5
Political Centralization and Communal Complexity in Cross-Cultural and Historical Perspective*

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Abstract

The only quantitative cross-cultural attempt to study the correlation between political centralization and communal complexity undertaken by Harumi Befu (1966) found a positive correlation between political centralization and communal complexity. Though Befu's main finding was replicated for the overall sample, a closer inspection of the available data revealed that the real relationship between the two variables under consideration is much more complex (and much more interesting) than Befu stated. The main mistake made by Befu is that he dichotomized both variables as he was sure that there was a linear relationship between them, whereas it turned out to be actually non-linear.

Keywords: *community, state, complexity, evolution, non-linear relationship, cross-cultural research.*

The standard methods of quantitative cross-cultural research are too frequently reduced to a sort of 'correlation hunting' (see, *e.g.* Levinson and Malone 1981; Ember and Levinson 1991; Peregrine and Gray 1993; Ember C. and Ember M. 1998). As a result, scholars tend to miss many important information resources potentially contained in the cross-cultural databases. Finding a correlation between two variables is often tantamount to the extraction of a very small proportion of all the potential information. I believe that cross-tabulation itself may be of considerable interest because it can sometimes represent an approximation to the structure of the evolutionary probability field.

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The line is a unidimensional concept. Hence, it appears possible to speak about a line/trajectory of evolution (or a line of development) of a single society. However, we can only speak of the 'line of evolution common for all societies', if two conditions are met:

1) That we apply a single criterion or study one, and only one, unidimensional parameter of social evolution. This condition does not appear to be reasonable, but it is sometimes done. However, this is not the only form of the unilineal evolutionism, and even not the main one, as at present nobody seems to insist seriously on the application of a single evolutionary criterion. That is why the second condition which could justify the unilineal evolutionary approach appears to be more relevant.

2) If there were a perfect 100 % correlation (*i.e. functional dependence* in the mathematical sense of this term) between *all* the main unidimensional parameters of evolution. However, if there were a functional dependence between all the parameters of social evolution with *only one* exception, even then the unilineal scheme would already become inadequate. Even in this case, it becomes necessary to speak about a surface rather than a line. If we had two such exceptions, we would have to speak about a 3-dimensional evolutionary space; in case of three exceptions – about a 4-dimensional space, *etc*. In fact, the actual situation is much more dramatic – nobody has ever found a single pair of evolutionary parameters with a perfect, 100 % (=1.0) correlation for a considerable sample of cultures. In at least 100 years of searching for such correlations, no one has found a single pair of socio-evolutionary variables with 100 % correlation (*i.e.*, functional dependence). Already this seems to be sufficient to argue that the only adequate models of general (as opposed to concrete) social evolution appear to be multidimensional non-linear ones, that we should speak not about a line, or surface, or 3-dimensional space, but about a multidimensional probability space (=field) of social evolution.

It seems important to note that the multilinear models of social evolution do not appear to be significantly more adequate than the unilineal ones. Indeed, they just postulate the existence of a few functional dependences (=100 % correlations) between the respective variables instead of one, whereas the point is that there are no such 100 % correlations between any evolutionary variables at all. I would prefer to deal not with the lines of the evolution but rather with the notion of the continuous evolution field. It is suggested that within this continuous field one can observe that not all abstractly possible directions of evolution are actually probable, whereas certain directions appear less probable than others. Some variants of social evolution are less common than others, though sometimes they still play an important role in the overall evolutionary process. To my mind, this more adequate understanding of social evolution could be achieved through the transition to non-lineal evolutionary models.

I will illustrate this point by examining the interrelation between community[1] complexity and the complexity of supracommunal structures.

At present, the only quantitative cross-cultural attempt to study this subject was undertaken by Harumi Befu (1966). His hypothesis is that community complexity increases together with the complexity of supracommunal structures. However, Befu only found ambiguous support for this hypothesis: though the direction of the correlation between the number of supra-community jurisdictional levels and the number of political offices within community turned out to be in the predicted direction, the correlation itself was statistically insignificant ($0.20 < p < 0.30$). Yet, he found a significant correlation between the number of supracommunal jurisdictional levels and the number of jurisdictional levels within the community (Phi = 0.24; $X^2 = 21.08$; $p < 0.001$). As we will see below, such a correlation does exist. But the actual interrelation between these two variables has turned out to be much more complicated and interesting.

For his second test, Befu used a part of Murdock's *Ethnographic Atlas* (which was only partly published at the time he undertook his research) as his database. This database can in no way be considered a representative sample. I have tried to replicate Befu's findings using the largest more or less representative databases currently available – the one for Murdock and White's *Standard Cross-Cultural Sample* (Murdock and White 1969; Murdock and Wilson 1972; Barry and Schlegel 1980; Murdock and Wilson 1985; MAPTAB 1997; SCCS 1999, f. stds03.sav) and the one for Murdock's *Atlas of World Cultures* sample (Murdock 1967, 1981; Murdock *et al.* 1986, 1990, 1999–2000). From a formal point of view Befu's main finding was replicated – the correlation of the num-

[1] In general, I follow the definition of community suggested by Alaev (1981: 8–10). He notes, in order to be called 'community' a social entity should meet the following set of criteria: (1) personal, face-to-face relationships between its members; (2) 'locality', this criterion helps to distinguish community from such entities as *e.g.* delocalized casts; (3) the potential for physical and demographic reproduction; this implies that community includes whole families and not males or females only (as it could be with, say, localized parts of exogamic sibs; (4) community is a 'natural' (and not 'artificial') entity; this criterion helps to distinguish the community from the local administrative units artificially created by the state power; (5) autonomy. Note that this definition is quite congruous with the understanding of 'community' by Murdock (1949). The last point is quite important for the present study, as the cross-cultural data I used were collected by Murdock himself, or under his supervision. Note that the understanding of 'community' spelled out above excludes the equating of 'community' and 'settlement/village'. *E.g.,* many modern villages near modern Moscow could not be classified as 'communities' because they do not meet most community criteria (*e.g.,* personal relationships, autonomy, *etc.*), whereas most Classical Greek *poleis* could be well classified as communities (note that they are often denoted as 'civil communities' anyway [*e.g.,* Koshelenko 1979]), as they meet all the community criteria, even though most of them consisted of more than one settlement. It is also important to stress that within such an approach it is frequently reasonable to speak not about singular communities, but rather of community organization consisting of communities of different order (*e.g.,* a territorial community could consist of a few localized clan communities, whereas the latter could consist of a few localized lineage communities).

ber of supracommunal jurisdictional levels with the number of jurisdictional levels within the community both for the *Standard Cross-Cultural Sample* and the *Atlas of World Cultures* is in the predicted direction. For the Standard Cross-Cultural Sample, it is statistically insignificant (Pearson's $r = 0.09$, $p = 0.25$; Spearman's rho = 0.12, $p = 0.1$); yet for a much larger *Atlas of World Cultures* sample it is significant beyond any possible doubt (Spearman's rho = 0.17, $p < 0.001$; Pearson's $r = 0.12$, $p = 0.004$). However, a closer inspection of the available data revealed that the real relationship between the two variables under consideration is much more complex (and much more interesting) than Befu stated. To start with, the main mistake made by Befu is that he dichotomized both variables as he was sure that there was a linear relationship between them. Yet, as stated, the relationship between them has turned out to be much more complex.

The cross-tabulation for the *Standard Cross-Cultural Sample* DB looks as follows (see Fig. 1):

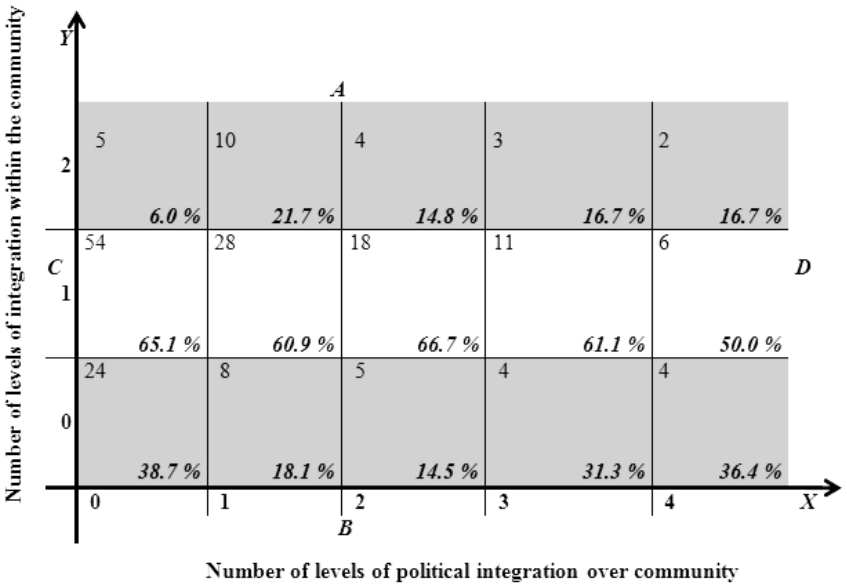

Fig. 1. Correlation between Number of Levels of Integration within the Community and Number of Levels of Political Integration over Community. Cross-Tabulation of the *Standard Cross-Cultural Sample Data*

It can easily be seen that, in fact, the positive correlation between these two variables is really observed only in two zones of the cross-tabulation, whereas in two other zones the correlation is negative (see Fig. 2):

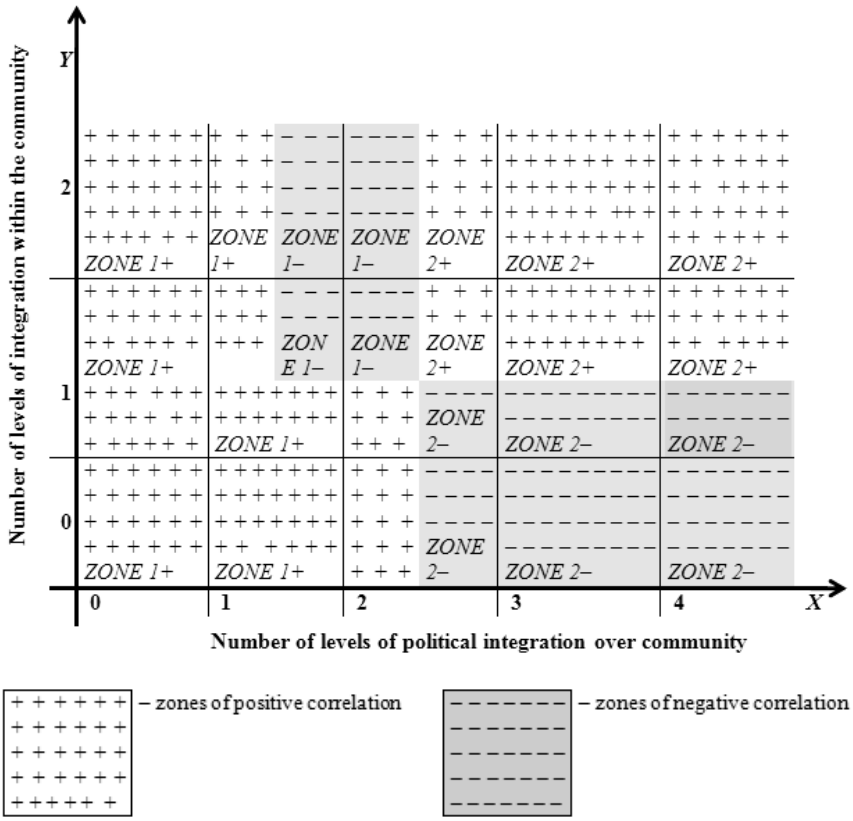

Fig. 2. Number of Levels of Integration within the Community X Number of Levels of Political Integration over Community. *Cross-Tabulation of the Standard Cross-Cultural Sample Data Correlation Zones*

It does not appear difficult to interpret this qualitatively. The first zone of positive correlation (*ZONE 1+*) can easily be interpreted within Carneiro's model (1970, 1981, 1987, 2000, 2012; Zinkina *et al.* 2016; Carneiro *et al.* 2017). Indeed, as Carneiro shows, the earliest sovereign supracommunal levels of political integration are normally formed as a result of subjugation by one community of a few others; yet, one would expect that in order for a community to subjugate another community it must be sufficiently complex. Hence, the

observation that at the earliest stages of political evolution the growth of the supracommunal structures goes hand in hand with the growth of the communal complexity does not appear surprising. On the other hand, after the supra-communal structures reach a certain level of complexity, they frequently start taking many of their important functions from the communities. For example, the developed state normally monopolizes functions such as those related to military, or diplomatic (foreign policy) concerns; as a result the respective subsystems within the community structure will normally disappear. It follows from these processes that community complexity starts to decrease (*ZONE 2–*).[2]

ZONE 2+ of positive correlations does not appear to be fortuitous either. It seems to correspond to certain alternatives for the evolution of complex societies, for example, when communities turn out to be so strong that they are able to resist the pressure of the developed state and to retain most of their functions (as it happened in most of Medieval India [*e.g.,* Alaev 1981]), or when the state delegates some of its functions to the communities and the complexity of the state increases along with the community complexity (as it happened in Russia in the 15th – 18th centuries [*e.g.* Volkova 2000]). Actually, Befu had this explanation in mind when he proposed his hypothesis. Thus, there seem to be certain grounds to expect that he was not entirely wrong, yet what he suggested as a mainstream evolutionary regularity turns out to be an evolutionary alternative for complex societies. Thus, where Befu expected to find a simple linear regularity, we find a much more complex non-unilineal process that implies certain evolutionary alternatives.

Yet, there is still more to examine. It finally appears reasonable to separately study the upper part of the border zone between the left-hand and right-hand tables where one detects one more zone of negative correlation (*ZONE 1–*). This zone (together with *ZONE 2+*) seems to correspond to evolutionary alternatives for the development of the rigid supra-communal political structures (chiefdom – complex chiefdom – state) constituted by the development of internal communal structures together with the 'soft' supra-communal systems which do not alienate the communal sovereignty (*e.g.*, various confederations, amphictyonies, *etc.*) (Korotayev *et al.* 1999, 2000, 2019; Korotayev 2003, 2020; Grinin 2004; Bondarenko *et al.* 2004, 2020; Grinin and Korotayev 2011, 2017). One of the most impressive results of the socio-political development in this evolutionary direction is the Greek *poleis* some of which reached overall

[2] Incidentally, it does not appear difficult to explain why the initial analysis of the data both by Befu and me detected a significant positive correlation. The explanation is simply that, as is well known, Murdock's databases strongly underrepresent complex societies. Due to the fact that in all these samples the number of simpler societies far exceeds the number of complex ones, the positive correlation characteristic of the simpler societies overshadows the negative correlation typical for the more complex ones. Only in the most representative *Standard Cross Cultural Sample* the influence of the negative correlation turned out to be sufficiently strong to neutralize partly the significant positive one, resulting in an overall insignificant positive correlation.

levels of complexity comparable with those of chiefdoms and the state and, as we know, had an extremely important influence on the whole course of World history (see *e.g.,* Korotayev 1995; Berent 2000a, 2000b; Bondarenko *et al.* 2002, 2004, 2011).

As can be seen from Fig. 1 only the correlation of *ZONE 1+* is statistically significant. However, if we try to replicate our results using a larger database, Murdock's *Atlas of World Cultures* (actually, the largest available relevant representative database), we obtain a surprisingly similar correlation distribution (see Fig. 3).

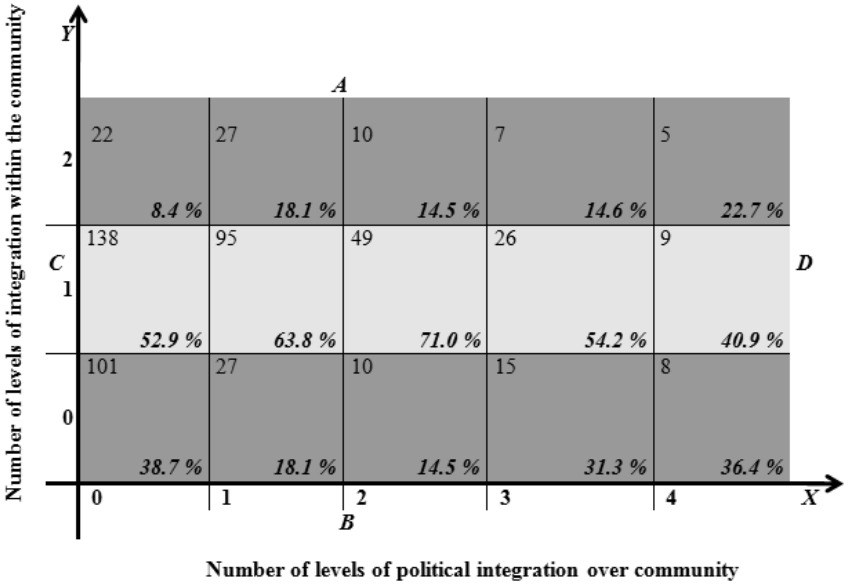

Fig. 3. Number of Levels of Integration within the Community X Number of Levels of Political Integration over Community. Cross-Tabulation of the *Atlas of World Cultures Data*

It is not difficult to see that the correlation distribution in this case is identical with the previous one. If anything, the detected pattern has become just more pronounced. Statistically significant correlation is observed now not only in *ZONE 1+*, but also in *ZONE 2–.* The correlation in *ZONE 2+* is now close to statistical significance. The correlation in *ZONE 1–* is still far from statistical significance which seems to be explained simply by the fact that supercomplex sovereign communities (*e.g.,* the Greek *poleis,* the Roman *civitas,* supercomplex sovereign civil communities of Early Medieval Dalmatia, Medieval Switzerland, or Early Modern Daghestan) are not represented at all in any anthropo-

logical databases. Thus, it is rather surprising that both cross-tabulations still point to the respective alternative of social evolution.

Of course, the results of the analysis above could be presented as follows (see Fig. 4):

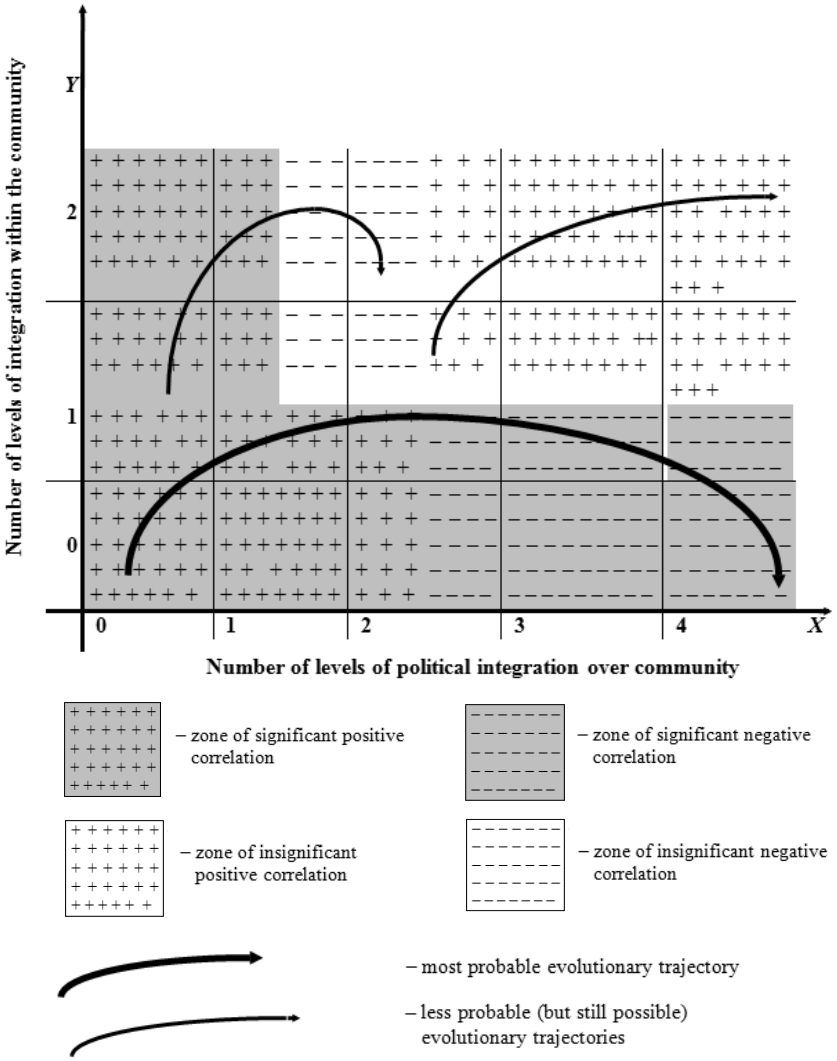

Fig. 4. Number of Levels of Integration within the Community X Number of Levels of Political Integration over Community. *Some Alternatives of Evolution*

However, even this graph presents an oversimplified picture. The model is still multilinear, rather than non-lineal. Indeed, the analyzed data do not exclude the possibility of a considerable number of other evolutionary trajectories, for example those presented in Fig. 5.

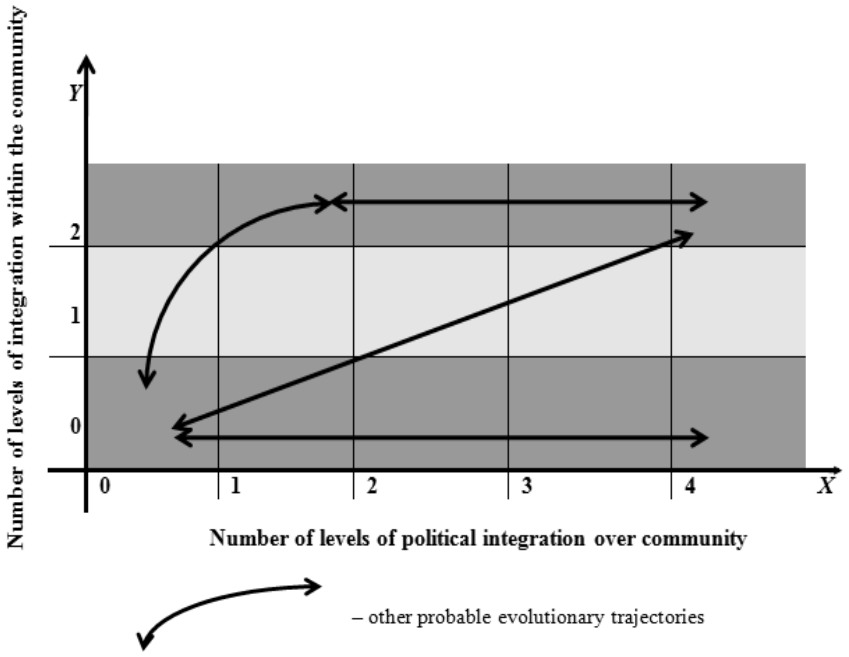

Fig. 5. Number of Levels of Integration within the Community X Number of Levels of Political Integration over Community. *Some Other Possible Evolutionary Trajectories*

In fact, the data does not exclude the possibility of the evolutionary movement from any point of the respective field to any other point of it. Hence, in order to show all the possible evolutionary trajectories we would have to use something like the following diagram (see Fig. 6).

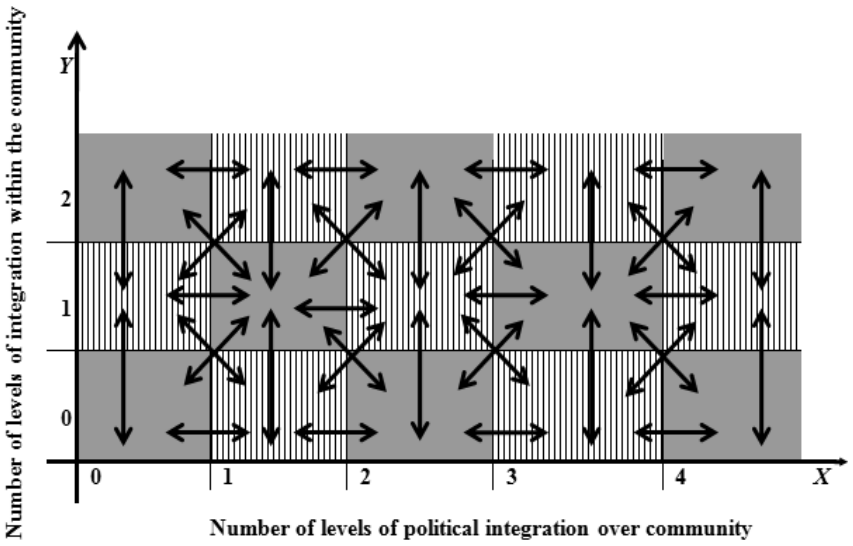

Fig. 6. Number of Levels of Integration within the Community X Number of Levels of Political Integration over Community. *All Possible Evolutionary Trajectories*

It is quite clear that such a representation is not particularly useful. In order to take into consideration both all the possible evolutionary trajectories and their respective alternatives and in order to estimate a possible structure of the evolutionary field itself, it appears reasonable to use the cross-tabulation, interpreting it as an estimation of the structure of the evolutionary field. More frequent value combinations within one class of cases would correspond to more probable social states.

Let us take the cross-tabulation above and present it in the following way (Figs 7/1–7/3).

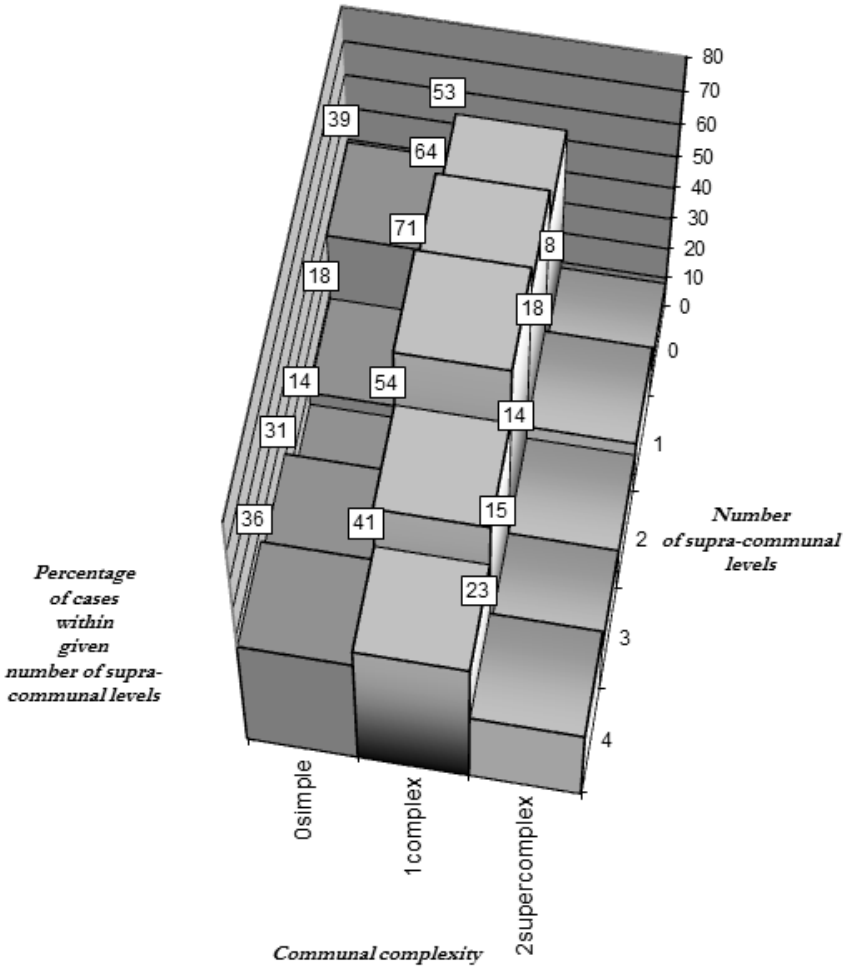

Fig. 7/1. Evolutionary Probability Field (version 1)

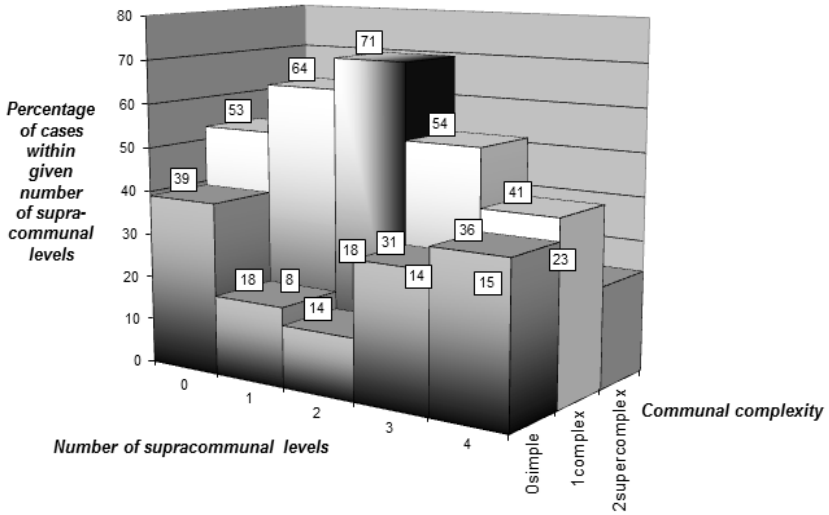

Fig. 7/2. Evolutionary Probability Field (version 2)

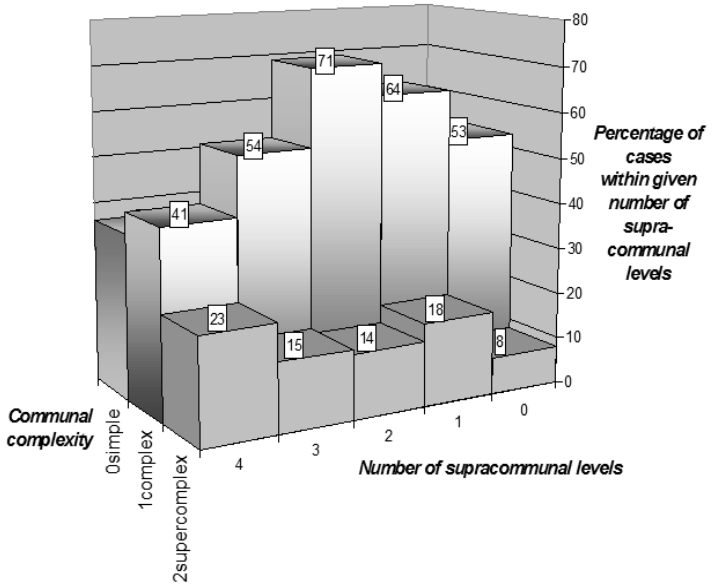

Fig. 7/3. Evolutionary Probability Field (version 3)

The figures in the diagrams represent the percentages of societies with a given level of communal complexity which is within a given level of supracommunal complexity. For example, figure *54* on the top of the central bar in row *3* means that 54 % of all the societies with three levels of supracommunal political integration had complex communities, whereas the neighboring figure *41* suggests that with the transition from three-level to four-level supracommunal structures the preservation of the complex community becomes less likely, while the probability of the development of both simple and supercomplex communities grows (as suggested by the height of the neighboring bars). In general, the greater the relative height of the bar within a row is, the higher the probability for the development of the respective type of communal organization within the societies with the corresponding number of supracommunal levels. With the addition of one more level of supracommunal integration the probability of various versions of the communal structures transformations is also suggested by the relative height of the bars. The diagram quite clearly describes the alternatives which we discussed above – the development of communal structures are likely to precede the development of supracommunal ones. Up to the appearance of the second supracommunal level the development of infracommunal structures proceeds together with the development of complex communities. However, starting with the appearance of the second supracommunal level, the percentage of complex communities starts to decrease, whereas the probability of the development of both simple and supercomplex communities constantly grows.

In other words, with two levels of political integration over the community (most of such cases are represented by complex chiefdoms) the most probable community form is the complex (but not supercomplex, or simple) one, *i.e.* the combination of two levels of supracommunal organization with two-level community organization[3] turns out to be much more stable than the combination of two-level supracommunal organization with either one-, or three-level community organization. However, the combination of three-level supracommunal organization (most of these cases are small states) with two-level communal one turns out to be much less stable, whereas the combination of four-level supracommunal organization (most of these cases are large states) is even less likely/stable/probable (though the stability/probability of such a combination is still rather high). This suggests that with the development of state organization we should be able to observe two alternative trends: (1) towards state taking the communal functions upon itself with the consequent simplification of the communal structures, or (2) towards the community increasing its complexity to such a degree that it could effectively resist the state pressure.

[3] *I.e.* with one level of integration within the community meaning the communities made up of communities of lower order (*e.g.,* a territorial community consisting of a few lineage communities).

Hence, I believe that Fig. 7 can be considered as a rough estimation of the possible structure of the respective evolutionary probability field, and this represents a non-lineal model of social evolution. In order to obtain more precise estimations of the evolutionary probability field structure it is necessary to augment the existing anthropological ethnographic databases with anthropological data from historical sources.

Good illustrations of the discussed above complex regularities of the interaction between the evolution of communal and supracommunal structures could be found in socioanthropological history of Northern India.

As was shown by Alaev (1981: 75–80; 1984, 2000a, 2000b) in the 1st – 8th centuries the development of the supracommunal political structures was accompanied by the growing state control over village communities, the decline of the overall status of the village community members (and peasants in general – see also *e.g.* Sharma 1966: 51–58; Yadava 1974, 1976; Sahu 1997, Ch. III; Jha 2000, Chs I–II; Sharma 2012; Gupta 2017) and the simplification of communal structures. However, starting from *c.* 8th century we start to observe an alternative trend.

It is directly connected with the so-called Rajput conquests. These were not always the conquests in the direct sense. To a considerable extent this was a process[4] proliferation of the zone of dominance of various Rajput clans which was frequently accompanied by the establishment of Rajput dynasties in various Indian polities, but often went even without formal changes of political map, whereby Rajput clans acquired control over more and more villages not controlled by them previously (see *e.g.* Alaev 1981, 2000a, 2000b; Asopa 1976; Bhardwaj 2018; Chattopadhyaya 1976, 1994; Sharma 1970, 1975; Singh 1975; Singh 1968; Volkova 2000; Yadava 1973).

First time after they established their dominance over certain Northern Indian communities, the Rajputs were mostly acting as warrior elites whose members, of course, would not till the land themselves. However, over time the number of Rajputs increased so much that some of them had to start doing this. And the number of such Rajputs gradually increased till the point when in most Northern Indian communities by the middle of the 2nd millennium the majority of members of their dominant casts[5] actually tilled their lands (see *e.g.* Alaev 1981, 2000a, 2000b).

Note, however, that this did not mean the transformation of Rajputs into docile, dependent and obedient peasants. Even after starting plowing the soil, the 'Rajputs' retained their high status,[6] their arms, their military skills and their cast-clan organization.

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[4] This took a few centuries.

[5] By that time they could be called with the names other than *Rajput, e.g. Jat* (the term 'Rajputs' will be used below to denote all such casts, even after they started being denoted with other names).

[6] This incidentally led to the rise of the overall religious-ritual status of agricultural occupations (see *e.g.* Yadava 1973: 17, 86).

After the 12th century the situation was further complicated by the Islamic conquests (Ahluwalia 1978; Jackson 1999). Within the Muslim polities the Rajputs lost the political power at the state level, but retained it completely at the community level, *i.e.* all supracommunal levels of political integration were now controlled by the Muslims; however, all levels of the communal organization were controlled by the Rajputs.

In general, the structure of the North Indian village communities in the 8th – 13th centuries became much more complex. Relatively simple and homogenous peasant communities of early medieval India were replaced with much more heterogenous, stratified and complex multilevel community organization structured to a considerable extent around the Rajput' clan-cast organization (see *e.g.* Alaev 1981, 1984, 2000a, 2000b; Habib 1999; Fox 1971).

If we compare the early Muslim polities of the 13th century Northern India with the Mughal Empire at the peak of its power (in the 17th century), one can certainly observe the strengthening of the supracommunal organization controlled by the Muslims (Athar Ali 1978, 1985, 1992; Blake 1979; Eraly 2015; Jackson 1999; Kulke 1995; Mehta 1981; Richards 1993; Sarkar 1972; Streusand 2018). However, though the Muslim states have repeatedly attempted to destroy the Rajput controlled communal organization to get direct access to the 'immediate producers' (*e.g.*, Barani 1953: 100; Ashrafyan 1965; Habib 1999), eliminating the highly developed administrative-regulatory-defensive subsystems of rural communities, these attempts were not really successful. One of the points which should be taken into account is that Muslim states faced not a homogenous peasant community, but a supercomplex heterogenous community, the core of which was composed of highly organized cast-clan structures, militarily experienced and well-armed 'Rajputs'. Moreover, the 'Rajput' cast-clan structures transcended boundaries of individual communities enabling them to mobilize forces of many communities in their confrontation with the pressure of the Muslim states (Alaev 1981, 1984, 2000a, 2000b; Fox 1971; Habib 1999). In fact, the necessity to counteract the growing pressure of the strengthening Muslim states provided additional *raison d'être* for the continuous growth of the complexity of communal organization.

Thus, I believe that the socioanthropological history of Northern India serves as a good illustration for some of the complex regularities of the interaction between the growing supracommunal political centralization and the evolution of communal organization. With further growth of the strength of the supracommunal political organization over certain level, the evolution of communal organization is more and more likely to follow two alternative pathways – to become simplified through pressure of the state which takes upon itself more and more communal functions, or to develop into a supercomplex communal organization.

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