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The Conflictual Dynamics of Polities and Ethnopolitogenesis

Rubin G. Saifullin and Askar G. Khairullin
Branch of Naberechnye Chelny, Kazan Federal University, Kazarn, Russia

Abstract: The study puts forward the idea of relationship of polities dynamics with ethnogenetic dynamics that allows to suggest the existence of ethnopolitogenesis as a single process. The ethnogenetic dynamics is expressed by the fact that the ethnicity undergoes throughout its life a series of age phases, stable periods and phase transitions separating these periods–unstable crisis periods, for which is specific large-scale domestic conflicts and major military defeats of the state established by it. The ethnogenetic dynamics is determined by the population qualitative composition dynamics, i.e., by the dynamics of the proportion of the individuals of different energy types as the part of the ethnic group. It's developed a universal and invariant regularity with regard to polity types, ethnicities and historic epochs, linking the polity dynamics in its conflictual aspect with the dynamics of population quality, the numerical algorithm of ethnopolitogenesis. The following hypothesis is stated that at the bottom of the algorithm existence is the synchronization dynamics quality by climatic cycles associated with solar activity cycles.

Key words: Conflictual dynamics, numerical algorithm of ethnopolitogenesis, solar and climatic cycles, ethnopolito, dynamics

INTRODUCTION

The history of many polities was developed by cycles, from prosperity and stability to crisis and decline and then to the next stage of prosperity. Why do relatively stable periods of polities development are interchanged with vague and crisis ones? The answers for this question vary from individual explanations that take into account the specific characteristics of a particular polity to the attempts of creating of the generalized theories of social (historical) dynamics which focus on certain integrity changes over a long time period. The latter includes the works linking historical dynamics with sociodemographic cycles (Goldstone, 1991; Turchin, 2003). Their researchers see the main reasons for the start of internal crisis in the impact of quantitative factors: overproduction of elites, i.e., in its quantitative increase and also in overpopulation, i.e. in increase of the number of peasants, leading to their dispossession and hunger.

However, the beginning of crisis and the disintegration of the state may be caused by degradation both the elite and peasantry without its significant numerical increase. The crisis may start if the share of destructive elements among the elite increases and reaches a certain critical level of the share of corrupt officials, amateurs, etc., who misconduct. And among the peasantry the share of peddlers or just lazybones and loafers is increased to the critical level. Thus, the political dynamics in its conflictual aspect may be synchronized by the population qualitaty dynamics. It does necessitate the studying of these dynamics in order to determine its impact on the conflictual political dynamics.

MATERIALS AND METHODS

Conceptual framework and research questions: The different-quality energy structure is inherited by the human populations from their animal ancestry. This is one of the signs that testifies the dual biosocial nature of ethnicity. In animal population "the heterogeneity of its constituent individuals is the most important condition of population regulation" (Gilyarov, 1990).

The quality dynamics is one of the most effective mechanisms for population homeostasis by the increasing of proportion of the certain individual types at high population density (Dol'nik, 2009). What's mentioned above is true in respect of human populations as well.

Gumilev (1990) is one among few historians who tried to investigate the influence of population quality on historical dynamics. According to Frumkin (2008), "Gumilev states the question of population quality participating in historical events, of the dependence of historical events outcome on this quality and the most important thing of the dependence of this quality from a share of the one or another human type in the total general population. The posing of such issues is referred to Gumile"s merits". Frumkin refers here to Gumile's types of passionaries (individuals of energy excess type),

Corresponding Author: Rubin G. Saifullin, Branch of Naberechnye Chelny, Kazan Federal University, Kazarn, Russia

subpassionaries (power-hungry type individuals) and harmonic people (balanced energy individuals); the latter constitute the bulk of ethnic group members.

Let's specify the main features that, according to Gumilev, characterize these three types. The passionaries' hallmark is activity which manifests in an individual's achievement drive (often is illusory one) and the propensity for overstresses and sacrifices for the end of purposes. Harmonic people may exhibit the significant activity, not on their own initiative but under the influence of passionaries. Subpassionarity manifests in the inability to restrain instinctive desires, antisocial behavior, parasitism, lack of parental care. The concentrating of subpassionaries in cities leads to a tremendous increase of alcoholism, situational crime, drug addiction, natural disturbances. Subpassionaries often play an important role in ethnic group fates, performing conquests and revolutions with passionaries. They are able to robbery, the victims of which become harmonious people. The modification of energy type ratio, both numerical and vector ones within the ethnic group, determines the process of ethnogenesis which is understood as the process of all development stages (ethnogenesis phases (Gumilev, 1990). Gumilev considers that the ratio of energy type dynamics determines the ethnogenetical dynamics.

At high population density the quality dynamics apparently is one of the most effective mechanisms for population homeostasis by the increase the individuals with energy excess (passionary individuals) and power-hungry individuals (subpassionary individuals), for which increased activity and mortality are characterized. Dol'nik (2009) describes these mechanisms in particular and with reference to human populations: "At high population density the animals become escaped of congenital programs do not encroach on what belongs to others. Aggressive individuals begin to neighbors' trespass, repossess food, nests, burrows. In humans this behavior takes its own shapes: widely distributed robbery, petty theft. People go away of productive work, robbing those who keeps this ability. Another astonishing reaction is loss of caution. During the high-density ducks begin to die more often from the most casual reasons predators, hunters, wirestrikes, etc. In humans, loss of caution on the growing ill-being is most evidently demonstrated in the form of riots, when people suddenly lose their fear of the authorities, the police and the crowds go to meet the bullets and death. The overwhelming majority of the population dramatically reduces the care of their environmental physiology and maintaining a clean habitat. Exactly such depressed, demoralized animals become carriers and distributors of parasites and infection in the population. They contribute to the outbreak of epizootic diseases and along with this the reduction in the number. In humans with overcrowding and lack of food, there are a large number of demoralized individuals as well. Lice and carriers of contagious diseases breed on them" (Dol'nik, 2009). One can see that it's given the description of the role of the subpassionary type.

"The purpose of the invasion in places occupied by the other populations and in the fields, that often uninhabitable is throwing away outside the enlarged population excess younger generation. Participants of the invasion become as fearless, not afraid to die, especially collectively. Similar changes occur in people under similar circumstances: young people do not want to live as parents did. They form groups that can be easily transformed into very aggressive hordes and those irresistibly tend to move somewhere and to do something, usually destructive. The analogy between invasions of animals and some invasions of barbaric hordes is not hard to plumb" (Dol'nik, 2009). It's given the description of the role of the passionary type here.

According to Turchin (2003), "fruitful hypothesis by Gumilev that there is a close connection between the fortunes of a polity and its core ethnie. That is, ethnicity and polity are variables that may be dynamically connected... Perhaps we should call this process 'ethnopolitogenesis', because usually polity formation appears to be inextricably intertwined with ethnie formation". Using this concept, it should be noted that the dynamics of energy type share ratio defines the process of ethnopolitogenesis and related political dynamics.

Each phase has its own distinctive features and an approximate age ranges. One phase turns into another through the phase transitions i.e., critical periods in ethnic group life which are characterized by internal conflicts, leading to a weakening, decay and sometimes to the destruction of the state established by this group (Gumilev, 1990). The age ranges of phase transitions are not mentioned by Gumilev.

An estimated dating performed by Gumilev (1990) for the so-called 'passionary impulses' that led to the formation of the new ethnic group, enabled him to perform an empirical test of his concept by analyzing the ethnogenesis of the part of this ethnic group. However, its results can not be considered as reliable ones. Different ethnic groups differ significantly by their age ranges. The same phases are not identified as phase transitions. It's necessary to acknowledge, that Gumilev

was unable to prove the existence of universal laws describing the dynamics of energy type shares as the part of the ethnic group.

Let's try to solve this problem on the basis of the Gumil's concept, in which an ethnic phenomenon is considered on the basis of the primordialist biosocial approach.

The general idea is that "macrohistory is a dialectic interaction of ethnogenesis and sociogenesis which act as two evolution spirals, ensuring the development and preservation of Homo sapiens species. It has been argued that the history of tribal ethnic groups covering about 100 thousand years is disproportionately longer than the history of any socio-political institution" (Kibasova, 2004). Such significant ethnic phenomenon timeframe existence comparable to the lifetime of Homo sapiens species existence ethnic phenomenon make to consider it from the perspective of primordialist biosocial approach: "Ethnic groups are biosocial communities of people, a kind of biological subtypes of a single biological species, through which its adaptation to specific environmental conditions is provided" (Kibasova, 2003).

The idea of ethnic group as the main entity of history and biosocial phenomenon is supported by Gumilev. According to him, ethnic groups that exist in space and time exactly are the actors of a history theater; ethnic groups are biophysical realities, always clothed in a particular social wrapper; it is possible to talk about ethnogenesis as a process, in which the driving forces are the natural, biosphere factors, indirectly determining social forms of life (Gumilev, 1990).

Sociogenesis driving force is "ethnos biosocial energy converted into social potencies of the society" (Petrova *et al*., 2012). However, the cited authors do not specify the nature of this energy.

Similar in sense the asabiya term (group solidarity manifested in the ability of a group to protect itself, to resist and to pursue its claims) was used by a medieval Arab philosopher Khaldun (1958), one of the first developers of political cycle theory. Ibn Khaldun associates political dynamics with the asabiya dynamics. A number of modern scholars use this term for developing their theories (Turchin, 2003).

Gumilev attempts to reveal the genesis of ethnic group biosocial energy, i.e., passionarity which, in his opinion, is not only population-based but also the individual feature which is specific both for ethnic groups and for the carriers of this trait, i.e., passionaries. Passionarity is manifested in activity of individuals and ethnic groups and their ability to alter the natural and social environment (Gumile, 1990).

The passionary sign is determined by Gumilev as a recessive genetic trait, resulting from micromutations (the passionary impulse) having a cosmic origin (space radiation) (Gumilev, 1990). The passionary impulse leads to the appearance of passionaries in the populations affected by this radiation. These passionaries create a new ethnic system. Researchers do not accept this hypothesis. So, Turchin (2003) states that "the specifics of the mechanism that he offers either rely on phenomena currently unknown to science or flatly contradicted by it". It's necessary to try of linking the passionarity phenomenon to the phenomenon well known by biological science.

RESULTS AND DISCUSSION

The hypothesis for the heterosis genesis of the passionarity. Before you find out what this phenomenon, try to reveal with which of biological terms the term of passionarity is correlated to the fullest extent. Apparently, it is widely used in biology, the term of 'viability' (vitality) the organism's ability to survive and produce offspring with adverse changes in the external environment. The viability of the population is its ability to maintain and increase its area and their numbers. In humans, the viability of being biological in its genesis, acquires a social orientation. This kind of 'social vitality' exactly can be interpreted as the passionarity. It manifests in the individual's ability to achieve its goals, steadfastly withstanding 'backblows of fortune' and overcoming the difficulties arising in achieving the objectives which are frequently related with the need to change the prevailing social foundations. The social viability ethnicity is expressed in its ability to increase its area by direct inclusion in its membership of other ethnic groups and their subsequent assimilation and by peaceful expansion of its cultural property in the areas of other ethnic groups.

As, it is known that the genetic variability of populations creates not only mutation process but also the stream of genes that occurs due to marital contacts with other populations. The stream of genes is provided by migration when the migrants are married in the new population and leave offspring. There is a mixture (cross-breeding) of came and indigenous populations.

As a rule, migrants and indigenous population differ from each other in racially-anthropological look. As a result of marital relationship of people belonging to different anthropological and racial types, there may be hybrid vigor or heterosis a well-known phenomenon in biology. A heterosis is typical for first-generation of

hybrids and expressed in a better adaptability, higher fertility and viability of hybrids in comparison with the parental forms. Apparently, the human heterosis expressed in the fact that the probability of the birth of a viable (passionary) from parents belonging to different types in comparison with the parents of the child is substantially higher than that of parents belonging to the same anthropological type or near types.

Gumilev (1990) sees one of the ways of the formation of new ethnic groups in mixture: "A group of people separated from the ethnos and often relocate due to historical vicissitudes. Sometimes these groups are dying but often they form a separate ethnos intermixing with the natives or with other immigrants". Other researchers also of the opinion that a new ethnic group is formed by mixing several substrates. So, Bromley emphasizes that "exactly the mixed marriages are one of the main tools of the formation of new ethnoses based on the synthesis of two or more ethnic communities" (Bromley, 1969). According to Sadokhin (2000), "in the process of ethnogenesis associated with the interaction between the conquerors and the natives, usually take place a synthesis of the substrate (local people) and superstratum (alien population), during which there arises a new ethnos". The racially anthropological composition of mixed substrates usually is as a rule, different, that creates the conditions for the formation of passionate ethnic community.

Thus, the source for passionarity is the anthropological and racial heterogeneity of ethnic populations. It is maximal at the start of ethnic group development (during this period the number of produced passionaries is maximum one) and it is minimal at the end of ethnic group development (during this period the number of produced passionaries is minimum one).

As it is known, the heterosis often died away in the second generation. According to Harrison *et al.* (1964), the viability of individuals of the second generation is less than the viability of not only individuals of the first generation but also the viability of parental subspecies. Apparently, the viability of individuals (passionarity) subspecies from parental subspecies have basically the mean values and they belong to the harmonious type. Therefore, passionarity of the second generation individuals is less than passionarity of parental subspecies, i.e., these individuals belong to the subpassionaries. Apparently, not all individuals of the first and second generation refer respectively to passionaries and subpassionaries but only the part of them. The majority of these individuals refers to the harmonious type.

Thus, it's assumed that passionaries is some part of the first generation offspring from the individuals belonging to different anthropological or racial types; subpassionaries the part of the second-generation offspring; harmonious people, mostly descendants from individuals belonging to the same anthropological type or to closest types.

According to Turchin (2003), "metaethnic (according Gumilev, superethnic) frontiers are asabiya 'crucibles', they are zones where ethnogenesis commonly occur". The heterosis mechanism of passionarity allows explaining the reason of this. The adjacent populations that belong to different superethnoses, shares a greater number of cultural genetic barriers compared to populations belonging to the same superethnos. Therefore, anthropological heterogeneity of populations that belongs to different superethnoses is usually significantly higher and their mixing leads to more pronounced effects of heterosis in these populations. This may move to the formation of a new ethnic group under favorable conditions.

By taking Gumilev (1990)'s position concerning the existence of optimal values for each energy type share as the basis, the definitions for phase ethnopolitogenesis (stable period within a phase) and phase transition (crisis period within a phase) were given. The phase ethnopolitogenesis is the stage which has the age limits of ethnic system existence by which it retains its steady state characterized by the absence of large-scale conflicts due to the fact that the proportion of passionaries and subpassionaries is changed during the phase within the range of optimal for this definition phase values.

Phase transition is the existence stage of an ethnic system with an age ranges in which it exists in an unstable state, arising from the fact that the subpassionaries and/or passionaries shares in definite ethic age, go beyond the range of values optimal for the completed (current) phase; this unstable state which is characterized by ethnic field split and persists as long as the shares of passionaries and subpassionaries are not beyond the optimal range of values for the next (current) phase. Under split ethnic field is understood an institution of two or more military-political groups which have absolutely opposed ideological attitudes (Gumilev, 1990); the conflicts between these groups take usually the armed character.

According to Gumilev (1990), passionarity is a vector value. An ethnic field split may be described mathematically as the sum of values of ethnic group passionarity, the vectors of which are oppositely directed from political-military groups. It is obvious that the resulting passionarity of the ethnic group will be close to zero. Due to this reason "the ethnic group which is in unstable states of phase transitions is very vulnerable and may easily become a victim of a more passionate neighbor" (Gumilev, 1990).

The genesis of the phase transition: Let's explain why the phase transition begins. The anthropological homogeneity of the majority ethnic communities of superethnos reaches a maximum value at the end of each phase. This is especially true for members of the same ethnic community spatially close populations and for some social strata and groups (especially for the governing class). This is due to the fact that marriages in the steady state period phases are mainly within these communities.

Conclusion of marriages is united mostly within anthropologically homogeneous ethnic communities and social groups leads to the fact that at the end of phase the proportion of passionaries among newborns has a minimum value. Accordingly, the proportion of harmonious people and, probably of subpassionaries, is increased. In certain ethnic age which corresponds to the end of the phase (top phase transition), the share of passionaries becomes below the optimum value, the share of subpassionaries is above the optimum value. This means the beginning of a phase transition.

The relatively low permeability of genetic barriers between different ethnic communities which separate different ethnic group, conduces increasing of the anthropological heterogeneity of the populations of these communities. At the end of phases the anthropological heterogeneity of populations occupying opposite edges of superethnic area and also anthropological heterogeneity of different social groups (especially the ruling elite and marginalized) reaches its maximum.

According to Cheboksarov (1976), in the periods of social and political cataclysms the increasing of migration activity, social and ethnic population shuffling, changing of political boundaries take place, interethnic and interracial contacts increase, the genetic barriers are crumbled. These processes lead to increasing in the number of births passionaries due to the phenomenon of heterosis. When these passionaries become adults and begin to participate actively in social life, their share increases and goes beyond the upper bound of the range of optimal values of the next phase. This may cause a split of ethnic field and the beginning of distempers.

There are three ways to bring the passionaries and subpassionaries shares to the spectrum of optimal values for the next (current) phase (or the share of passionaries and subpassionaries optimization): their death in internal conflicts, the retreat from their territory as the result of an aggressive policy or colonization and the destruction by mass repression usually conducted by punitive authorities.

The ways of energy type optimization have its analogues in biological populations. Plyusnin (1990) identifies the following mechanisms of homeostasis population regulation:By the migration of individuals with a certain type of behavior (for example, with a high level of research motivation); Through the provision of new groups within the community: like young animal 'gangs' that came over to individual life; By the physical destruction of certain individuals which are 'spare' from the community standpoint; By parent group division and the isolation of its subsidiary groups which begins its life as a self-sufficient community. The cases of antagonistic relations between such groups are described, even when kinship and friendship links do not prevent a feud between the divided communities. The following case is described: The bigger part of the divided community of chimpanzees organized a 'gang' (the group consisting of multiple males) and killed all chimpanzees from another community, including not only the males and children but also females whose value is very high for chimpanzee (Plyusnin, 1990).

Optimization method by conquering from its own territory has the first and the second mechanisms regulating population homeostasis as its biological basis. The third mechanism is represented by mass repression and the fourth mechanism is represented by death during unrests. Let's remind that the beginning of the civil war is always preceded by an ethnic field split ethnic: the separation of the most part of passionaries and subpassionaries of the ethnic group and after them harmonic people separate into two opposing military-political groups. The cited study makes it clear that the population split and the 'war' for extermination between the divided communities take place, at least among primates.

The numerical algorithm of ethnopolitogenesis and hypothesis for its genesis: The ethnopolitogenesis for a number of ethnic groups and the states created by them were analyzed. The political history of such states and groups has more or less complete and established facts. This analysis revealed that all the phases and phase transitions begin and finish at a certain age of an ethnic group with some tolerance. This invariant, in respect of ethnic groups, historical eras and polity types, regularity was named as 'numerical algorithm of ethnopolitogenesis'. This algorithm determines the beginning and the end, i.e., the age ranges of phases and phase transitions of ethnic genesis and also the crisis periods within expansion, acme and inertial phases similar to its features to phase transitions.

Expansion phase: 0, 340-360 year;Consists of the following periods: incubation (0-100-155 year), explicit (100-155-340-360 year) and vague in the middle of the

expansion phase (185-235 year). The explicit period begins with the creation of a state by an ethnic group at the age of 100-155 year; Phase transition from expansion to acme (expansion-acme): 340-360-450-470 year.

Acme phase: 450-470-630-655 years; Within this phase a troubled period of passionarity overheat is identified (540-560-570-585 years) Phase transition from acme to crack (acme-crack): 630-655-680-725 years. Phase of crack: 680-725-755-810 years.Phase transition from crack to inertia (crack-inertia): 755-810-840-875 year; Inertial phase: 840-875-1302-1334 years.

There are three crisis periods within this phase: the first-880-920-935-970 year, the second-1025-1070-1100-1145 and the third-1175-1215-1260-1285 separated by four stable periods. Phase transition from inertia to obscuration (inertia-obscuration): 1302-1334-about 1500 year.

The numerical algorithm describes on qualitative level the changing of the shares of energy types as part of an ethnic group, depending on its age. If taking into account an ethnic system as a self-organizing one, then these shares are the governing parameters, the dynamics of which determines whether an ethnicity is in a steady state phase or unstable state phase or in a crisis period within this phase.

The algorithm is completely valid, of course, for some ideal ethnic group (the ethnic ideal conditions are presented by (Saifullin, 2009)). However, some ethnic groups (Egyptians, Assyrians, Chinese, Romans, Persians, Byzantines, British, Russians and others) are close to the ideal as their ethnopolitogenesis was developed almost in exact accordance with the algorithm.

The numerical algorithm as a universal law expresses, apparently, the dependence of the passionarity dynamics on climate cycles which synchronized by solar activity cycles. In this regard let's remind Gumilev's statement about the ethnicity as a biophysical reality. This statement may be understood in the following way: the passionarity vibrations which are biological parameter per se are synchronized with the vibrations of physical nature, the solar activity cycles.

Goldstone (1991)'s point of view is known which stands, in contrast to Neo-Malthusianism, that population dynamics (and hence the population quality dynamics) depends mainly on the climate and epidemiological situation changes. Goldstone's opinion is confirmed by the environmental data. The statistical data analysis of Hudson Bay Company fur production showed that the number of major commercial species. American white hare and Canadian lynx hunting this hare had cyclical fluctuations for a period of about 10 years. These fluctuations are apparently synchronized with climatic variations acting on white hare food supply which in its turn are synchronized by a well-known 11 year solar cycle.

According to Krivenko (2007), the synchronization mechanism of climate variability by solar cycles is as follows: "By changing the amount of heat that is sent to the Earth and affecting the types of atmospheric circulation, the solar activity cycles cause the simultaneous changes in temperature ranges and humidity, determining the cyclical nature of climatic conditions fluctuations".

The impact of climate on the historical dynamics change is beyond doubt. On the basis of the study of lake sediments made it possible to obtain the evidence of climate change role in the collapse of classic Maya civilization (Hodell *et al*., 1995). The reconstruction of the climate history in the central part of Mexico according to lake sediment cores for the last 2600 year was continued in the study (Hodell *et al*., 2001). The researchers found that the precipitation pattern reveals clearly repeated drought picture with a period of 208 years and they made the conclusion of their solar nature. The study (Verschuren *et al*., 2000) proved that the pattern of climate change with a cycle of about 200 year also took place in the equatorial regions of East Africa.

Dergachev on the basis of radiocarbon data analysis and beryllium-10 isotope data identified a 205 year cycle of solar origin. Along with this solar cycle a 200 year climate cycle, identified in various parts of the globe has a high correlation coefficient. This is an indication that a 200–year climate variability should be a global phenomenon (Dergachev, 2002).

According to the numerical algorithm, the age of the middle of the vague period for an expansion phase is 210 year (185+235 = 420/2 = 210), the age of the phase transition expansion-acme is 405 year, the age of the middle phase transition crack-inertia is 815 year, the age of the third crisis inertial phase is 1230 year. One can see that these ages are multiples of the number 205 which allows likely to talk about passionarity synchronization dynamics of 205 year solar cycle. The fact that the ages of the middles of other crisis periods are not multiples of the number 205 is explained probably by the fact that the 205 year solar cycle as well as all the other solar cycles is quasi-periodic. Also, apparently, the passionarity dynamics is synchronized by Glaysberg's cycle (more specifically it is synchronized with the associated climatic cycle).

According to Davydova and Davydov (2002), the analysis shows that the long-life temperature variation (in Central England and in the American state of New Jersey) is associated with the periods of about 42 and 80-82 years.

The researchers conclude that the temperature data show Glaysberg's cycle which represents approximately to the period of 81 year as well as the cycle corresponding to the half of Glaysberg's cycle. The fact that climatic cycle is correlated with the Glaysberg's cycle is found out in different continents. This fact also testifies to its global nature.

The reproductive ages of ethnos and the ability to forecast the development of ethnopolitogenesis: About the synchronization of passionarity dynamics for one of the Glaysberg's cycle harmonics, the average duration of which is 82 year, makes it possible to talk about the existence of the so-called 'reproductive' ages of maternal ethnic group (902 year, 1066 and 1230 year, 1394 and 1558 year), in which considerably increases the number of passionaries born within separate populations. When, these passionaries or their children reach lawful age and enter the social life, the proportion of ethnic group passionaries begins to exceed the optimal for the inertia phase values and that leads to the beginning of inertial phase crisis (Saifullin, 2009).

One can see that the values of all reproductive ages are the multiples of the number 82 (902 = 82×11, 1066 = 82×13, etc.) that allows us to talk about the passionarity dynamics synchronization with 82 year harmonic of Glaysberg's cycle.

A lot of passionaries is born especially during one of reproductive ages. They and their descendants form subethnic groups nucleated the new ethnic group which are a 'child' in relation to a 'parent'. The process is repeated at the end of the child ethnicity. This leads to the fact that there are usually several successive ethnic groups in a certain area linked by anthropological and racial type and language succession and often by the succession of culture. This total of related ethnic groups was called as hyperethnos (Saifullin, 2009).

There are several biological mechanisms, the effect of which leads to an increase in the number of created passionaries at reproductive ages of maternal ethnicity. Among these mechanisms, acting as isolates can be indicated the crossing of pure lines which are distinguished during the inbreeding and the genetic drift (genetic-automatic processes).

Dismemberment of populations on several inbred lines occurs in the result of a few tens of generations of inbreeding. So, according to Ehrman and Parsons (1981), frequency of homozygotes in the crossing between the double cousins siblings reaches 96% after 30 generations. Apparently the level of homozygosity in the isolated population becomes very high, close to 100% after 45-55 generations of inbreeding. If we assume for a human intervals between generations equal 20-30 years, then the average should be necessary 900-1600 years in order to the fact that in the result of inbreeding occurred the dismemberment of population for a few inbred lines and the formation of new passionary communities by crossing these inbred lines.

At the beginning of the life cycle of the ethnic group the part of its populations occupies remote places and turned out in isolation. According to Cheboksarov and Cheboksarova (1985), "in isolates requires approximately 50 generations (about 1250 year) to a result of genetic drift significant changes in the frequency of racial characteristics and their combinations and consequently, in the racial appearance isolated populations" (Cheboksarov and Cheboksarova, 1985).

Probable, for each separate isolate vary both the duration of generation (from 20-30 year) and the number of generations required for the formation of the new racial-anthropological type (probably from 45- 55). As a result, we find that the isolate can turn into a group different in type from the surrounding population, after about 900-1600 year. As a result, it is possible to find that the isolate can turn into group that differ in type from the surrounding population, upon the expiry of 900-1600 year.

From time to time the youth 'gangs' and subsidiaries of the community bud off the population who may be mixed with the neighboring populations. Or, conversely, the population receives migrants or conquered by them. If the budding community from the isolate or adoption in the structure of migrants going to, it creates the conditions for the subsequent formation of heterosis with passionary ethnic community which nucleates of the new child ethnic group. Then it turned into a racially distinct from the surrounding population group resulting genetic drift. Apparently, budding of the new groups often occurs upon the occurrence of adverse climatic periods synchronized 205 and 82 year solar activity harmonics. Therefore budding of the child ethnic group, i.e., reproductive ages of maternal ethnic group are synchronized by these harmonics.

Synchronization of the formation of the new ethnic groups 82 year harmonic of Glaysberg's cycle is also manifested in the fact that the increased proportion of passionaries in the isolates of maternal ethnic group is born during this whole cycle, i.e., for 82 year. We consider the middle of this cycle as the staring point of ethnopolitogenesis of subsidiary ethnic group.

Found upon the values of the reproductive ages and the approximate dates of passionary impulses, indicated by Gumilev (1990), there were identified the dates of all ethnic groups, the main events of political history of

which are known with a reasonable degree of accuracy. These are the ethnic groups of Egyptian, Sumerian, Assyrian-Babylonian, Hebrew, Arabic, Chinese, Japanese, Mongolian-Turkic, Greek, Indo-Iranian, Roman, German and Eastern Slavic hyperethnoses. In order to verify the numerical algorithm the ethnopolitogenesis for some of these ethnic groups was considered (Saifullin, 2015). The review indicated that their ethnopolitogenesis was developed in general according to the numerical algorithm. This to some extent confirms the universal invariant with respect to historical eras and types of polities the nature of algorithm which allows predict on its basis the development of existing states.

The predictability is based on the fact that, provided that the date of an ethnic group appearance is known, it is possible to determine in which phase or phase transition (at unstable state within a phase) it exists. If it's found that the ethnicity is near the middle of any phase (in the mid of a sustainable period within a phase), then the possibility of unrest happening in the coming years is small. If the ethnicity is before a phase transition (an unstable period within a phase), especially within these periods, the probability of unrest beginning in the near future increases substantially.

CONCLUSION

The result of the research conducted was the formulation of universal, invariant ethnicities with respect to types of polities and historical era patterns, that linking the dynamics of polity in its conflictual aspect with the dynamics of the population qualitaty (the passionarity dynamics) i.e. the numerical algorithm of ethnic policy genesis. In the basis of this algorithm existence there is apparently the synchronization of the dynamics passionarity by climatic cycles which are connected with solar activity cycles. The numerical algorithm allows explaining the conflictual dynamics of polities of past epochs and predicting the onset of unrest and civil wars in modern states.

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