** Armenians French Germans Ossetians Iraqi Arabs Turks N. E. Yemenis	**0**
+ 1	**0**	**0**	**0**
+ 2	**0**	**0**	**2** Albanians Syrians

NOTE: Rho = + 0.85; p = 0.00001
Gamma = + 0.98; p = 0.000001

The correlation is in the predicted direction; it is very strong and significant beyond any doubt. Of course, it would not be true to say that these results were surprising for us. Actually, it would be most surprising if when synchronic

association showed a strong correlation between two traits and when we have a clear functional explanation why trait A is associated with trait B, the diachronic data did not show that the change of trait A is not associated with the change in trait B in the predicted direction. Actually, the only point which was really surprising for us was that the measure of association strength obtained through the analysis of synchronic data turned out to be so close to the one obtained through the analysis of a dynamic diachronic dataset.[77]

The diachronic test which we have just performed has shown that the inferences about specific evolutionary developments which we made on the basis of a synchronic association were entirely true. Thus a synchronic association can serve as a sound basis for making "inferences about specific evolutionary developments".

Hence, our first message to evolutionary-minded cross-culturalists could be formulated as follows: "Do not hesitate to make inferences about specific evolutionary developments on the basis of synchronic associations (at least when there is no evidence of other sorts against such inferences)". We believe such inferences can always be made when the association is significant and when there is a convincing explanation why trait A is associated with trait B. The correlation strength should of course be also taken into consideration to determine appropriate modality of the inference. No doubt, the synchronic associations can be also used to test evolutionary theories. Imagine for example a following situation. There are variables A and B. Both of them have values 0 and 1. An evolutionary theory maintains that the change of the value of variable A from 0 to 1 would lead to the change of the value of variable B from 1 to 0, providing a convincing theoretical model why this change should occur. We believe that within such a context a statistical test based on a representative "synchronic" sample of cultures which shows the presence of a significant negative correlation

[77] Actually, we would not expect that the future tests of this kind would produce so close figures.

between the traits would provide a valid empirical support for this theory. This theory should be regarded as a valid working hypothesis until it is rejected either through the use of a better synchronic "static" dataset (based on a more representative sample, or using more reliable data) or a reliable diachronic dynamic one, or until a significant logical flaws are found within the theoretical model itself. Before this the fact that a theory has only found empirical support from a synchronic "static" dataset should not be regarded as a sufficient reason to reject it. Needless to say that synchronic associations could be also employed to falsify evolutionary theories.

Our second message to evolutionary-minded cross-culturalists could be formulated in the following way: "Irrespective of what has been said above, we believe that there is a hard core of truth in the basic argument of Boas on the comparative method of anthropology. Actually we agree with him entirely that 'if anthropology desires to establish laws governing the growth of culture it must not confine itself to comparing the *results* of the growth alone, but whenever such is feasible it must compare the *processes* of growth' (Boas 1896/1940:280). No doubt, the evolutionary theory supported both by synchronic associations and statistical tests of diachronic dynamic data will look much more convincing than the one supported by synchronic associations only. Hence, it is highly deplorable that all the published world-wide cross-cultural data-sets (*e.g.*, Barry and Schlegel 1980, 1990; Glascock and Wagner 1987; Levinson and Wagner 1987; Murdock 1967, 1981; Murdock *et al.* 1986, 1990, 1999; Winkelman and White 1987, SCCS 2002 and other datasets of this sort published in the *World Cultures* and *Ethnology*) are static. It is highly deplorable that the dataset II presented in this appendix seems to be virtually the first dynamic cross-cultural anthropological dataset being published. It is highly deplorable that the statistic analysis presented in Table 55 above seems to be virtually the first statistical test of anthropological data looking directly for the correlations between long-term cultural changes and

not cultural states.[78] We believe that the creation of the dynamic anthropological world-wide cross-cultural databases should be regarded as a priority task for all the evolutionary-minded cross-culturalists".

Our message to antievolutionists could be formulated as follows: "Your statements about the invalidity of the comparative evolutionary method of anthropology cannot be treated quite seriously before you provide a rigorous proof of its invalidity. At the meantime we would like to remind you that this should not be just a single test of an evolutionary theory (supported by synchronic association) which you would choose. It should not be even a test of a dozen such theories of your choice. It should be a test of a *random sample* of such theories. And negative results should occur in a statistically significant proportion of tests. We have no doubt that a certain number of such tests would invalidate some particular evolutionary theories supported by synchronic associations. Note, however, that a considerable number of evolutionary theories supported initially by synchronic associations have already been rejected on the basis of further tests using synchronic static data. To give an example, we can start with the first set of evolutionary theories supported by statistical tests performed by Tylor (1889), which was later rejected by the tests of synchronic associations. Numerous further examples of this kind could be found, *e.g.*, in Levinson and Malone 1980, or C. Ember and Levinson 1991. Hence, a single negative result of the sort specified above would evidence not the invalidity of the comparative evolutionary method in general, but rather the flaws in the design of a particular synchronic test (which might have involved the use of unreliable data, or unrepresentative sample). Hence, to prove the invalidity of the comparative evolutionary method of

[78] We know a very limited number of earlier attempts to support evolutionary theories tested initially by synchronic associations through diachronic data (*e.g.*, Carneiro 1969; Henke 1973; Marano 1973; see also Hays 1998:257–61). None of them, however, seems to have produced any straiforward statistical cross-cultural tests of long-term dynamic data and attempts to compare them with statistical synchronic associations.

anthropology it will be necessary to show that this method produce wrong results *systematically*."

A possible objection which we would expect at this point from "the other side of the barricade" would sound as follows:

"Don't you use a double standard? You demand from us to perform such a complicated series of statistical tests using a random sample, whereas you yourselves have performed just one test of a theory of your choice?"

Our answer would look as follows:

"We believe that within this context the normal rules of legal procedure should be applied. First of all, of course, the presumption of innosence. As is well-known, in court it is the duty of the accusing party only to provide it with evidence of a crime. If the defending party does not provide any evidence of its innosence, but the accusing party do not provide any convincing evidence either, the first party will be considered inequivocally innocent. We believe that in our 'case' this is the complete obligation of antievolutionists only to provide a rigorous proof of the invalidity of the comparative evolutionary method of anthropology. By the moment all the objections against this method are, to our mind, tentamount to mere suspicions. But suspicions cannot and should not be treated seriously in such cases. Actually, we believe that what we have presented above is tentamount to 'alibi'. As is well known, though a person who is accused of, say, a murder is not obliged to provide evidence of her or his innosence, still can present a proof of this. Thus the main aim of this appendix was, by presenting our 'alibi', to attract the attention of academic community to the fact that there are no rigorous proofs of the invalidity of the comparative evolutionary method, but mere suspicions only, and, hence, it should be regarded as an entirely valid method of anthropology until it is not proved to the contrary."

A few words should be finally said about substantive contributions of this research. We would like to stress that this appendix is explicitely methodological

and its substantive contributions are very limited. A theory that the bifurcative (including bifurcative-collateral) kinship terminology are associated with the presence of the unilineal descent groups (whereas the non-bifurcative [including lineal] kinship terminology are with their absence) was quite convincingly developed by Radcliffe-Brown (1941, 1950, 1952, *etc.*). Hence our tests could be regarded as just an additional proof of its validity. The point that the change from the unilineal descent organization to bilateral one in complex societies with bifurcative collateral kinship terminology leads to the transition from the bifurcate collateral to lineal kinship terminology has already been quite explicitely spelled out, *e.g.*, by Krjukov (1968, 1972, 1995). What is more, he even put forward some diachronic evidence in support of this point (*ibidem*). However, he remained well within the illustrative method and did not perform any statistical tests of the sort presented in this appendix.

And one more necessary note. Of course, there are no grounds to maintain that all the cases in our sample are historically independent of each other. What is more, it can be explicitly said that ALL the cases in the sample ARE historically connected, which, of course, would evoke for many the specter of "Galton Problem". However, as we shall try to show this in Appendix 4, the so-called "Galton Problem" should be regarded as an "asset" rather than a real "problem" of cross-cultural research, as it permits to study not only the evolutionary regularities, but also the influence on the socio-cultural evolution produced by the functioning of various historical communicative networks. Yes, there is no doubt that the high correlation levels we found in our tests are to a considerable result of network autocorrelation. But we are sure that in no way this invalidates the main conclusions of this appendix. Our main point was that the results of our statistical tests of the synchronic data from the Circum-Mediterranean region would suggest to an evolutionary-minded comparative anthropologist that the destruction of the unilineal descent organization in this region was tended to be accompanied in long

term by the transition from the bifurcate collateral kinship terminology to the lineal one, and our subsequent diachronic test showed that such expectations would be well-grounded. However, it is quite clear that in no way such tests prove that this developments occured in the region entirely independently of each other. What is more, it is entirely clear that the actual picture of the respective transformations is the result both of the action of certain evolutionary regularities and the functioning of certain historical communicative networks, first of all the Islamic and the Christian ones. Of course, only additional research can show how the combination of the processes of evolution and diffusion produced the result we are observing in the synchronic "ethnographic present" datasets for this region. In fact, we have already started this research. *E.g.*, we have shown that the absence of the unilineal descent groups in a considerable proportion of traditional state-level cultures of Circummediterrania can be regarded as a result of the formation and functioning of the Christian historical communicative network in the region (see Chapter 5 above).

Note, however, that the regularity which we found above cannot still be regarded as a result of a pure simultaneous diffusion of a certain kinship organization and respetive kinship terminology. Though in many parts of this region the destruction of the unilineal descent organization was directly connected with the diffusion of Christianity, the transition to the lineal terminology followed this destruction in many cases (*e.g.*, in Central Russia and Highland Ethiopia) quite independently of each other.

Appendix 4
"Galton's Asset" and "Flower's Problem": Cultural Networks and Cultural Units in Cross-Cultural Research

By Andrey Korotayev and Victor de Munck

"In 1889, Francis Galton heard Edward Tylor's presentation of what is generally considered the first cross-cultural study. Galton (see the end of Tylor 1889) suggested that many of Tylor's cases were duplicates of one another because they had similar histories; therefore Tylor's conclusions were suspect because the sample size was unjustifiably inflated" (C. Ember and M. Ember 1998:677–8).

Edward Tylor had envisioned anthropology to be comprised of ethnology and ethnography in equal parts. Today, it is ethnography that predominates and ethnology has a sort of refugee status in anthropology. Why is this? Strauss and Orans write that "...an extremely pessimistic appraisal of the possibility of verifying lawful relations between cultural traits....has doubtless profoundly shaped anthropological research" (1975:573). This "pessimistic appraisal" is traced back to Sir John Galton comments on Tylor's 1889 talk on cross-cultural research where Galton commented that, "It was extremely desirable for the sake of those who may wish to study the evidence for Dr. Tylor's conclusions, that full information should be given as to the degree in which the customs of the tribes and races which are compared together are independent. It might be, that some of

the tribes had derived them from a common source, so that they were duplicate copies of the same original" (Tylor 1961:26; originally 1889:272). Tylor responded to Galton's query by stating that "the only way of meeting this objection is to make separate classification depend on well marked differences, and to do this all over the world" (1961:28; originally 1889). This is, however, an unfortunately vague remark as it is impossible to decide both what he meant by "well-marked differences" and how classification is to depend on these differences. But, this is, of course, the way that subsequent more specific solutions to Galton's problem have gone, that is by devising and using ad hoc, idiosyncratic classification schemes.

Before we discuss other solutions to Galton's query and offer our own, we need to discuss one more significant response recorded at the time of Tylor's talk. Professor Flower observed that any cross-cultural method "...depended entirely upon the units of comparison being of equivalent value..." (ibid.:27). This, somewhat neglected comment will form the basis of the second half of this text concerning the problem of creating comparable cultural units. The gist of our argument will be that one needs to consider Galton's problem anew for each research question because cultures themselves are more effectively regarded as "clusters of common concepts, emotions, and practices that arise when people interact regularly" (Brumann 1999:S1). Hence, there is no one-and-for-all effective solution for Galton's problem, but there is actually no "Galton problem" as it is commonly understood, but rather a "Galton asset" which can be used to trace and study historical and emergent cross-cultural networks.

In 1975, Strauss and Orans enumerated eight statistically-based remedies proposed to this problem, none of them, to our mind, satisfactory (see Strauss and Orans 1975 where they critique seven of these methods and then propose their own solution). All of these methods are based on statistical techniques that directly address the problem of whether or not the cultures in the cross-cultural

sample are independent of one another. The two predominant criteria for assessing independence have been "propinquity" and "language." Thus, the more spatially distant and/or linguistically different the societies in the sample are from one another, the lower the probability that they are "replicas" of one another. Raoul Naroll and others have dealt with the problem of "propinquity" by proposing "systematic sift" solutions to Galton's problem (R. Naroll 1961, 1970, 1973; R. Naroll and D'Andrade 1963; Driver and Chaney 1970; Strauss and Orans 1975). The idea was that traits were more likely to be transmitted, that is "exogenously replicated," among societies that either spoke the same language or were near each other, therefore by selecting for your sample societies that were at a specific remove from each other one could eliminate or minimize the "Galton effect." These types of solutions involved systematically sampling societies on the basis of some sifting algorithm.

In 1975 Strauss and Orans wrote what may have been the last major "traditional" proposal for solving "Galton's problem." Galton's problems has been formulated as a purely statistical problem concerned with assuring the independence of the cultures being compared. As all manner of exchanges occur between cultures, particularly those that are near each other, the question that needs to be answered is how do we know that the similarities across cultures are not a result of diffusion or "exogenous replication" (Strauss and Orans 1975:581)? The solution Strauss and Orans proposed aimed to reduce or eliminate the effects of diffusion through a "cluster reduction method" that allows us to deduce what the cultures of our study were like in a"pristine state" at some time zero, prior to cultural contact (as they recognize, time zero is theoretical and not an empirical) (ibid.: 581). They describe the gist of their method as follows: ". . . take each trait combination and eliminate cases until the observed number of consecutive pairs matches that expected by chance. We hope thereby to get a reduced sample more representative of the pristine world than the original sample" (1975:582). They

used the following hypothetical example to illustrate this technique: assume you are testing for the combination of two traits which take two values (present or absent) and that in the original pristine state these two traits were combined among four societies (A, B, C, D) as follows: X Y, X $\bar{Y}$; $\bar{X}$ Y, $\bar{X}$ $\bar{Y}$...

> Then the correlation between X and Y at t_0 is zero. Let societies A and D be the hits. Suppose that by endogenous replication [*i.e.*, diffusion] A and D are each replicated 48 times. At time t_1, then we have XY (49 cases), X $\bar{Y}$ (1 case), $\bar{X}$ Y (1 case), and $\bar{X}$ $\bar{Y}$ (49 cases). The phi coefficient of X and Y is now .96. Let us now apply the cluster-reduction method to these data. The 49 societies of type XY gave rise to 48 XY-XY pairs. The number of such pairs expected by chance is 23.5 (=49 x 48/100). Some of the XYs must be eliminated if observed and exepcted numbers of pairs are to match. It is easy to see that this can only be achieved if the proud cluster of 49 XYs is reduced to a singleton (and similarly for $\bar{X}$ $\bar{Y}$) (ibid.:582).

Hence, this methodology implies a solution that takes all the cultures that share the selected traits under study (*i.e.*, "hits"), calculate how many of those cultures by chance would be adjacent to each other or separated by one or by two cultures from each other; the number of proximate cultures above what one would expect by chance are then eliminated. The same procedure is performed for "misses."

This technique is of course difficult to apply in concrete cross-cultural studies. But what is more, we are not convinced that this technique can always reduce, even partially, the "Galton effect". The central ethnographic example they use to validate their method is the cross-cultural correlation between male genital mutilations and polygyny. They claimed that their technique showed that the functional relationship between the two variable actually existed and could not be accounted for as a result of some "Galton effect". However, as has been shown in Chapter 2 above, we are dealing in this case first of all with the results of functioning of Islamic and Christian historical communicative networks, *i.e.* just with the "Galton problem".

Incidentally, having described eight sophisticated solutions to Galton's problem (which virtually none of the practicing cross-cultural researchers actually ever uses) Strauss and Orans failed to mention one technique which is used by almost all cross-cultural researchers. Within their paradigm this technique should be called the "simple sifting method". They write that "no one stepped forward to deal with the [Galton] problem until the 1960s" (Strauss and Orans 1975:573). However, already in 1950 Beatrice Whiting had applied a very simple "Galton-solving" technique.[79] In her study on the relationship between the presence of authoritative political officials and witchcraft attribution she computed the correlation between these variables by using only one tribe from each cultural area (B. Whiting 1950). Three years later the same technique was applied by John Whiting and Irvin Child in their famous monograph (1953). At the moment most world-wide cross-cultural researchers apply this technique (though sometimes, perhaps, unknowingly) simply by using the Standard Cross-Cultural Sample (SCCS) in which Murdock and White (1969) tried to include only one culture from any cultural area.[80]

What is surprising is that this simple method seems to work in many cases. Why? To answer this question we need to recollect that in addition to Galton's response to Tylor's lecture in the Royal Anthropological Institute at least one more important observation was expressed (and recorded) during the discussion of this lecture. As mentioned before, Professor Flower observed that any cross-cultural method "...depended entirely upon the units of comparison being of equivalent value..." (Tylor 1889/1961:27). This can be interpreted as similar to Galton's question but expressed slightly different – it is the other side of the same problem. Thus, Galton's problem cannot be appropriately treated without also considering the problem of "cultural units."

[79]And we cannot guarantee that nobody had used this technique before Beatrice Whiting.

The notion of ‘cultural unit' actually has two different meanings: one considers cultural units as the base, elemental units out of which culture is composed, the second is as units which can be reliably and validly compared. Many anthropologists doubt whether such entities exist at all (see, *e.g.*, Gatewood 1999; 2000). Furthermore, we do not see that the first meaning of cultural units is at all relevant to cross-cultural research. For example, in chemistry one can speak of molecular (or atomic) units without being concerned about the more fundamental particles of which they are composed. Analogously, one can discuss socio-cultural molecular units, such as post-marital residence practices, without being concerned about the elemental units that comprise this practice. However, the second meaning is directly relevant to cross-cultural research. In order to examine the problem of comparability we will use a descriptive rather than a formal approach.

In cross-cultural research, the problem of cultural units is not quite identical with the problem of units of comparison (though both problems are connected). An effective (to our mind) solution to the problem of comparison was proposed by John Whiting (*e.g.*, 1964, 1968) who suggested that the unit of comparison is **community** and not **culture**. The problem of delineating cultural units arises immediately when the researcher has to decide which communities to select for his or her study. As the very notion of cross-cultural research implies, the communities that are to be used for comparison have to belong to different ‘cultures'. Clearly the inclusion of a number of communities that belong to the same ‘culture' could result in producing spurious correlations confirming false hypotheses, or, alternatively, rejecting genuinely significant correlations. Actually, it is quite clear that at this point we have already confronted Galton's problem.

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[80] Murdock and White themselves did not consider the Standard Cross-Cultural Sample to be "Galton-free". In fact they showed the severity of Galton's problem within the SCCS, using a test for diffusion in adjacent societies (Murdock and White 1969/1980:22–6).

We will illustrate this problem with a fictional example. Let us hypothesize that the practice of male genital mutilations enhances masculinity, conversely, that its absence leads to the development of feminine traits. We will use the wearing of skirts by males as our indicator or measure of the relative strength of the feminine features in male personality. Imagine that to test the hypothesis we selected a sample of communities presented in Table 56:

T A B L E 56. *Communities in Sample 1*

4 Highland Scottish (18th century)	4 Turkish communities	1 Russian community
1 Estonian community	1 Libyan community	1 Tamil community
1 Greek community	1 Sinhalese community	

A statistical analysis of the data for this sample will most likely produce the following results (see Table 57):

T A B L E 57. *Male Genital Mutilations * Skirt-Wearing by Males (version 1)*

		Males Wearing Skirts	
		absent	*present*
Male Genital Mutilations	*absent*	**3**	**6**
	present	**5**	**0**

NOTE: $p = 0.03$ (by Fisher's exact test; one-tailed)

Thus, the test will most likely support the patently wrong hypothesis that we offered. One of the main reasons for this is that we included into the sample 8 communities from 2 national cultures, Turkey and Scotland. One of these (*i.e.*, Scotland) is characterized simultaneously by the absence of circumcision practices and (for the 18th century) by kilts as typical male dress; the other is simultaneously

characterized by Islam and, hence, the presence of circumcision rites for males and by the absence of any kilt/skirt-like male clothes.[81]

To avoid this sort of bias in our sample, we should just choose one community from each culture. We can consider all communities in which the majority of people speak the same language to belong to the same ‘cultural unit;' that is to say, to the same ‘culture' (*e.g.*, C. Ember and M. Ember 1998, 2001). This implies a ‘linguistic definition' of culture by which people speaking the same language over a contiguous region are members of the same culture and people speaking a different language belong to another culture. Indeed, in most cases, the ‘linguistic definition of cultural unit' will provide a solution to Galton's problem for as soon as we follow the advice embodied in the ‘linguistic definition of culture' we arrive at the following sample (see Table 58):

T A B L E 58. *Communities in Sample 2*

1 Highland Scottish (18^{th} century)	1 Turkish community	1 Russian community
1 Estonian community	1 Libyan community	1 Tamil community
1 Greek community	1 Sinhalese community	

The statistical analysis of the data for this sample is most likely to produce the following results (see Table 59):

[81]The "misses" are produced by the Sinhalese and Tamils, *i.e.*, South Asian Buddhist and Hindu communities, where the circumcision is not practised, and sarongs and dhotis are typically worn by men. Needless to say that in none of the above-mentioned communities the wearing of kilts/sarongs/dhotis, *etc.* is associated, in any way, with femininity.

T A B L E 59. *Male Genital Mutilations * Skirt-Wearing by Males (version 2)*

		Males Wearing Skirts	
		absent	*present*
Male Genital Mutilations	*absent*	**3**	**3**
	present	**2**	**0**

NOTE: $p = 0.36$ (by Fisher's exact test; one-tailed)

By applying the ‘linguistic solution' the problem, at least for this example, has been solved and our obviously false hypothesis is now rejected. But, will this solution solve all problems of choosing and delineating independent cultural units for comparative research?

The definition of culture we find most useful for cross-cultural research is the one recently proposed by Brumann who argues that "culture should be retained as a convenient term for designating the clusters of common concepts, emotions, and practices that arise when people interact regularly" (1999:S1). This definition has important consequences for cross-cultural research by (albeit unintentionally) clarifying "Galton's problem".

Communities that interact frequently over time eventually generate a cultural network consisting of "clusters of common concepts, emotions, and practices." Hence, what may, at first glance, appear to be number of different cultural cases could, in fact, turn out to be copies of just one case. This would lead to the problems specified above and result in the confirmation of false hypotheses or the rejection of right ones (*i.e.*, that is, "Type I" and "Type II" errors). We frequently find such clusters of traits among communities using the same language or a mutually intelligible dialect. Consequently, we colloquially use the name of a language to signify a national-cultural identity. For example, we use such qualifiers as "Russian", "French", "Japanese", and "Turkish" to identify both a language and a culture. Obviously, this correspondence makes sense for

everyday speech and is often justified as a commonsensical theory of language, culture and identity. But, we must question whether or not cultures cluster only at the level of language?

Obviously not. We frequently observe cultural clusters comprised of communities which use different dominant languages. By adopting the approach offered by Brumann, it seems perfectly reasonable to speak about Islamic or Indian cultures. With regard to cross-cultural research this implies that we should consider the possibility that the cultural units we want to select for our research can be formulated at different levels of abstraction and/or specificity. This implication leads to the reappearance of Galton's problem, but, now, from a very different and much more contingent perspective; a perspective that necessitates a hermeneutic as well as a statistical approach to determining what the appropriate cultural units should be. We describe what we mean in the hypothetical examples provided below.

For example, we seemed to have solved Galton's problem for testing the hypothesis that the absence of male genital mutilations leads to the development of feminine traits in male personality simply by applying the ‘linguistic solution'.

Now let us test a hypothesis that the consumption of dates enhances sexual drives among religious specialists and the consumption of red wine inhibits that drive in religious specialists. We measure sexual drive by asking people about the frequency and variability of sexual intercourse after consuming dates or wine. We assume that the frequency and variability of sexual intercourse will go up after consuming dates and go down after consuming wine. Imagine that to test the hypothesis we selected a sample of communities described in Table 60:

T A B L E 60. *Communities in Sample 3*

1 Basque community	1 Portuguese community	1 (Southern) French community
1 Italian community	1 Iraqi community	1 (Southern) Kurdish community
1 Russian community	1 Estonian community	1 Javanese community
1 Ganda community	1 Greek community	1 (South-West) Persian community
1 Maronite-Lebanese community		

All the communities in this sample use different mutually unintelligible languages; hence, the "linguistic criterion" (or solution) is observed. However, the result of the test in this case looks as follows (Table 61):

T A B L E 61. *Dates vs. Wine Consumption * Sexual Intercourse Index (among Religious Specialists)*

	Sexual Intercourse Index		
	Celibacy/Irregular	*Regular, with one partner*	*Regular, with more than one partner*
Wine	**4**	**1**	**0**
No wine/no dates	**1**	**1**	**2**
Dates/no wine	**1**	**0**	**3**

NOTE: Gamma = + 0.75, p = 0.004; Rho = + 0.6, p = 0.03

Hence, our false hypothesis appears to have found "empirical support", for the correlation is in the predicted direction and definitely significant. The reason seems quite clear, when we notice that four communities from our Table 60

belong to the Southern European cultural area (where we find overlapping diffusion zones of wine-production and Catholic Christianity) and three other communities belong to the Middle Eastern cultural area (where we find overlapping diffusion zones of date-production and Islam). In cases such as this the "simple sifting" technique is likely to solve the problem. The most wide-spread sifting technique is the Standard Cross-Cultural Sample (Murdock and White 1969/1980), which includes one community from one cultural area, thus reducing the number of the Mediterranean Catholic wine-consuming cultures in the sample to just one. Indeed, our test of the "wine-dates" hypothesis using the Standard Cross-Cultural Sample has produced Rho = + 0.037, p = 0.62; Gamma = + 0.1, p = 0.68 . Thus by using the Standard cross-cultural sample as our "simple sifting" technique we seem to have solved the problem.

However, we believe that this solution does not solve Galton's problem once and for all. In other words, we do not believe that the identification of cultural areas of a certain type as cultural units should be applied, in a mechanical fashion, to any and all types of cross-cultural research problems.

But, let us try to apply the "simple-sifting" solution through the use of the Standard Cross-Cultural Sample to the hypothesis with which we started this appendix – the one on the possible significant relationship between the polygyny and the male genital mutilations (and which was discussed in more detail in Chapter 2 above). Let us test this hypothesis using the most recent full electronic version of the *Ethnographic Atlas* (Murdock *et al.* 1999) and then the Standard Cross-Cultural Sample (Tables 62 and 63):

T A B L E 62. *Male Genital Mutilations* * *Polygyny (for* Ethnographic Atlas*)*

		Polygyny	
		absent	*present*
Male Genital Mutilations	*absent*	**141**	**592**
	present	**15**	**253**

NOTE: Phi = + 0.166, $p < 0.05$

T A B L E 63. *Male Genital Mutilations* * *Polygyny (for* Standard Cross-Cultural Sample*; version 1)*

		Polygyny	
		absent	***Present***
Male Genital Mutilation	***absent***	**30**	**100**
	present	**3**	**48**

NOTE: Phi = + 0.200, $p < 0.05$

A rather surprising thing about this test is that it has produced almost the same growth of the correlation strength (34 points; 0.200 – 0.166 = 0.034) as the application of Strauss - Orans cluster-reduction technique (26 points; 0.211 – 0.185 = 0.026). However, on a closer inspection we found that this was not so surprising. The "cluster-reduction" method increased the Galton effect through eliminating the number of native American cultures (not affected by the "galtonizing" influence of the Old World male genital mutilations spreading historical networks) in the sample to a greater extent than the one of the Circum-Mediterranean cultures fatally infected by the Galton effect. However, the use of the Standard Cross-Cultural Sample has produced a precisely similar effect. If we compare the respective samples, we shall find that in the *Ethngraphic Atlas* we have 395 native American cultures and 65 "narrow" Circum-Mediterranean region, whereas in the SCCS you would find 65 native American cultures and 16

"Circum-Mediterranean" ones. Hence, the use of the SCCS leads to the reduction of the "Galton-free" native American cultures 6.1 times, whereas the "Galton-infected" Circum-Mediterranean cluster is reduced 4.4 times. Hence, the application of both techniques devised to reduce the Galton effect actually increases it.

At the moment a number of the most influential cross-cultural researchers argue that the Galton problem is not serious at all. For example, Carol Ember and Melvin Ember maintain that Galton's Problem is not serious, "because we believe that random sampling of cases is the best way to prevent sampling bias. Also, the sample societies in most cross-cultural studies usually speak mutually unintelligible language, which means that the speech communities involved have been separated for at least 1,000 years. If two related languages began to diverge 1,000 or more years ago, many other aspects of the cultures will also have diverged. So, such cases could hardly be duplicates of each other" (1998:678).

As we have shown above they could. What is more, even the cultures coming from apparently different regional clusters could. However, it is difficult not to find some sense in the basic argument of the "anti-Galton" scholars (Otterbein 1972, 1976, 1989; M. Ember and Otterbein 1991; C. R. Ember and M. Ember 1998). Indeed, it is difficult to imagine how the diffusion *per se* could create a significant correlation for the traits which are not actually related.

Imagine that we have a couple of unrelated traits and a perfectly devised "pristine-world", "Galton-free" sample of 20 cultures. In this case the result of a statistical test would likely look as follows (see Table 64):

T A B L E 64. *Trait A * Trait B (version 1)*

		Trait A	
		absent (–)	*present (+)*
Trait B	*absent (–)*	**5**	**5**
	present (+)	**5**	**5**

NOTE: $p = 1.0$

Now, imagine that a case having both traits present was exogenously replicated fifteen times, all of which were included into the sample. Thus, nearly half the cases are a result of the simultaneous diffusion of a couple of traits. But would such a huge diffusion effect produce a significant correlation? Let us see the statistical results below (see Table 65):

T A B L E 65. *Trait A * Trait B (version 2)*

		Trait A	
		absent (–)	*present (+)*
Trait B	*absent (–)*	**5**	**5**
	present (+)	**5**	**15**

NOTE: $p = 0.17$

Hence, even such a huge Galton effect does not result in a significant correlation! But is it realistic to expect that nearly one-half of a cross-cultural sample would consist of cultures coming from a single historically connected cluster? Are cross-cultural researches so stupid as to make such an obvious and devastating mistake? The answer is no. But in that case, why should we even bother about Galton's problem?

Imagine we have a sample of the *Ethnographic Atlas* size. Imagine that we have not one diffusion zone, but two competing intersocietal networks, like the medieval Christian and Islamic ones. As was shown above (see Chapter 2), 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 mutilations 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.

Now imagine that within such a context you would have both diffusion zones covering just 6% of the whole sample. The result would be as follows (see Table 66):

T A B L E 66. *Trait A * Trait B (version 3)*

		Trait A	
		absent (–)	*present (+)*
Trait B	*absent (–)*	**280**	**250**
	present (+)	**250**	**280**

NOTE: $p = 0.037$

Note that the size of the general sample and of the supposed diffusion zones is virtually identical with the situation which we confronted while studying the correlation between the male genital mutilations and polygyny. Hence, with cross-cultural samples of *Ethnographic Atlas* size we could find a significant Galton effect, even when only about 6% of the sample is infected by it. But who now uses the *Ethnographic Atlas* as a sample for cross-cultural research? Almost no one. The question remains: should we really bother with Galton's problem? We still think we should. Most cross-cultural researchers would use the Standard Cross-Cultural Sample (SCCS). But is it really immune to the Galton effect?

There are 7 Christian and 23 Islamic cultures in the SCCS. Could they produce a Galton effect within the model specified above? Let us test this and

compare the results with a sample that includes Muslim and Christian cultures (located on the diagonals), see Tables 67 and 68:

T A B L E 67. *Trait A * Trait B*
(version 4; for Standard Cross-Cultural Sample,
omitting Christian and Islamic cultures)

		Trait A	
		absent (–)	*present (+)*
Trait B	*absent (–)*	**39**	**39**
	present (+)	**39**	**39**

NOTE: $p = 1.0$

T A B L E 68. *Trait A * Trait B*
(version 5; for Standard Cross-Cultural Sample,
including Christian and Islamic cultures)

		Trait A	
		absent (–)	*present (+)*
Trait B	*absent (–)*	**46**	**39**
	present (+)	**39**	**62**

NOTE: $p = 0.025$

Thus, we can see that the two competing historical networks comprising only 16% of all the cases could still make a significant difference, even in the SCCS. If we leave just one representative of both Islamic and Christian historical networks in the original ethnographic sample comparing male genital mutilations with polygyny, we believe the correlation will become insignificant: We test this hypothesis below (see Table 69):

T A B L E 69. *Male Genital Mutilations * Polygyny*
(for Standard Cross-Cultural Sample*, leaving one culture from Christian and Islamic historical interaction networks)*

		Polygyny	
		absent	*present*
Male Genital	*absent*	**26**	**99**
Mutilations	*present*	**3**	**30**

NOTE: Phi = + 0.12, p = 0.12 (0.093 by Fisher's Exact Test, one-tailed)

As we see, if we use religion as the criterion for delineating and selecting cultural units, the relationship drops to an insignificant level and we can finally reject our hypothesis.

It is quite clear that here we are dealing with a hypothesis of precisely that type that demands the use of the cultural units of the highest possible level (*i.e.* ones like the "Islamic civilization", or the "Christian world") as units of comparison in order to test it.

But does that mean that to solve Galton's problem we need to use such cultural units as "Islamic culture" or "the Christian world"? By so doing we would be virtually unable to conduct any cross-cultural research on complex societies. But is it really always necessary to use cultural units of such a high order of magnitude? The answer is ‘No'.

For example, if we hypothesize that the number of supracommunal levels (that is, levels of political integration) is directly correlated with class structure, and if we use only a sample of societies from the Islamic world we will obtain the following statistical measures of significance:

	Value	Approx. Sig.
Gamma	.536	.001
Spearman Correlation	.550	.010

This is to be expected, if we assume that the above correlation of 0.01 is a consequence of the diffusion of class structure and of political integration in the Islamic world. But if we extended our sample to include a world-wide sample then we obtain the following results (we have still used the Standard Cross-Cultural Sample for this test):

	Value	Approx. Sig.
Gamma	.708	.000
Spearman Correlation	.615	.000

In other words, our hypothesis is significant regardless of whether we choose a sample from within a mega-cultural unit, such as the Islamic world, or from a larger and more culturally diverse sample. This suggests that we could include any number of cultures from the Islamic world without significantly distorting the final results.

However, we have still employed the Standard Cross-Cultural Sample for these tests. Therefore, we are using cultural areas rather than individual ethnic cultures as the standard (cultural) unit for cross-cultural comparison. But will the situation really change if we use "ethnic cultures" as the units for testing hypotheses cross-culturally?

Let us test the above hypothesis using a cluster of very closely connected historically and constantly interacting cultures. Normally, this condition would lead us to expect to encounter the severest "Galton effect". We have taken the

Equatorial Bantu (*i.e.* Amba, Babwa, Bafia, Bali, Bamileke, Bamum, Banen, Bashi, Bira, Bombesa, Bubi, Budja, Budu, Duala, Dzem, Ekonda, Fang, Fungom, Fut, Ha, Hunde, Kela, Koko, Kom, Kota, Kpe, Kumu, Kundu, Kutshu, Lalia, Lokele, Luba, Lulua, Mongo, Mpongwe, Ndaka, Ndob, Ndoko, Ngala, Ngombe, Ngumba, Nkundo, Nsaw, Nsungli, Plains Bira, Poto, Puku, Rega, Ruanda, Rumbi, Rundi, Sanga, Songe, Songola, Tetela, Tikar, Topoke, Widekum, and Yeke). The correlation between the two variables (*i.e.*, political integration and class structure) for them is seen below:

	Value	Approx. Sig.
Spearman Correlation	0.72	<0.00000000000000001

The correlation between the two variables in this closely knit cultural region is even higher than the one for the world-wide sample! Obviously, this cannot be explained by any particular Galton effect. Thus, even among the equatorial Bantu cultures we find the hypothesized correlation between political integration and class structure: the greater the political integration, the more stratification we find in that society.

Similar results were obtained by Strauss and Orans (1975:583) using a bit different method. They also show that it is possible to include societies from similar cultural areas and/or ethnic backgrounds without biasing the results in order to test, for example, hypotheses regarding the relationships between the type of descent and the type of residence (pp. 581–3) as well as between mode of marriage and animal husbandry type (p. 583).

Therefore, we conclude that to test hypotheses of certain types, one can include societies from similar cultural areas and/or ethnic backgrounds without biasing the results. In the case discussed above, Galton's effect is utterly irrelevant to the analysis. Thus, the concerns voiced by Murdock and White with regard to

Galton's problem of selecting independent cultures for comparative research appears not to be relevant for some cross-cultural comparisons.

What, then, is the bottom line? We have offered a paradoxical argument; on the one hand, we are arguing that to test certain hypotheses it is appropriate to use linguistic clusters as baseline cultural units for cross-cultural comparison; on the other hand, our later examples illustrate the existence and biasing effects of cultural "mega-units" such as the Islamic or Christian worlds that incorporate clusters of communities speaking the same language into the same cultural complex; hence, to test such hypotheses we have no other choice but to use such huge cultural units as units of comparison. Importantly we have also shown that for testing certain hypotheses we can include as many "linguistic" cultures as we like from one "mega-area." We can even include communities from closely knit cultural areas without being afraid of any distortions by the "Galton effect".

In this appendix we have applied Brumann's definition of cultures as ‘clusters of common concepts, emotions, and practices that arise when people interact regularly.' But do we not also observe such clusters **within** linguistically homogenous areas? On what grounds then do we decide not to consider such clusters as ‘cultures'? All this leads to the supposition that for certain types of cross-cultural research questions one might include in the cultural sample communities which speak the same language but which belong to different cultural clusters.

Consider the problem of the relation between communal complexity and "supracommunal" political structures. Previous research suggests that for most of human history there have existed two very different paths for political evolution. Along one, increasing cultural complexity is accompanied by the development of supracommunal political organization that takes over the running of community affairs and this, in turn, reduces the complexity of the local (*i.e.*, communal) political organization. Along the other evolutionary path, an increase in cultural

complexity is accompanied by an increase in infracommunal political structural complexity. This latter path appears to be particularly associated with highland environments whose rugged terrain creates natural obstacles for political centralization (Korotayev 1995). If we test this hypothesis using conventional samples based on linguistic or cultural area criteria, we would not include in our sample two communities speaking the same language or located in the same cultural area. By ignoring this critical environmental variable, we might well obtain the following sample for the 18th Century Circum-Mediterranean region: Germans, French, Albanians, Serbs, Moroccan Berbers, Georgians, Slovaks, Ukrainians, and Algerians. This sample satisfies the traditional criterion for distinguishing culturally groups by including only linguistically diverse groups in the sample. However, it would ignore the environmental variable and thus, the sample consists of only **lowland** communities from the respective ethnic groups. The test of the hypothesis using this sample would produce the following result:

	Value
Phi	...
N of Valid Cases	9

Warnings

No measures of association are computed for the crosstabulation of Community Complexity * Level of Effective Sovereignty. At least one variable in each 2-way table upon which measures of association are computed is a constant.

No statistics are computed because the values of both variables ("**Community Complexity**" and "**Level of Effective Sovereignty**") remain constant.

However, when we add the highland (and linguistically similar if not identical) counterparts of the above lowland communities (German Swiss, French Swiss, North Highland Albanians, Montenegrans, Central Atlas Berbers, Svans, Highland Slovaks, Carpathian Ukrainians, Highland Algerians) to our sample, the situation changes dramatically:

T A B L E 70. *Community Complexity * Level of Effective Sovereignty*

	Effective Sovereignty		
Community complexity	*At the community level*	*Above the community*	Totals
Medium	**1**	**10**	11
High	**7**	**0**	7
Totals	8	10	18

NOTE: Phi = – 0.89, p = 0.0003 (by Fisher's Exact Test)

This table shows that the relationship between community complexity and level of effective sovereignty is in the expected direction if we add the highland counterparts to the lowlands cultures to our sample *as independent cultural units*.

The effect of including similar language and cultural areas into our sample was to increase variation in our sample. We see that "culture" is a complex concept, with cultural clusters varying on the basis of a wide variety of different dimensions: language, ideology, environment, *etc.* Thus, culture really does deserve its name, and, as Brumann asserts, deserves to be retained as a concept. For some types of cross-cultural research it is in fact useful and necessary to take examples from within cultural and/or linguistically "bounded" areas.

We conclude our discussion of cultural units by declaring that it is simply not possible to know beforehand what criteria to use for selecting one's cultural units for cross-cultural research. The criteria will vary on a case by case (or rather

hypothesis by hypothesis) basis. If we see culture as a "cluster of cognitions, emotions, and practices" then we have to determine what criteria are responsible for organizing the cluster. Under certain circumstances, we need to be aware that cultural clusters are not necessarily geographically contiguous or even proximate, but can be organized on the basis of global transcultural systems such as Christianity or Islam. In other circumstances, linguistic and cultural area boundaries serve as useful criteria for identifying cultural units. Still at other times, it is unnecessary to be concerned about linguistic or cultural areas, as differences are predominantly affected by environmental and/or extra-cultural factors.

In our study we addressed the issue of cultural units and came to the conclusion that Galton's problem takes a variety of forms, primarily because culture takes many forms. We have been much influenced by Brumann's definition of culture, which is a good substitute for older ideas of cultures as bounded and uniform wholes. Rather, we agree that cultures consist of various distributions of traits that are more or less shared. For cross-cultural researchers this means that initially attention should be paid to the kinds of traits that may be distributed among the cultures that one includes in one's sample as a consequence of one's research question.

Finally, a few practical suggestions regarding sampling techniques for world-wide cross-cultural comparisons. From what has been said above it must be clear that we believe that the answer to the question "What cultural units should be used as units of comparison?" will be different for different cross-cultural comparisons depending on what kind of hypothesis is being tested. What is more,

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[82]From what we have said above, it must be overtly clear that we are strongly in favor of the treatment of the Galton problem as a network autocorrelation one (see, *e.g.*, Dow, M. Burton, and White 1981, 1982, 1984; White, M. Burton, and Dow 1981; M. Burton and White 1987:147, 1991).

we believe that in many cases the answer to this question could hardly be received *a priori.*

Hence, our practical advice would be to start with as large a cross-cultural data sets as could be obtained (at present, this would really mean the *Ethnographic Atlas* data base whenever its data could be used to test the given hypothesis). After the initial tests it seems necessary to test for any network autocorrelation ("Galton") effects. This way we shall be able to obtain first the optimum sample to test the given set of hypotheses and second to achieve some progress in the study of the communication networks and historical diffusions affecting the distribution of the variables under consideration. In this case the "Galton problem" will appear not as a problem for cross-cultural comparison, but rather as an asset.

A final remark. From what has been said above it must be clear that we believe in the indispensable importance of Murdock's *Ethnographic Atlas* data base. The "representative" samples (like the Standard Cross-Cultural one, or the HRAF 60-culture Probability Sample) should be regarded as defective to a considerable extent just because they were designed to get rid of the Galton problem.

Yet, as we have shown, for many cases these cross-cultural samples do not always and automatically solve Galton's problem. In addition, they make it impossible to study properly network autocorrelation effects, thus impairing our ability to study communicative networks and historical diffusion effects (which are by themselves of no less interest than world-wide hypothesis testings). Such ready-made ‘Galton-free' cross-cultural samples prevent the creation of optimum samples for the given cross-cultural research projects. Irrespective of their undeniable merits, it is simply not correct to treat these respective databases as genuine substitutes for the *Ethnographic Atlas.* Hence, we may add to the opening comment of Strauss and Orans regarding what we call the "refugee status" of

cross-cultural research by noting that perhaps no other fact in our recent history has as negatively affected the flowering of world-wide cross-cultural research as much as has the virtual termination in 1980 of incorporating new work into the *Ethnographic Atlas* – till 2003 not a single case had been added to the 1267 cases "in stock" in 1980. The project was and is very far from completion (for example, in the version currently available, one would not find any information on hundreds of well-described cultures, particularly those of Eurasia).

Thus, we believe that reviving the *Ethnographic Atlas* should be regarded as the most pressing current task of world-wide cross-cultural researchers. Therefore, this text should be also regarded as an invitation to our colleagues to participate in resuming this essential anthropological database.[83]

[83] We started to do this in 2003 with support of the Russian Foundation for Basic Research. The new installments of the *Ethnographic Atlas* are published in *Ethnology* (in printed form) and *World Cultures* (in electronic form).

Bibliography

Abaev, V. I. 1950. *Russko-Osetinskij Slovar'* [Russian-Ossetian Dictionary]. Moskva: Gosudarstvennoe izdatel'stvo inostrannyh i natsional'nyh slovarej.

———. 1958–78. *Istoriko-etimologicheskij slovar' osetinskogo jazyka* [Historical-Etymological Dictionary of the Ossetian Language]. Moskva – Leningrad: Nauka.

Aberle, D. F. 1961. Matrilineal Descent in Cross-Cultural Perspective. In D. M. Schneider and K. Gough (Eds.), *Matrilineal Kinship* (pp. 655–727). Berkeley, CA: University of California Press.

**Abū Ghānim, F. `A. A. 1985/1405.** *Al-bunyah al-qabaliyyah fī 'l-Yaman bayna 'l-istimrār wa-'l-taghayyur* [Tribal Structure in Yemen between Continuity and Change]. Dimashq: al-Kātib al-`Arabiyy.

———. 1990/1410. *Al-qabīlah wa-'l-dawlah fī 'l-Yaman* [Tribe and State in Yemen]. al-Qāhirah: Dār al-Manār.

Abu-Lughod, J. L. 1989. *Before European Hegemony: The World System 1250–1350.* New York, NY – Oxford: Oxford University Press.

Adams, R. N. 1975. *Energy and Structure.* Austin, TX – London: University of Texas Press.

Ahmadjonzoda, A. 1988. O probleme tak nazyvaemoj musul'manskoj kul'tury [On the Problem of the So-Called Muslim Culture]. In L. Aganina (Ed.), *Vzaimodeystviye i vzaimovliyaniye tsivilizatsiy i kultur na Vostoke* (pp. 3–4). Moskva: Nauka.

Aleksandrov, D. N. 1997. *Galitsko-Volynskaja zemlja v 13 – pervoj chetverti 14 vv.* [The Galich-Volyn' Land in the 13th – the First Quarter of the 14th Century]. Moskva: Rossijskaja akademija estestvennyh nauk.

Alexander, J. C. 1983. *Theoretical Logic in Sociology*. Vol. 4. Berkeley, CA – Los Angeles, CA: University of California Press.

Allen, M. G. 1972. A Cross-Cultural Study of Aggression and Crime. *Journal of Cross-Cultural Psychology* 3:259–71.

Alley, R. B. 2000. *The Two-Mile Time Machine: Ice Cores, Abrupt Climate Change and Our Future*. Princeton, NJ: Princeton University Press.

Amir'jants, I. A. 1979. Araby juzhnogo Iraka [Arabs of Southern Iraq]. *Rasy i narody* 9:223–37.

———. 1999. Iraktsy [Iraqis]. In V. A. Tishkov *et al.* (Eds), *Narody i religii mira* (pp. 193–4). Moskva: Bol'shaja Rossijskaja Entsiklopedija.

Andreev, M. S. 1949. K harakteristike drevnih tadzhikskih semejnyh otnoshenij [Ancient Tadjik Family Relations]. *Izvestija AN Tadzhikskoi SSR* 15:3–24.

Andreev, M. S. 1953. *Tadzhiki doliny Huf* [Tadjiks of the Huf Valley]. Vol. 1. Stalinabad: AN TadzhSSR.

Archer, D., and Gartner, R. 1984. *Violence and Crime in Cross-National Perspective.* New Haven, CT: Yale University Press.

Asmanguljan, A. A. 1983. *Istorija armjanskih terminov rodstva (opyt istoriko-etimologicheskogo issledovanija)* [History of the Armenian Kinship Terminology: A Historical-Etymological Study]. Erevan: Izdatel'stvo Erevanskogo Universiteta.

Bacon, M. K., Child, I. L., and Barry, H. III. 1963. A Cross-Cultural Study of Correlates of Crime. *Journal of Abnormal and Social Psychology* 66:291–300.

Bagalij, D. I. 1928. *Naris istorii Ukrainy na sotsial'no-ekonomichnomu grunti* [Essays in Socio-Economic History of Ukraine]. Kyiv: Derzhvydav Ukrainy.

Balsdon, J. P. V. D. 1962. *Roman Women.* London: Bodley Head.

Bandrivs'kij, D. G. 1960. *Govirki Pidbuz'kogo rajonu L'vivs'koj oblasti* [Dialects of the Bug District, the Lvov Region]. Kyiv: Akad. nauk Ukr. RSR. In-t suspil'nih nauk.

Bandura, A. [1973] 1980. The Social Learning Theory of Aggression. In R. A. Falk and S. S. Kim (Eds.), *The War System: An Interdisciplinary Approach.* Boulder, CO: Westview.

Barry, H. III, and Schlegel, A. 1980. *Cross-Cultural Samples and Codes*. Pittsburgh, PA: Pittsburgh University Press.

———. 1990. *Quantitative Cross-Cultural Data Series*. IV: *Adolescence*. New Haven, CT: HRAF Press (one floppy disk and paper codebook).

Barry, H. III, Josephson, L., Lauer, E., and Marshall, C. 1976. Traits Inculcated in Childhood: Cross-Cultural Codes 5. *Ethnology* 15:83–114.

———. 1985. Traits Inculcated in Childhood: Cross-Cultural Codes 5. *World Cultures.* 1(2):STDS13.COD, STDS13.DAT.

Barth, F. 1954. Father's Brother's Daughter Marriage in Kurdistan. *Southwestern Journal of Anthropology* 10:164–71.

Bar-Yosef, O. 1998. The Natufian Culture in the Levant, Threshold to the Origins of Agriculture. *Evolutionary Anthropology* 6:159–77.

Bdojan, V. A. 1952. Krovnorodstvennyi *azg* i rodstvennye otnoshenija u armjan [Consanguineal *Azg* and Kin Relations among the Armenians]. *Sovetskaja etnografija* (1):189–92.

Beaune, C. 1985. *Naissance de la nation Françe.* Paris: Gallimard.

Beeston, A. F. L. 1972*a*. Kingship in Ancient South Arabia. *Journal of the Economic and Social History of the Orient* 15:256–68.

Beeston, A. F. L. 1972*b*. Notes on Old South Arabian Lexicography VII. *Le Muséon* 85: 535–44.

Berkowitz, L. [1962] 1980. The Frustration-Aggression Hypothesis. In R. A. Falk and S. S. Kim (Eds.), *The War System: An Interdisciplinary Approach.* Boulder, CO: Westview.

Berneker, E. 1908–11. *Slavisches etymologisches Woerterbuch.* 11 vols. Heidelberg: Winter.

Bertalanffy, L., von. 1969. Obshchaja teorija sistem – obzor problem i rezul'tatov [General System Theory: A Review of Problems and Results]. *Sistemnye issledobanija* 1:30–54.

Bessmertnyj, Ju. L. 1986. Frantsuzskoe krest'janstvo v 10–13 vv. [French Peasants in the 10th–13th Centuries]. In M. A. Barg *et al.* (Eds.), *Istorija krest'janstva v Evrope. Epoha feodalizma.* II. *Krest'janstvo Evropy v period razvitogo feodalizma* (pp. 94–114). Moskva: Nauka.

Bessmertnyj, Ju. L. 1989. K izucheniju matrimonial'nogo povedenija vo Frantsii XII–XIII vekov [On Nuptial Behavior in France, the 12th and 13th Centuries]. *Odissey* 1989:98–113.

Bloch, M. 1956. *Les caracteres originaux de l'histoire rurale française.* Paris: Colin.

Boas, F. 1940. The Limitations of the Comparative Method of Anthropology. In F. Boas, *Race, Language, and Culture* (pp. 261–83). New York, NY: Macmillan. (Originally published 1896).

Bodley, J. 1999. *Anthropology and Contemporary Human Problems.* 4th ed. Mountain View, CA: Mayfield.

Bogoljubov, A. S. 1991. Zawāj [Marriage]. In S. M. Prozorov *et al.* (Eds.), *Islam* (pp. 71–2). Moskva: Nauka.

Bohannan, P. 1963. *Social Anthropology.* New York, NY: Holt, Rinehart & Winston.

Bol'shakov, O. G. 1989–2004. *Istoriya Halifata* [History of the Khalifate]. 4 vols. Moskva: Vostochnaya Literatura.

Bondarenko, D. M., and Korotayev, A. V. 2000. Family Size and Community Organization: A Cross-Cultural Comparison. *Cross-Cultural Research* 34:152–89.

Borodina, M. A., Borodina, L. M., Gordina, M. V., and Shishmarev, V. F. 1955. *Slovar' starofrantsuzskogo jazyka* [Dictionary of the Old French Language]. Moskva – Leningrad: Izdatel'stvo Akadimii nauk SSSR.

Bourdieu, P. 1995. *Outline of a Theory of Practice.* Cambridge, UK: Cambridge University Press.

Brockelmann, C. 1928. *Lexicon Syriacum.* Halis Saxonum: Max Niemeyer.

Brown, T. 1981. *Ireland: A Social and Cultural History, 1922–79.* Glasgow: Fontana.

Brueckner, A. 1974. *Slownik etymologiczny jezyka polskiego* [Etymological Dictionary of the Polish Language]. Warszawa: Wiedza powszechna.

Brumann, C. 1999. Writing for Culture: Why a Successful Concept Should not Be Discarded. *Current Anthropology*, *Supplement* 40:S1–S27.

Burjachok, A. A. 1954. *Nazvanija rodstva i svojstva v ukrainskom jazyke* [Kinship Terminology in Ukrainian]. Kiev: AN USSR.

Burton, M. L. 1999. Language and Region Codes for the Standard Cross-Cultural Sample. *Cross-Cultural Research* 33:63–83.

Burton, M. L., Moore, C. C., Whiting, J. W. M., and Romney, A. K. 1996. Regions Based On Social Structure. *Current Anthropology* 37:87–123.

Burton, M. L., and Reitz, K. 1981. The Plow, Female Contribution to Agricultural Subsistence and Polygyny: A Long-Linear Analysis. *Behavior Science Research* 16:275–306.

Burton, M. L., and White, D. R. 1987. Cross-Cultural Surveys Today. *Annual Review of Anthropology* 16:143–60.

———. 1991. Regional Comparisons, Replications, and Historical Network Analysis. *Behavioral Science Research* 25:55–78.

Burton, R. V., and Whiting, J. W. M. 1961. The Absent Father and Cross-Sex Identity. *Merrill-Palmer Quarterly of Behavior and Development* 7:85–95.

Bushuev, S. I. 1959. (Ed.). *Istorija Severo-Osetinskoj ASSR* [History of the North Ossetian Republic]. Vol. 1. Moskva: Izdatel'stvo Akademii nauk SSSR.

Carneiro, R. L. 1969. The Measurement of Cultural Development in the Ancient Near East and in Anglo-Saxon England. *Transactions of the New York Academy of Sciences*, Series II, 31:1013–23.

Carneiro, R. L. 1970. A Theory of the Origin of the State. *Science* 169:733–8.

———. 1981. The Chiefdom: Precursor of the State. In G. D. Jones and R. R. Kautz (Eds.), *The Transition to Statehood in the New World* (pp. 37–79). Cambridge, UK: Cambridge University Press.

———. 1987. Cross-Currents in the Theory of State Formation. *American Ethnologist* 14:756–70.

———. 1988. The Circumscription Theory: Challenge and Response. *American Behavioral Scientist* 31:497–511.

———. 1991. The Nature of the Chiefdom as Revealed by Evidence from the Cauca Valley of Colombia. In A. T. Rambo and K. Gillogly (Eds.), *Profiles in Cultural Evolution* (pp. 167–90). Ann Arbor, MI: Michigan University Press (Anthropology Papers, Museum of Anthropology, University of Michigan. No. 85).

———. 2000*a*. *The Muse of History and the Science of Culture.* New York, NY: Kluwer Academic/Plenum Publishers.

———. 2000*b*. Process *vs*. Stages: A False Dichotomy in Tracing the Rise of the State. In N. N. Kradin, A. V. Korotayev, D. M. Bondarenko, V. de Munck, and P. K. Wason (Eds.), *Alternatives of Social Evolution* (pp. 52–8). Vladivostok: Far Eastern Branch of the Russian Academy of Sciences.

Chase-Dunn, C., and Hall, T. 1997. *Rise and Demise. Comparing World-Systems.* Boulder, CO: Westview Press.

Chelhod, J. 1970. L'Organisation sociale au Yémen. *L'Ethnographie* 64:61–86.

———. 1975. La societé yéménite et le droit. *L'Homme* 15(2):67–86.

———. 1979. Social Organization in Yemen. *Dirāsāt Yamaniyyah* (3):47–62.

———. 1985. Les structures sociales et familiales. In J. Chelhod (Ed.), *L'Arabie du Sud: histoire et civilization.* 3. *Culture et institutions du Yémen* (pp. 15–123). Paris: Maisonneuve et Larose (Islam d'hier et d'aujourd'hui, 25).

Chlenov, M. A. 1988. Holocul'turalism [Holocultural Theory]. In M. V. Krjukov and I. Sellnow (Eds.), *Svod etnograficheskih ponjatij i terminov. Etnografija i smezhnye distsipliny. Etnograficheskie subdistsipliny. Shkoly i napravlenija. Metody* (pp. 195–8). Moskva: Nauka.

———. 1999. Evrei [Jews]. In V. A. Tishkov *et al.* (Eds.), *Narody i religii mira* (pp. 167–9). Moskva: Bol'shaja Rossijskaja Entsiklopedija.

Chochiev, A. R. 1985. *Ocherki istorii sotsial'noj kul'tury osetin* [Essays in History of Social Culture of the Ossetians]. Tshinvali: Iryston.

Claessen, H. J. M. 1989. Evolutionism in Development. Beyond Growing Complexity and Classification. In A. Gingrich, Siegfried Haas, Sylvia Haas, and G. Paleczek (Eds.), *Kinship, Social Change, and Evolution* (pp. 231–47). Horn – Wien: Ferdinand Berger (Wiener Beiträge zur Ethnologie und Anthropologie 5).

Claessen, H. J. M. 2000*a*. Problems, Paradoxes, and Prospects of Evolutionism. In N. N. Kradin, A. V. Korotayev, D. M. Bondarenko, V. de Munck, and P. K. Wason (Eds.), *Alternatives of Social Evolution* (pp. 1–11). Vladivostok: Far Eastern Branch of the Russian Academy of Sciences.

———. 2000b. *Structural Change. Evolution and Evolutionism in Cultural Anthropology.* Leiden: Research School CNWS.

Claessen, H. J. M., and Oosten, J. G. 1996. (Eds.). *Ideology and the Formation of Early States*. Leiden: Brill.

Claessen, H. J. M., and Skalnik, P. 1978. (Eds.). *The Early State*. The Hague – Paris – New York, NY: Mouton.

———. 1981. (Eds.). *The Study of the State*. The Hague – Paris – New York, NY: Mouton.

Claessen, H. J. M., and van de Velde, P. 1982. Another Shot at the Moon. *Research* 1:9–17.

———. 1985. The Evolution of Sociopolitical Organization. In H. J. M. Claessen, P. van de Velde, and M. E. Smith (Eds.), *Development and Decline: The Evolution of Sociopolitical Organization* (pp. 1–12). South Hadley, MA: Bergin & Carvey.

———. 1987*a*. (Eds.). *Early State Dynamics.* Leiden: Brill.

———. 1987*b*. Introduction. In H. J. M. Claessen and P. van de Velde (Eds.), *Early State Dynamics* (pp. 1–23). Leiden: Brill.

Cohen, M. N. 1977. *The Food Crisis in Prehistory: Overpopulation and the Origins of Agriculture*. New Haven, CT: Yale University Press.

Cohen, Y. A. 1969. Ends and Means in Political Control: State Organization and the Punishment of Adultery, Incest, and Violation of Celibacy. *American Anthropologist* 71:658–87.

Collins, R. 1988. *Theoretical Sociology*. San Diego, CA: Jovanovich.

———. 1999. *Macro-History: Essays in the Sociology of the Long Run.* Stanford, CA: Stanford University Press.

Conrad, A. H., and Meyer, J. R. 1964. *The Economics of Slavery and Other Studies in Econometric History*. Chicago: Aldine.

Coon, C. S. 1950. The Mountains of Giants: A Racial and Cultural Study of the North Albanian Mountain Ghegs. *Papers of the Peabody Museum of Archaeology and Ethnology, Harvard University* 23:1–105.

Coult, A. D., and Habenstein, R. W. 1965. *Cross Tabulations of Murdock's World Ethnographic Sample.* Columbia, MO: University of Missouri Press.

Crone, P. 1987. *Meccan Trade and the Rise of Islam*. Oxford: Basil Blackwell.

———. 1991. Mawlā. *The Encyclopaedia of Islam. New Edition* 6:874–82.

Curtin, P. D. 1984. *Cross-Cultural Trade in World History.* Cambridge, UK: Cambridge University Press.

Dal', V. I. 1989. *Tolkovyj slovar' zhivogo velikorusskogo jazyka* [Defining Dictionary of the Live Great Russian Language]. Vol. 1–4. Moskva: Russkij jazyk (originally published in 1863–6).

Davydov, A. D. 1979. *Sel'skaja obshchina i patronimija v stranah Blizhnego i Srednego Vostoka* [Agricultural Community and Patronymy in the Countries of the Near and Middle East]. Moskva: Nauka.

de Munck, V., and Korotayev, A. 2000. Cultural Units in Cross-Cultural Research. *Ethnology.* 39:335–348.

Diakonoff, I. M. 1983. *Istorija drevnego Vostoka* [History of the Ancient Orient]. I. *Mesopotamija* [Mesopotamia]. Moskva: Nauka.

Diakonoff, I. M., Neronova, V. D., and Jakobson, V. A. 1983. (Eds.). *Istoriya drevnego mira* [Ancient History]. Vol. 2. Moskva: Nauka.

Dilaçar, A. 1964. *Türk diline genel bir bakiş* [A General Overview of the Turkish Language]. Ankara: THM.

Dirks, S. 1969. *La famille musulmane turque. Son évolution au 20-e siècle.* Paris – La Haye: Mouton.

Divale, W. T. 1974. Migration, External Warfare, and Matrilocal Residence. *Behavior Science Research* 9:75–133.

Dobzhansky, T., Ayala, F. J., Stebbins, G. L., and Valentine, J. W. 1977. *Evolution*. San Francisco, CA: W. H. Freeman.

Dollard, J., Doob, L., Miller, N., Mowrer, O., and Sears, R. 1939. *Frustration and Aggression.* New Haven, CT: Yale University Press.

Dow, M. M., Burton, M. L., and White, D. R. 1981. Multivariate Modeling With Interdependent Network Data. *Behavioral Science Research* 17:216–45.

———. 1982. Network Autocorrelation. *Social Networks* 4:169–200.

Dow, M. M., Burton, M. L., White, D. R., and Reitz, K. 1984. Galton's Problem as Network Autocorrelation. *American Ethnologist* 11:754–70.

Dresch, P. 1989. *Tribes, Government, and History in Yemen*. Oxford: Clarendon Press.

Driver, H. E., and Chaney, R. P. 1970. Cross-Cultural Sampling and Galton's Problem. In R. Naroll and R. Cohen (Eds.), *A Handbook of Method in Cultural Anthropology* (pp. 990–1003). Garden City, NY: Natural History Press.

Durham, M. E. 1909. *High Albania.* London: Routledge.

———. 1928. *Some Tribal Origins, Laws and Customs of the Balkans.* London: Routledge.

Durkheim, E. 1952 [1st ed. 1897]. *Suicide*. London: Routledge & Kegan Paul.

Earle, T. 1997. *How Chiefs Come to Power: The Political Economy in Prehistory.* Stanford, CA: Stanford University Press.

Eckhardt, W. 1973. Anthropological Correlates of Primitive Militarism. *Peace Research* 5:5–10.

Eisenstadt, S. 1964. Social Change, Differentiation and Evolution. *American Sociological Review* 29:375–86.

———. 1970. Social Change and Development. In S. N. Eisenstadt (Ed.), *Readings in Social Evolution and Development* (pp. 3–33). Oxford: Pergamon.

———. 1978. *Revolution and the Transformation of Societies. A Comparative Study of Civilizations*. New York, NY: The Free Press – London: Collier Macmillan.

———. 1982. The Axial Age: The Emergence of Transcendental Visions and the Rise of Clerics. *Archives Européennes de Sociologie* 2:294–314.

———. 1986. (Ed.). *The Origins and Diversity of Axial Age Civilizations.* Albany, NY: SUNY Press.

———. 1993. *The Political System of Empires*. New Brunswick, NJ: Transaction.

Eliade, M. 1959. *Cosmos and History.* New York, NY: Harper & Row.

Ember, C. R., and Ember, M. 1992. Resource Unpredictability, Mistrust, and War: A Cross-Cultural Study. *Journal of Conflict Resolution* 36:242–62.

———. **1994.** War, Socialization, and Interpersonal Violence: A Cross-Cultural Study. *Journal of Conflict Resolution* 38:620–46.

———. **1996*a*. (Eds.).** *Cross-Cultural Research for Social Sciences*. Upper Saddle River, NJ: Prentice Hall/Simon and Shuster Custom Publishing.

———. **1996*b*.** *Cultural Anthropology*. 8th edition. Upper Saddle River, NJ: Prentice Hall.

———. **1998.** Cross-Cultural Research. In H. R. Bernard (Ed.), *Handbook of Methods in Cultural Anthropology* (pp. 647–90). Walnut Creek, CA: AltaMira Press.

———. **2001.** *Cross-Cultural Research Methods*. Lanham, MD: AltaMira Press.

Ember, C. R., Ember, M., and Pasternak, B. 1983. On the Development of Unilineal Descent. In M. Ember and C. R. Ember (Eds.), *Marriage, Family, and Kinship: Comparative Studies of Social Organizations* (pp. 359–97). New Haven, CT: HRAF Press.

Ember, C. R., and Levinson, D. 1991. The Substantive Contributions of Worldwide Cross-Cultural Studies Using Secondary Data. *Behavior Science Research* 25:79–140.

Ember, M. 1971. An Empirical Test of Galton's Problem. *Ethnology* 10:98–106.

Ember, M., and Ember, C. R. 1971. The Conditions Favoring Matrilocal versus Patrilocal Residence. *American Anthropologist* 73:571–94.

———. **1983.** *Marriage, Family, and Kinship: Comparative Studies of Social Organization*. New Haven, CT: HRAF Press.

Ember, M., and Otterbein, K. F. 1971. Sampling in Cross-Cultural Research. *Behavior Science Research* 25:217–35.

Engels, F. 1964. *The Origin of the Family, Private Property, and the State.* New York, NY: International Publishers (originally published in 1884).

Engerman, S. L. 1971. The Economic Impact of the Civil War. In R. W. Fogel and S. L. Engerman (Eds.), *The Reinterpretation of American Economic History* (pp. 368–379). New York, NY: Harper & Row.

Engerman, S. L., Sutch, R., and Wright, G., 2004. Slavery. In S. B. Carter, S. S. Gartner, M. Haines, A. Olmstead, R. Sutch, and G. Wright (Eds.), *Historical Statistics of the United States, Millennial Edition*. New York, NY: Cambridge University Press.

Esposito, J. L. 1982. *Women in Muslim Family Law*. Syracuse, NY: Syracuse University Press.

———. **1998.** *Islam: the Straight Path*. 3rd ed. New York – Oxford: Oxford University Press.

Evans, R. J., and Lee, W. R. (Eds.) 1986. *The German Peasantry. Conflict and Community in Rural Society from the 18th to the 20th Centuries.* London – Sydney: Croom Helm.

Even-Shoshan, A. 1998. *Ha-milon ha-`ivri ha-merukaz* [Condensed Dictionary of /Modern/ Hebrew]. Jerusalem: Kiryat-Sefer (in [Modern] Hebrew).

Filin, F. P. 1948. O terminah rodstva i rodstvennyh otnosheniyah v drevenerusskom literaturnom jazyke [Kinship and Kinship Relation Terminology in the Ancient Russian Literary Language]. *Jazyk i myshlenie* 9:329–46.

Fine, J. V. A. 1987. *The Late Medieval Balkans. A Critical Survey from the Late Twelfth Century to the Ottoman Conquest.* Ann Arbor, MI: University of Michigan Press.

Fogel, R. W., and Engerman, S. L. 1971. The Economics of Slavery. In R. W. Fogel and S. L. Engerman (Eds.), *The Reinterpretation of American Economic History* (pp. 311–341). New York, NY: Harper & Row.

———. 1974. *Time on the Cross. The Economics of American Negro Slavery.* 2 vols. Boston, MA – Toronto: Little, Brown & Co.

Fortes, M. 1953. The Structure of Unilineal Descent Groups. *American Anthropologist* 55:17–41.

Fried, M. H. 1967. *The Evolution of Political Society: An Essay in Political Anthropology*. New York, NY: Random House.

Futuyma, D. J. 1986. *Evolutionary Biology*. 2nd ed. Sunderland, MA: Sinauer.

Gaglojti, Ju. S. 1966. *Alany i voprosy etnogeneza osetin* [The Alans and the Ossetians' Ethnogenesis Issue]. Tbilisi: Metsniereba.

Gatewood, J. B. 1999. Reflections on the Nature of Cultural Distributions and the Units of Culture. Paper presented at the 1999 meetings of the Society for Cross-Cultural Research in Santa Fe.

Gatewood, J. B. 2000. Distributional Instability and the Units of Culture. *Ethnology.* 39: 293–304.

Gellner, E. 1988. *Plough, Sword and Book.* London: Collins Harvill.

Glascock, A. P., and Wagner, R. A. 1987. *Quantitative Cross-Cultural Data Series*. II: *Death and Dying in the Life Cycle*. New Haven, CT: HRAF Press (one floppy disk and paper codebook).

Gochenour, D. T. 1984. *The Penetration of Zaydi Islam into Early Medieval Yemen*. Ph. D. thesis. Cambridge, MA: Harvard University.

Goldenweiser, A. 1937. *Anthropology.* New York, NY: F.S.Crofts.

Goody, J. 1983. *The Development of the Family and Marriage in Europe*. Cambridge, UK: Cambridge University Press.

Gremais, A. J. 1987. *Dictionnaire de l'ancien français jusqu'au milleu du 14e siècle.* Paris: Larousse.

Gurr, T. R. 1989. Historical Trends in Violent Crime: Europe and the United States. In T. R. Gurr (Ed.), *Violence in America.* Vol.1. *The History of Crime* (pp. 21–59). Newbury Park, CA: Sage.

Gutnov, F. H. 1989. *Genealogicheskie predanija osetin kak istoricheskij istochnik* [Ossetian Genealogical Traditions as an Historical Source]. Ordzhonikidze: Ir.

Habermas, J. 1979. *Communication and the Evolution of Society*. Boston, MA: Beacon Press.

———. 1984. *The Theory of Communicative Action*. Boston, MA: Beacon Press.

Hallpike, C. R. 1986. *The Principles of Social Evolution*. Oxford: Clarendon Press.

al-Hamdānī, al-Hasan. 1948. *Kitāb al-iklīl* [The Book of Crown]. Vol. X. Tahqīq Muhibb al-Dīn al-Khatīb. al-Qāhirah: al-Matba`ah al-Salafiyyah.

———. 1966. *Kitāb al-iklīl* [The Book of Crown]. Vol. II. Tahqīq Muhammad al-Akwa`. al-Qāhirah: Matba`at al-Sunnah al-Muhammadiyyah.

———. 1977. *Kitāb al-iklīl* [The Book of Crown]. Vol. I. Tahqīq Muhammad al-Akwa`. Baghdād: Dār al-Hurriyyah.

———. 1990. *Sifat jazīrat al-`Arab* [Description of Arabia]. Tahqīq Muhammad al-Akwa`. San`ā': Maktabat al-Irshād.

Harris, M. 1978. *Cannibals and Kings: The Origins of Cultures*. London: Collins.

Hasluck, M. 1954. *The Unwritten Law in Albania.* Cambridge, UK: Cambridge University Press.

Hays, D. G. 1998. *The Measurement of Cultural Evolution in the Non-Literate World. Homage to Raoul Naroll.* New York, NY: Metagram Press (CD edition).

Henke, R. 1973. "Appendix" to Naroll 1973. In R. Naroll and F. Naroll (Eds.), *Main Currents in Cultural Anthropology* (pp. 355–60). New York, NY: Appleton.

Herlihy, D. 1993. Biologija i istorija: k postanovke problemy [Biology and History: An Introduction]. *Tsivilizatsii* 2:34–44.

Heurgon, J. 1973. *The Rise of Rome to 264 B.C.* London: Batsford.

Hippeau, C. 1873. *Dictionnaire de la langue française au 12^{e} et au 13^{e} siècle.* 2 vols. Paris: Oubry.

Ishankulov, H. G. 1972. *Brak i svad'ba u naselenija Hodzhenta v Novoe vremja* [Marriage and Wedding among Hodjent Population in Modern Time]. Dushanbe: AN TadzhSSR.

Ivanov, P. A. 1895. *Istoricheskie sud'by Volynskoj zemli s drevnejshih vremen do kontsa 14 veka.* [Histirical Fortunes of the Volyn Land from the Most Ancient Times till the 14th Century]. Odessa: Ekonomicheskaja tipografija.

Ivanova, Ju. V. 1973. *Severnaja Albanija v 19 – nachale 20 veka. Obshchestvennaja zhizn'* [Northern Albania in the 19th – Early 20th Century. Social Life]. Moskva: Nauka.

J**aspers, K. 1953.** *The Origin and Goal of History.* New Haven, CT: Yale University Press.

**al-Jazīrī, `A. 1990/1410H.** *Kitāb al-Fiqh `alā-l-madhāhib al-arba`ah.* Al-juz' al-thālith. *Kitab al-nikāh, kitāb al-talāq* [The Book of Law according to the Four Schools. Part 3. The Book of Marriage, the Book of Divorce]. Bayrūt: Dār al-Kutub al-`Ilmiyyah.

Jelavich, B. 1983. *History of Balkans.* Vol. 1. Cambridge, UK: Cambridge University Press.

Jennings, J. 1997. *The Business of Abolishing the British Slave Trade 1783–1807*. Portland, OR: Frank Cass.

Johnson, A. W., and Earle, T. 1987. *The Evolution of Human Societies. From Foraging Group to Agrarian State*. Stanford, CA: Stanford University Press.

Johnson, D. 1992. Polygamists Emerge from Secrecy, Seeking Not Just Peace but Respect. In W. A. Haviland and R. J. Gordon (Eds.), *Talking about People. Readings in Contemporary Cultural Anthropology* (pp. 129–31). London – Toronto: Mayfield.

Kalygin, V. P. 1986. *Jazyk drevnejshej irlandskoj poezii* [The Language of the Most Ancient Irish Poetry]. Moskva: Nauka.

Kennedy, R. E. 1973. *Emigration, Marriage, and Fertility.* Berkeley, CA: University of California Press.

Kirchhoff, P. 1968. The Principles of Clanship in Human Society. In M. H. Fried (Ed.), *Readings in Anthropology.* 2nd ed., vol. 2. New York, NY: Crowell (originally published 1955).

Kirej, N. I. 1996. *Etnografija arabov Perednej Azii i Severnoj Afriki* [Ethnography of the Arabs of Western Asia and North Africa]. Krasnodar: KubGU.

Kisljakov, N. A. 1969. *Ocherki po istorii sem'i i braka u narodov Srednei Azii i Kazahstana* [History of Family and Marriage among the Peoples of Central Asia and Kazakhstan]. Leningrad: Nauka.

Kobishchanov, Ju. M. 1966. *Aksum.* Moskva: Nauka.

Kokiev, G. A. 1989. Normy osetinskoj morali [Ossetian Moral Norms]. In V. A. Kuznetsov (Ed.), *Problemy etnografii Osetin* (pp.50–63). Ordzhonikidze: Severo-Osetinskij nauchno-issledovatel'skij institut istorii, filologii i ekonomiki.

Kon, I. S. 1987. Materinstvo i ottsovstvo v istoriko-etnograficheskoj perspektive [Motherhood and Fatherhood in the Historical-Ethnographic Perspective]. *Sovetskaja etnografija* 6:26–37.

Korkuti, M. (Ed.). 1971. *Les Illyriens et la genèse des Albanais.* Tirana: Univ. de Tirana. Inst. d'histoire et de lingustique.

Korolev, A. A. 1984. *Drevnejshie pamjatniki irlandskogo jazyka* [The Most Ancient Records in the Irish Language]. Moskva: Nauka.

Koroljuk, V. D. 1957. *Drevnepol'skoe gosudarstvo* [The Ancient Polish State]. Moskva: Izdatel'stvo Akademii nauk SSSR.

Korotayev, A. V. 1987. Sem'ja v sotsial'no-ekonomicheskoj strukture dokapitalisticheskih klassovyh formatsij [Family and Household in Socio-Economic Structure of Pre-Industrial Formations]. In D. D. Vasil'ev and S. V. Volkov (Eds.), *Istorija i filologija drevnego i srednevekovogo Vostoka* (pp. 3–11). Moskva: Nauka.

———. 1995*a*. *Ancient Yemen. Some General Trends of Evolution of the Sabaic Language and the Sabaean Culture*. New York, NY – Oxford: Oxford University Press.

———. 1995*b*. Apologija trajbalizma. Plemja kak forma sotsial'no-politicheskoj organizatsii slozhnykh nepervobytnykh obshchestv [Apologia for Tribalism. Tribe as a Form of Sociopolitical Organization of Complex Non-Primitive Societies]. *Sotsiologicheskij zhurnal* (4):68–86.

———. 1995*c*. Mountains and Democracy: An Introduction. In N. N. Kradin, and V. A. Lynsha (Eds.), *Alternative Pathways to Early Statehood* (pp. 77–93). Vladivostok: Dal'nauka.

———. **1996*a*.** "Aramaeans" in a Late Sabaic Inscription. *Aram* 8:293–8.

———. 1996*b*. *Pre-Islamic Yemen. Sociopolitical Organization of the Sabaean Cultural Area in the 2nd and 3rd Centuries A.D.* Wiesbaden: Horrosowitz Verlag.

———. 1996*c*. Dva sotsioekologicheskikh krizisa i genezis plemennoj organizatsii v Severo-Vostochnom Jemene [Two Socioecological Crises and Genesis of Tribal Organization on the North-East of Yemen]. *Vostok/Oriens* (6):18–28.

———. 1996*d*. Ot vozhdestva k plemeni? Nekotorye tendentsii evoljutsii politicheskikh sistem Severo-Vostochnogo Jemena za poslednie dve tysjachi let [From Chiefdom to Tribe? Some Trends of Evolution of North-Eastern Yemen Political Systems in the Last Two Thousand Years]. *Etnograficheskoe obozrenie* (2):81–91.

———. 1997. *Sabejskie etjudy. Nekotorye obshchie tendentsii i faktory evoljutsii sabejskoj tsivilizatsii* [Sabaean Studies. Some General Trends and Factors of Evolution of the Sabaean Cultural-Political Area]. Moskva: Vostochnaja literatura.

———. 1998. *Vozhdestva i plemena strany Hashid i Bakīl* [Chiefdoms and Tribes of the Land of Hāshid and Bakīl]. Moskva: Institut vostokovedenija Rossijskoj Akademii nauk.

———. 1999*a*. Objektivnye sotsiologicheskie zakony i subjektivnyj factor [Objective Sociological Laws and Subjective Factor]. *Vremja mira* 1:204–33.

———. 1999*b*. O sootnoshenii sistem terminov rodstva i tipov sotsial'nyh sistem: opyt kolichestvennogo kross-kul'turnogo analiza [The Correlation between the Kinship Terms and Social System Types: A Quantitative Cross-Cultural Comparison]. *Algebra rodstva* 3:117–47.

———. 2000. Parallel-Cousin (FBD) Marriage, Islamization, and Arabization. *Ethnology* 39:395–407.

———. 2003. Unilineal Descent Groups and Deep Christianization: A Cross-Cultural Comparison. *Cross-Cultural Research* 37:132–56.

Korotayev, A. V., and Bondarenko, D. M. 2000. Polygyny and Democracy: A Cross-Cultural Comparison. *Cross-Cultural Research* 34:190–208.

Korotayev, A., and Kazankov, A. 2000. Regions Based on Social Structure: A Reconsideration (or Apologia for Diffusionism). *Current Anthropology* 41:668–90.

Korotayev, A., Kazankov, A., Dreier, L., and Dmitrieva, N. 2003. Evolutionary Implications of Cross-Cultural Correlations. *Cross-Cultural Research* 37:247–64.

Korotayev, A., Klimenko, V., and Proussakov, D. 1999. Origins of Islam: Political-Anthropological and Environmental Context. *Acta Orientalia Hung.* 52:243–76.

Korotayev, A., and de Munck, V. 2003. "Galton's Asset" and "Flower's Problem": Cultural Networks and Cultural Units in Cross-Cultural Research. *American Anthropologist* 105:353–8.

Korotayev, A. V., and Obolonkov, A. A. 1989. Rodovaja organizatsija v sotsial'no-ekonomicheskoj strukture klassovyh obshchestv [Clan Organization in Socio-Economic Structure of Complex Societies]. *Sovetskaja etnografija* (2):35–45.

———. 1990. Rod kak forma sotsial'noj organizatsii v rabotah dorevoljutsionnyh russkih i sovetskih issledovatelej [Clan as a Form of Social Organization in the Works of Pre-Revolution Russian and Soviet Scholars]. In K. Z. Ashrafyan and G. F. Kim (Eds.), *Uzlovye problemy istorii dokapitalisticheskih obshchestv Vostoka* (pp. 3–52). Moskva: Nauka.

Kosven, M. O. 1963. *Semejnaja obshchina i patronimija* [Family Community and Patronymy]. Moskva: Izdatel'stvo Akademii nauk SSSR.

Kotel'nikova, L. A. 1986. Krest'janskaja obshchina. In M. A. Barg (Ed.), *Istorija krest'janstva v Evrope. Epoha feodalizma.* II. *Krest'janstvo Evropy v period razvitogo feodalizma* (pp. 476–92). Moskva: Nauka.

Kotljar, M. F. 1998. *Galyts'ko-Volyns'ka Rus'.* Kyiv: Al'ternatyvy.

Krasnovskaja, N. A. 1989. Narody Italii [Peoples of Italia]. In Ju. V. Ivanova (Ed.), *Brak u narodov Zapadnoj i Juzhnoj Evropy* (pp. 107–33). Moskva: Nauka.

———. 1999. Ital'jantsy [The Italians]. In V. A. Tishkov (Ed.), *Narody i religii mira* (pp. 200–1). Moskva: Bol'shaja Rossijskaja Entsiklopedija.

Krjukov, M. V. 1968. Tipy rodstva i ih istoricheskoe sootnoshenie [Kinship Types and Their Historical Interrelation]. In L. V. Danilova (Ed.), *Problemy istorii dokapitalisticheskih obshchestv* (pp. 352–83). Moskva: Nauka.

———. 1972. *Sistema rodstva kitajtsev* [Chinese Kinship System]. Moskva: Nauka.

———. 1995. Sinhronno-diahronnyj metod i kontseptsija transformatsionnoj mnogolinejnosti sistem rodstva [Synchronic-Diachronic Method and the Theory of Transformational Multilinearity of the Kinship Systems]. *Algebra rodstva* 1:111–37.

Kronenfeld, D. 2000. A comment made during the 29th Annual Meeting of the Society for Cross-Cultural Research in New Orleans, LA, on February 24, 2000.

Kudelin, A. B. 1994. Semejno-brachnye otnoshenija v Aravii 5–7 vv. i ih otrazhenie v rannej arabskoj poezii [Family and marriage in Arabia in the 5–7th centuries and their reflection in the early Arab poetry]. In S. H. Kjamilev and I. M. Smiljanskaja (Ed.), *Islam i problemy mezhtsivilizatsionnyh vzaimodeystviy* (pp. 181–92). Moskva: Nur.

Kuznetsov, V. A. 1971. *Alanija v 10–13 vv.* [Alania in the 10th–13th Centuries]. Ordzhonikidze: Ir.

——— 1992. *Ocherki istorii alan* [Essays in the History of the Alans]. 2nd ed. Ordzhonikidze: Ir.

Labovitz, S. 1967. Some Observations on Measurement and Statistic. *Social Forces* 46:151–60.

———. 1970. The Assignment of Numbers to Rank Order Categories. *American Sociological Review* 35:515–24.

Lane, E. W. 1865–93. *An Arabic-English Lexicon.* 7 vols. London: Williams and Norgate.

Lavrovskij, P. A. 1867. *Korennoe znachenie v nazvanijah rodstva u slavjan* [Basic Meanings of Kinship Terms among the Slavs]. Sankt Peterburg: Tipografija Akademii Nauk.

Lenski, G. E., Nolan, P., and Lenski, J. 1995. *Human Societies. An Introduction to Macrosociology*. 7th ed. New York, NY: McGraw-Hill.

Leslau, W. 1987. *Comparative Dictionary of Ge`ez (Classical Ethiopic).* Wiesbaden: Otto Harrassowitz.

Levinson, D. 1979. Population Density in Cross-Cultural Perspective. *American Ethnologist* 6:742–51.

Levinson, D., and Malone, M. 1980. *Toward Explaining Human Culture*. New Haven, CT: HRAF Press.

Levinson, D., and Wagner, R. A. 1987. *Quantitative Cross-Cultural Data Series*. I: *General Cultural and Religion Data*. New Haven, CT: HRAF Press (one floppy disk and paper codebook).

Littré, E. 1875–7. *Dictionnaire de la langue française.* 4 vols. Paris: Hachette.

Longenecker, S. L. 2002. *Shenandoah Religion: Outsiders and the Mainstream, 1716–1865*. Waco, TX: Baylor University Press.

Lowie, R. 1970. *Primitive Society.* New York, NY: Liveright (originally

published in 1920).

Luhmann, N. 1982. *The Differentiation of Society*. New York, NY: Columbia University Press.

MacLysaght, E. 1957. *Irish Families. Their Names, Arms, and Origins.* Dublin: Figgis.

al-Mad`aj, M. M. M. 1988. *The Yemen in Early Islam 9–233/ 630–847: a Political History*. London: Ithaca Press.

Majak, I. L. 1983. *Rim pervyh tsarej (Genezis rimskogo polisa).* Moskva: Izdatel'stvo Moskovskogo universiteta.

Majer, V. E. 1986. Nemetskoe krest'janstvo v 11–13 vv. [German Peasants in the 11th–13th Centuries]. In M. A. Barg (Ed.), *Istorija krest'janstva v Evrope. Epoha feodalizma.* II. *Krest'janstvo Evropy v period razvitogo feodalizma* (pp. 168–84). Moskva: Nauka.

Makal, M. 1967. *Allah árnyekában Egy anatóliai tanító feljegyzései* [Anatolian Village]. (Forditotta Fekete Sándor). Budapest: Kossuth könyvkiadó.

Mandelbaum, M. 1971. *History, Man, and Reason: A Study in Nineteenth-Century Thought*. Baltimore, MD: Johns Hopkins University Press.

Marano, L. A. 1973. A Macrohistoric Trend toward World Government. *Behavior Science Notes* 8:35–9.

al-Massarini, M., and Segal, V. S. 1978. *Arabsko-russkij slovar' sirijskogo dialekta* [Arabic-Russian Dictionary of the Syrian Dialect]. Moskva: Russkij jazyk.

Matseevskij, V. A. 1877. *Drevnepol'skaja sel'skaja obshchina* [Ancient Polish Village Community]. Varshava: Varshavskaja gubernskaja tipografija.

Messenger, J. C. 1969. *Inis Beag: Isle of Ireland.* New York, NY: Holt, Rinehart and Winston.

Mez, A. 1996/1922. *Musul'manskij renessans* [Die Renaissance des Islams]. Moskva: ViM.

Miller, I. S., and Hrenov, I. A. (Eds.) 1955. *Istorija Pol'shi* [History of Poland]. Vol. 2. Moskva: Akademija nauk SSSR.

Minturn, L., and Lambert, W. 1964. The Antecedents of Child Training: A Cross-Cultural Test of Some Hypotheses. In L. Minturn (Ed.), *Mothers of Six Cultures* (pp. 164–75, 343–6). New York, NY: John Wiley.

Moiseev, A. I. 1963. Terminy rodstva v sovremennom russkom yazyke [Kinship Terms in Modern Russian]. *Filologicheskie nauki* (3):120–32.

Monogarova, L. F. 1949. Yazgulemtsi Zapadnogo Pamira [The Yazgulems of Western Pamir]. *Sovetskaja Etnografija* (3):101–16.

———. 1972. *Preobrazovaniya v bytu i kulture pripamirskih narodnostei* [Transformations in Everyday Life and Culture of the Peoples of Foothills Pamir]. Moskva: Nauka.

Montagu, A. 1976. *The Nature of Human Aggression.* Oxford – New York, NY: Oxford University Press.

Morgan, L. H. 1964. *Ancient Society.* Cambridge, MA: Harvard University Press.

Muller, J. 1997. *Mississippian Political Economy.* New York, NY – London: Plenum Press.

Munroe, R. L., Hulefeld, R., Rodgers, J. M., Tomeo, D. L., and Yamazaki, S. K. 2000. Aggression among Children in Four Cultures. *Cross-Cultural Research* 34:3–25.

Munroe, R. L., Munroe, R. H., and Whiting, J. W. M. 1981. Male Sex-Role Resolutions. In R. L. Munroe, R. H. Munroe, and B. B. Whiting (Eds.), *Handbook of Cross-Cultural Human Development* (pp. 611–32). New York, NY: Garland STPM.

Murdock, G. P. 1949. *Social Structure.* New York, NY: Macmillan.

———. 1967. *Ethnographic Atlas: A Summary*. Pittsburgh, PA: The University of Pittsburgh Press.

———. 1970. Kin Term Patterns and their Distribution. *Ethnology* 9:165–207.

———. 1981. *Atlas of World Cultures*. Pittsburgh, PA: The University of Pittsburgh Press.

———. 1985*a*. Ethnographic Atlas Variables for Standard Cross-Cultural Sample. *World Cultures* 1(2):STDS09–12.COD, STDS09–12.DAT.

———. 1985*b*. Kin Term Patterns and their Distribution. *World Cultures* 1(4):STDS25.COD, STDS25.DAT.

Murdock, G. P., and Morrow, D. O. 1970. Subsistence Economy and Supportive Practices: Cross-Cultural Codes 1. *Ethnology* 9:302–30.

———. 1985. Subsistence Economy and Supportive Practices: Cross-Cultural Codes 1. *World Cultures* 1(1):STDS01.COD, STDS01.DAT.

Murdock, G. P., and Provost, C. 1973. Mesurement of Cultural Complexity. *Ethnology* 12:379–92.

———. 1985. Mesurement of Cultural Complexity. *World Cultures* 1(1):STDS06.COD, STDS06.DAT.

Murdock, G. P., Textor, R., Barry III, H., and White, D. R. 1986. Ethnographic Atlas. *World Cultures* 2(4):AT01–8.DAT – the first electronic version.

———. 1990. Ethnographic Atlas. *World Cultures* 6(3):AT01–8.DAT – the second electronic version.

Murdock, G. P., Textor, R., Barry III, H., and White, D. R., Gray, J. P., and Divale, W. 1999–2000. Ethnographic Atlas. *World Cultures* 10(1):24–136, files AT01-09.SAV; 11(1):EA10.SAV (the third electronic version).

———. 2002. Ethnographic Atlas. *World Cultures* 13(1): file ETHNOGRAPHIC_ATLAS_WC_REVISED.SAV (the fourth electronic version).

Murdock, G. P., and White, D. R. 1969. Standard Cross-Cultural Sample. *Ethnology* 8:329–69 (reprinted in H. Barry III and A. Schlegel [Eds.],

Cross-Cultural Samples and Codes [pp. 3–43]. Pittsburgh, PA: University of Pittsburgh Press, 1980).

Murdock, G. P., and Wilson, S. F. 1972. Settlement Patterns and Community Organization: Cross Cultural Codes 3. *Ethnology* 11:254–95.

———. 1985. Settlement Patterns and Community Organization: Cross Cultural Codes 3. *World Cultures* 1(1):STDS03.COD, STDS03.DAT.

Murphy, R. F., and Kasdan, L. 1959. The Structure of Parallel Cousin Marriage. *American Anthropologist* 61:17–29.

Naroll, R. 1961. Two Solutions to Galton's Problem. *Philosophy of Science* 18:15–39.

———. 1970. Galton's Problem. In R. Naroll and R. Cohen (Eds.), *A Handbook of Method in Cultural Anthropology* (pp. 974–89). Garden City, NY: Natural History Press.

———. 1973. Holocultural Theory Tests. In R. Naroll and F. Naroll (Eds.), *Main Currents in Cultural Anthropology*. pp. 309–84. New York, NY: Appleton.

Naroll, R., and D'Andrade, R. G. 1963. Two Further Solutions to Galton's Problem. *American Anthropologist* 65:1053–67.

Naroll, R., Michik, G. L., and Naroll, F. 1976. *Worldwide Theory Testing.* New Haven, CT: HRAF Press.

Naumkin, V. V., and Porhomovskij, V. Ja. 1981. *Ocherki po etnolingvistike Sokotry* [Essays in Ethnolinguistics of Soqotra]. Moskva: Nauka.

Naumkin, V. V. 1988. *Soqotrijtsy. Istoriko-etnograficheskij ocherk* [The Soqotrans. Historical and Ethnographic Essay]. Moskva: Nauka.

Nazaretjan, A. P. 1991. *Intellekt vo Vselennoy: istoki, stanovlenie, perspektivy. Ocherki mezhdistsiplinarnoy teorii progressa* [Intellect in Universe: Origins, Formation, Perspectives. A Multidisciplinary Theory of Progress]. Moskva: Nedra.

———. 1996. *Agressiya, moral' i krizisy v razvitii mirovoy kul'tury. Sinergetika sotsial'nogo progressa* [Aggression, Morals and Crises in the Development of World Culture. Synergetics of Historical Progress]. Moskva: Nasledie.

———. 1999*a*. Vektory istoricheskoj evoljutsii [Vectors of Historical Evolution]. *Obshchestvennye nauki i sovremennost'* 2:112–26.

———. 1999*b*. Vektory istoricheskoj evoljutsii [Vectors of Historical Evolution]. In E. S. Kul'pin (Ed.), *Sotsial'no-istoricheskij progress: mify i realii* (pp. 4–26). Moskva: Papirus Pro.

Negrja, L. V. 1981. *Obshchestvennyi stroy Severnoy i Tsentralnoy Aravii v 5–7 vv.* [Social System of North and Central Arabia in the 5th to 7th centuries]. Moskva: Nauka.

Nisbet, R. A. 1969. *Social Change and History: Aspects of the Western Theory of Development*. New York, NY –Oxford: Oxford University Press.

Novichev, A. D. 1960. *Turetskie kochevniki v 15–18 vv.* [The Turkish Nomads in the 15th–18th Centuries]. Moskva: Izdatel'stvo vostochnoj literatury.

Osipova, T. S. 1973. *Irlandskij gorod i ekspsnsija Anglii 12–13 vv* [Irish Town and English Expansion in the 12th and 13th Centuries]. Moskva: Nauka.

Otterbein, K. F. 1969. Basic Steps in Conducting a Cross-Cultural Study. *Behavior Science Notes* 4:221–36.

———. 1972. *Comparative Cultural Analysis*. New York, NY: Holt, Rinehart & Winston.

———. 1976. Sampling and Samples in Cross-Cultural Studies. *Behavioral Science Research* 11:107–21.

———. 1989. Sampling and Samples–An Update. *CAM Newsletter*, November.

Ozhegov, S. I. 1969. *Slovar' russkogo jazyka* [Dictionary of the Russian Language]. Moskva: Russkij Jazyk.

Palmer, S. 1970. Aggression in Fifty-Eight Non-Literate Societies: An Exploratory Analysis. *Annales Internationales de Criminologie* 9:57–69.

Parsons, T. 1966. *Societies: Evolutionary and Comparative Perspectives*. Englewood Cliffs, NJ: Prentice Hall.

———. 1971. *The System of Modern Societies*. Englewood Cliffs, NJ: Prentice Hall.

———. 1997. O postroenii teorii sotsial'nyh sistem: Intellektual'naja avtobiografija [On the Construction of the Social System Theory: Intellectual Autobiography]. In T. Parsons, *Sistema sovremennyh obshchestv* (pp. 210–68). Moskva: Aspekt Press.

Pasternak, B. 1976. *Introduction to Kinship and Social Organization*. Englewood Cliffs, NJ: Prentice Hall.

Pasternak, B., Ember, M., and Ember, C. 1997. *Sex, Gender, and Kinship: A Cross-Cultural Perspective*. Upper Saddle River, NJ: Prentice Hall.

Peinsipp, W. 1985. *Das Volk der Shkypetaren: Geschichte, Gesellschaft und Verhaltensordnung.* Wien: Böhlaus.

Pershits, A. I. 1955. Iz istorii patriarhal'nyh form braka (Nahva – ortokuzennyj brak u arabov) [From the History of the Traditional Marriage Forms (Nahwah – Parallel Cousin Marriage among the Arabs)]. *Kratkie soobshchenija Instituta etnografii* 24:43–54.

———. 1958. Araby Iraka [The Arabs of Iraq]. *Sovetskaja etnografija* (5):77–90.

———. 1998. Tuaregi [The Tuaregs]. In V. A. Tishkov (Ed.), *Narody i religii mira* (pp. 542–3). Moskva: Bol'shaja rossijskaja entsiklopedija.

Pigulevskaja, N. V. 1979. *Kul'tura sirijtsev v srednie veka* [The Syrian Culture in the Middle Ages]. Moskva: Nauka.

Piotrovskiy, M. B. 1977. *Predaniye o himyaritskom tsare As`ade al-Kāmile* [The Saga of the Himyaritic King As`ad al-Kāmil]. Moskva: Nauka.

———. 1985. *Yuzhnaya Araviya v rannee srednevekovye. Stanovleniye srednevekovogo obshchestva* [South Arabia in Early Middle Ages. Formation of Medieval Society]. Moskva: Nauka.

Pisko, J. E. 1896. Gebräuche bei der Geburt und Behandlung der Neugeborenen bei den Albanesen. *Mitteilungen der Anthropologischen Gesellschaft in Wien* 26:141–6.

Promahina, I. M. 1975. Kolichestvennye metody issledovanija v rabotah predstavitelej "novoj ekonomicheskoj istorii" (SShA) [Quantitative Methods in Research of the "New Economic History" School, USA]. In I. D. Koval'chenko (Ed.), *Mathematical Methods in Socio-Economic History* (pp. 283–319). Moskva: Nauka.

Radcliffe-Brown, A. R. 1941. The Study of Kinship Systems. *Journal of the Royal Anthropological Institute* 71:49–89.

——— **1950.** Introduction. In A. R. Radcliffe-Brown and D. Forde (Eds.), *African Systems of Kinship and Marriage* (pp. 1–85). London: Oxford University Press.

——— **1952.** *Structure and Function in Primitive Society.* London: Cohen & West.

Rensch, B. 1959. *Evolution above the Species Level*. London: Methuen.

Rigby, S. H. 1987. *Marxism and History: A Critical Introduction*. Manchester: Manchester University Press.

Robin, C. 1982*a*. *Les Hautes-Terres du Nord-Yémen avant l'Islam*. I–II. Istanbul: Nederlands historisch-archaeologisch Instituut te Istanbul (Uitgaven van het Nederlands historisch-archaeologisch Instituut te Istanbul, L).

———**. 1982*b***. Esquisse d'une histoire de l'organisation tribale en Arabie du Sud antique. In P. Bonnenfant (Ed.), *La péninsule Arabique d'aujourd'hui*. T. II. *Etudes par pays* (pp. 17–30). Paris: Editions CRS.

———**. 1991.** La pénétration des Arabes nomades au Yémen. In C. Robin (Ed.), *L'Arabie antique de Karib'il à Mahomet. Novelles données sur l'histoire des Arabes grâce aux inscriptions*. Aix-en-Provence (IREMAM) (Revue du Monde Musulman et de la Méditerranée, 61): 71–88.

Rodionov, M. A. 1999. Eshcho raz ob ortokuzennom brake u arabov [Once more about Parallel Cousin Marriage among the Arabs]. *Algebra rodstva* 3:264–6.

Rohner, R. 1975. *They Love Me, They Love Me Not: A Worldwide Study of the Effects of Parental Acceptance and Rejection.* New Haven, CT: HRAF Press.

Rosenfeld, H. 1957. An Analysis of Marriage Statistics for a Moslem and Christian Arab Village. *International Archives of Ethnography* 48:32–62.

Rosenthal, R. 1991. Cumulating Psychology: An Appreciation of Donald T. Campbell. *Psychological Science* 2:213, 217–21.

Rosnow, R. L., and Rosenthal, R. 1989. Statistical procedures and the justification of knowledge in psychological science. *American Psychologist* 44:1276–84.

Rossi, E. 1939. *L'arabo parlato a San`ā'. Grammatica – Testi – Lessico.* Roma: Inst. per l'Oriente.

Russel, E. W. 1972. Factors of Human Aggression: A Cross-Cultural Factor Analysis of Characteristics Related to Warfare and Crime. *Behavior Science Notes* 7:275–312.

Ryckmans, J. 1974. Himyaritica (4). *Le Muséon* 87:493–521.

Sahlins, M. 1972. *Stone Age Economics*. Chicago, IL: Aldine.

Sander, D. 1893. *Handwoerterbuch der deutschen Sprahe.* Leipzig: Wigand.

Sanderson, S. K. 1988. *Macrosociology: An Introduction to Human Societies.* New York, NY: Harper & Row.

———. 1990. *Social Evolutionism. A Critical History*. Cambridge, MA – Oxford: Basil Blackwell.

———. 1995. *Social Transformations: A General Theory of Historical Development.* Oxford – Cambridge, MA: Blackwell.

———. 1999. *Macrosociology: An Introduction to Human Societies.* 4th ed. New York, NY: Longman.

SCCS. 2002. Standard Cross-Cultural Sample Variables (Edited by W. T. Divale, D. A. Khaltourina and A. V. Korotayev). *World Cultures.* 13(1):STDS01–87.SAV.

Schacht, J. 1964. *An Introduction to Islamic Law.* Oxford: Clarendon Press.

Schultze, H. K. 1987. *Von Reich der Franken zum Land der Deutschen: Merowinger und Karolinger.* Berlin: Siedler.

Scupin, R., and DeCorse, C. R. 1998. *Anthropology: A Global Perspective.* 3rd ed. Upper Saddle River, NJ: Prentice Hall.

Segalen, M. 1983. *Love and Power in the Peasant Family. Rural France in the 19th Century.* Oxford: Blackwell.

Serjeant, R. B. 1989. Introduction. In Wilson, R. 1989, *Gazetteer of Historical North-West Yemen in the Islamic Period to 1650* (pp. IX–XII). Hildesheim: Georg Olms.

Service, E. R. 1962. *Primitive Social Organization: An Evolutionary Perspective.* New York, NY: Random House.

————. 1975. *Origins of the State and Civilization: The Process of Cultural Evolution*. New York, NY: Norton.

Severtsov, A. N. 1939. *Morfologicheskie zakonomernosti evoljutsii* [Morphological Regularities of Evolution]. Moskva – Leningrad: AN SSSR.

———. 1967. *Glavnye napravlenija evoljutsionnogo protsessa* [Main Directions of Evolutinary Process]. 3rd ed. Moskva: Izdatel'stvo Moskovskogo universiteta.

Shahid, I. 1989. *Byzantium and the Arabs in the Fifth Century*. Washington, DC: Dumbarton Oaks.

Shanijazov, K. Sh. 1964. *Uzbeki-karluki* [The Uzbeks-Karluks]. Tashkent: AN UzSSR.

Shchavinskij, Z. 1913. *Novyj polnyj pol'sko-russkij slovar'* [New Full Polish-Russian Dictionary]. Varshava: Obshchedostupnyj knizhnyj magazin.

Shifman, I. Sh. 1977. *Sirijskoe obshchestvo epohi printsipata* [Syrian Society in the Age of Principate]. Moskva: Nauka.

Shkunaev, S. V. 1989. *Obshchina i obshchestvo drevnih kel'tov* [Community and Society among the Ancient Celts]. Moskva: Nauka.

Shmajlova, N. 1999. *Sravnitel'nyj analiz istoricheskogo razvitija sistem terminov rodstva v russkom i arabskom yazykah* [Comparative Analysis of the Historical Development of the Kinship Terminology in Russian and Arabic]. Unpiblished M.A. Thesis. Moskva: Russian State University for the Humanities, Institute of Cultural Anthropology, School of Theoretical and Applied Linguistics.

Shnirel'man, V. A. 1994. U istokov vojny i mira [At the Roots of War and Peace]. In Pershits, A. I., Semjonov, Yu. I., and Shnirel'man, V. A. *Vojna i mir v rannej istorii chelovechestva*. Vol. 1 (pp. 9–161). Moskva: Institut etnologii i antropologii RAN.

Simonovskij, S. I., and Strepetova, M. P. 1995. *Izrail'* [Israel]. Moskva: Mezhdunarodnye otnoshenija.

Smith, G. R. 1990. Yemenite History – Problems and Misconceptions. *Proceedings of the Seminar for Arabian Studies* 20:131–9.

Soselija, E. G. 1979. *Analiz sistem terminov rodstva (po materialam kartvel'skih jazykov)* [An Analysis of the Kinship Terminology in the Kartvelian Languages]. Tbilisi: Metsniereba.

Southall, A. 2000. On the Emergence of State. In N. N. Kradin, A. V. Korotayev, D. M. Bondarenko, V. de Munck, and P. K. Wason (Eds.), *Alternatives of Social Evolution* (pp. 150–3). Vladivostok: Far Eastern Branch of the Russian Academy of Sciences.

Spencer, C. S. 2000. The Political Economy of Pristine State Formation. In N. N. Kradin, A. V. Korotayev, D. M. Bondarenko, V. de Munck, and P. K. Wason (Eds.). *Alternatives of Social Evolution* (pp. 154–65). Vladivostok: Far Eastern Branch of the Russian Academy of Sciences.

Spencer, H. 1972. *On Social Evolution* (selected writings edited and introduced by J. D. Y. Peel). Chicago, IL: Aldine.

Stark, R. 1996. *The Rise of Christianity: A Sociologist Reconsiders History.* Princeton, NJ: Princeton University Press.

Stephens, W. N. 1972. A Cross-Cultural Study of Modesty. *Behavior Science Notes* 7:1–28.

Strauss, D. J., and Orans, M. 1975. Mighty Sifts: A Critical Appraisal of Solutions of Galton's Problem and a Partial Solution. *Current Anthropology* 16:573–94.

Sumnikova, N. I. 1969. Terminy rodstva i svojstva v sovremennom russkom jazyke [Kinship Terminology in Modern Russian]. *Russkaja rech'* (2):117–22.

Thomas, W. I., and Znaniecki, F. 1918. *The Polish Peasant in Europe and America.* Boston: Richard G. Badger.

Tishkov, V. A. (Ed.) 1998. *Narody i religii mira* [Peoples and Religions of the World]. Moskva: Bol'shaja rossijskaja entsiklopedija.

Titov, E. G. 1959. Ob osobennostjah amharskogo jazyka v sravnenii s nekotorymi drugimi semitskimi jazykami [On Some Specific Characteristics of the Amhara Language in Comparison with the Other Semitic Languages]. *Africana* 3:169–83.

Tolstov, S. P., Zhdanko, T. A., Abramzon, S. M., and Kislyakov, N. A. 1963. (Eds.). *Narody Srednej Azii i Kazahstana* [Peoples of Central Asia and Khazahstan]. Vol. 2. Moskva: Nauka.

Tschemodanow, N. S. 1940. *Lesebuch zur Geschichte der deutchen Sprahe... mit Anmerkungen und Woerterbuechern.* Moskau: Staatsverlag fuer Lehrbuecher und Paedagogik.

Tuden, A., and Marshall, C. 1972. Political Organization: Cross-Cultural Codes 4. *Ethnology* 11:436–64.

Tumanjan, E. G. 1971. *Drevnearmjanskij jazyk* [The Ancient Armenian Language]. Moskva: Nauka.

Tylor, E. B. 1889. On a Method of Investigating the Development of Institutions: Applied to Laws of Marriage and Descent. *Journal of the Royal Anthropological Institute of Great Britain and Ireland* 18:245–72. Reprinted 1961. In F. W. Moore (Ed.), *Readings in Cross-Cultural Methodology* (pp. 1–25). New Haven, CT: HRAF Press.

Udal'tsova, Z. V. 1985–1987. (Ed.). *Istorija krest'janstva v Evrope* [History of Peasantry in Europe]. Vol. 1–3. Moskva: Nauka.

Van Ess, J. 1956. *The Spoken Arabic of Iraq.* 2nd ed. London: Oxford University Press.

Vaneev, Z. N. 1959. *Srednevekovaja Alanija* [Medieval Alania]. Stalinir: Gosizdat Jugo-Osetii.

Vasiliev, L. S. 1983. *Istorija religij Vostoka* [History of Oriental Religions]. Moskva: Vysshaja shkola.

Velers, J. 1952. *Krest'jane Sirii i Livana* [Peasants of Syria and Iraq]. Moskva: Izdatel'stvo inostrannoj literatury.

Vlasova, I. V. 1987. Sem'ja [Family]. In K. V. Chistov (Ed.), *Etnografija vostochnyh slavjan* (pp. 361–71). Moskva: Nauka.

Voget, F. W. 1975. *A History of Ethnology*. New York, NY: Holt, Rinehart & Winston.

Walvin, **J. 1997.** *The Quakers: Money and Morals.* London: John Murray.

Weber, M. 1930. *The Protestant Ethic and the Spirit of Capitalism.* London: Allen and Unwin.

Westrup, C. W. 1934. *Introduction to Early Roman Law. Comparative Sociological Studies. The Patriarchal Joint Family.* Kobenhavn: Einar Munksgaard – London: Oxford University Press.

———. 1952. *A Near-Kin within the Kin. A Comparative Study.* Kobenhavn (Det Kongelige Danske videnskabernes selskap. Historisk-filologiske meddelelser. Bd 33 N 4).

White, D. R. 1988. Causes of Polygyny. *Current Anthropology* 29:529–58.

White, D. R., and Burton, M. L. 1988. Causes of Polygyny: Ecology, Economy, Kinship and Warfare. *American Anthropologist* 90:871–87.

White, D. R., Burton, M. L., and Dow, M. 1981. Sexual Division of Labor in African Agriculture. *American Anthropologist* 83:824–49.

Whiting, B. B. 1950. *Paiute Sorcery.*New York, NY: Wenner-Gren Foundation.

———. 1965. Sex Identity and Physical Violence: A Comparative Study. *American Anthropologist* 67:123–40.

Whiting, J. W. M. 1954. The Cross-Cultural Method. In I. G. Lindzey (Ed.), *Handbook of Social Psychology* (vol. 1. pp. 523–31). Cambridge, MA: Addison-Wesley.

———. 1960. Resource Mediation and Learning by Identification. In I. Iscoe. and H. Stevenson (Eds.), *Personality Development in Children* (pp. 112–26). Austin: University of Texas Press.

———. 1964*a*. Comments on Naroll's "On Ethnic Unit Classification." *Current Anthropology* 5:305–6.

———. 1964*b*. Effects of Climate on Certain Cultural Practices. In W. H. Goodenough (Ed.). *Explorations in Cultural Anthropology* (pp. 511–44). New York, NY: McGraw-Hill.

———. 1968. Methods and Problems in Cross-Cultural Research. In G. Lindzey and E. Aronson (Eds.), *The Handbook of Social Psychology* (vol. 2, pp. 693–728). Reading, MA: Addison Wesley.

Whiting, J. W. M., and Child, I. L. 1953. *Child Training and Personality: A Cross-Cultural Study.* New Haven: Yale University Press.

Winkelman, M., and White, D. 1987. *Quantitative Cross-Cultural Data Series*. III: *A Cross-Cultural Study of Magico-Religious Practitioners and Trance States*. New Haven, CT: HRAF Press (one floppy disk and paper codebook).

Yasuba, J. 1971. The Profitability and Viability of Plantation Slavery in the United States. In R. W. Fogel and S. L. Engerman (Eds.), *The Reinterpretation of American Economic History* (pp. 362–9). New York, NY: Harper & Row.

Zelinskij, S. P. 1899. Narodno-juridicheskie obychai u armjan Zakavkazskogo kraja. I. Rodstvo [Folk Legal Customs among the Transcaucasian

Armenians. I. Kinship]. *Izvestija Kavkazskogo otdelenija Rossijskogo geograficheskogo obshchestva* 12(3):149–84.

Zhugra, A. V. 1998. Albanskie sotsionimy i sistema terminov rodstva [Albanian Socionyms and Kinship Terminology]. *Algebra rodstva* 2:167–85.

Zhurov, Ju. V. 1994. O srednej prodolzhitel'nosti zhizni cheloveka kak kriterii progressa v istoricheskom razvitii [Average Life Expectancy as a Criterion of Progress in Historical Development]. *Novaja i novejshaja istorija* (4–5):94–105.

Zor'ko, F., Majzel', B. N., and Skvortsova, N. A. 1998. *Nuovo dizionario italiano-russo.* Moskva: Russkij jazyk.

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* Names of ethnic, meta-ethnic, sub-ethnic and ethno-confessional groups are marked with an asterisk (*). These names are used in this monograph as they appear in Murdock's *Ethnographic Atlas* database. Alternative names are given in brackets.