

## SUMMARIES OF THE ARTICLES IN ENGLISH

## PHILOLOGY

P. 7. *Abdina Raisa P.* N.F. Katanov Khakass State University (Abakan). **COMPOSITION AND WAYS OF NOMINATION OF TRADITIONAL KHAKASS CLOTHES.** The article describes formal and substantial ways of naming traditional clothes in the Khakass language attracting some facts from other related languages. The lexical group items of the traditional Khakass clothing formed mainly as a result of word-formative processes (morphological, syntactic) in Khakass itself; it also partially contains borrowings from other related and non-related languages. To denote the general concept of clothing there are composites of two subgeneric names *kip-azah* – clothes, a smaller range of the idea of generalization is expressed by the binomials of the composition type, the components of which act as synonymous (*majmah* – *odik* ‘boots’) in relation to each other. Subordinated compound words are quite often used to denote traditional clothes. Their components are not equal: one serves as the principal term with respect to the second dependent on it: *ah porik*, *tuup majmah*, *haralthan ton*. All these phenomena are quite spread in the Altai languages. There is one general notional relation in the core of semantics of compound terms denoting traditional clothing. This relation can be represented as the ratio of the general to the particular, more abstract to more concrete, generic to specific. Assigning the word material to thematic groups, in which words are combined on the basis of common generic meanings, makes it possible to identify another feature of the logical nature of the relation in the development of the semantics of the specific to the generic, i.e. use of the name, which in one language is used in referring to the specific, in another – in the role of the generic, and sometimes – in both meanings, for example, the word *ton* (dress, clothes) in the Turkic languages is used in a more particular (a dress, a fur coat) and more general (clothing, outerwear) senses. Grouping by lexical series enables identifying borrowings, as after determining the volume of the analyzed reservoir of the vocabulary it is possible to examine the parallels in cognate languages, to evaluate comprehensively their relations and determine the vocabulary and cultural-historical relations in contact languages and peoples. The analysis of the sources of borrowings in the vocabulary of clothing and jewellery of the Khakass language can distinguish the following layers of borrowings: from the Mongolian, Chinese, Arabic and Russian languages. There is often realized a feature pointing at the material production from the standpoint of the principles of the nomination in the names of traditional clothing of Khakasses, to a lesser extent – the feature pointing at the method of manufacture, and even more rarely the functional feature is observed – designation of clothes for a certain part of body, shape and colour of clothing.

**Key words:** traditional clothes; thematic group; composition; ways of nomination.

P. 11. *Bykova Alina A.* Tomsk State University. **METAPHORICAL INTERPRETATION OF MENTAL PHENOMENA: METAPHORS WITH TEMPERATURE CHANGE SEMANTICS.** The article examines a metaphorical text fragment taken from the Russian linguistic world image, where metaphorical naming units with the semantics of temperature change serve to describe mental phenomena. Research units are represented by metaphorical word-groups consisting of mental phenomena denomination (feelings, emotions, thoughts, ideas, etc.) and verbs with the semantics of temperature change. Methodology of metaphorical naming unit interpretation combines structural semantics devices and cognitive linguistics devices that help understanding mechanisms peculiar for those fragments of reality that find representation in the semantic structures of language units. Metaphors with initial semantics of temperature change can be classified on the basis of subject component differentiation in actions, processes and states: 1) the human is an actor and affects elements of the mental sphere; 2) elements of the mental sphere affect the human. Metaphorical naming units generated according to the first metaphorical model reflect the conception of the mental sphere under the human's control. In such metaphors thoughts are interpreted as passive objects and human's actions are directed at them. The following situations are typically described this way: generation of emotions and thoughts by human's conscious effort, causation of a specific mental state, intensification or de-intensification of emotions, thoughts, mental phenomena termination due to the human's influence on thoughts and feelings. Metaphors denominating human influence on emotional and intellectual phenomena are axiologically neutral. In particular, the contexts evaluation component may be present. Metaphors generated according to the second model embody native speakers' conception about the autonomy and activity of emotions. Such lexemes describe feelings, emotions as subjects capable of manipulating people. The majority of predicates generated within this model denominate negative emotional states and negative changes associated with them. Positive emotional impact is rendered by two verbs only (*согреть*, *оттаять*). Such distribution let us conclude that feelings and thought in the Russian linguistic world image are usually conceptualized as negative actors that exert their influence on the human. As a result of the research it is stated that the model where mental phenomena are denominated by metaphors with the temperature change semantics is a popular and productive conceptualization method peculiar for the mental sphere. The research describes the system of metaphorical images, reveals the regularity of metaphor generation, and characterizes their axiological nature.

**Key words:** cognitive linguistics; thermal metaphor; metaphorical model.

P. 15. *Glushakov Pavel S.* The University of Latvia (Riga, Latvia). **PAGAN AND CHRISTIAN IN VASILY SHUKSHIN'S POEM “ETO BYLO DAVNO...”.** Vasily Shukshin's poetic texts, as well as his entire prosaic heritage, have always attracted interest of readers, experts on life and creativity of the writer. However, in private opinions of experts this rather small part of his literary archive occupied a definitely peripheral position; if low estimations to this sort of texts were not public, they still existed. Meanwhile, there evolved a necessity in critical revision of the settled positions and in new view development on this question. The author of the article analyzes this revision by example of a little-known poetic work conditionally named by its first line “Eto bylo davno” (It has been long...). Shukshin knew the tradition and practice of spells, which showed in his works. Thus, the assumption of the fact that Shukshin's poem contains elements of a religious text as a result of connection of the church and folk archaic representations is not groundless. The important elements for the poem's symbolism are death and revival; and the basic model here is not only the obvious Christian one, but also the archaic: folklore elements of the Russian (wider – Slavic) pagan world with its epic plots about the slaughtered athlete and obvious parallels to the calendar ceremony. Thus, the connection in the creative consciousness of the writer of several semantic layers creates an original effect: further stratifications that complicate the understanding of the poem enrich the artistic value of the product, preserving its integrity. In the article the symbolism of Shukshin's poem is analyzed. The conclusion about the interpenetration of the Christian and pagan (archaic) motives within one syntagmatic whole is made. As the research has shown, V.M. Shukshin's poem is difficult to inter-

pret, demanding application of various tools, frequently untraditional for standard commenting. Nevertheless, it leaves an impression of internal concentration, integrity and unity. Meanwhile, high degree of submergence into the olden time along with relaxed usage of a rather synchronous cultural context (in particular, modernist searches of the beginning of the 20th century, the epoch fruitfully employed by Shukshin's undeveloped poetics) allows speaking about the value of the poem. In the conclusion of the article it is stated that the complexity of the text of the poem can be interpreted as his primitiveness, and its structure as the defective one. Such interpretation is not surprising: Shukshin's text must be assigned to the class of literary phenomena in Russia, which attempted to break the limits of existing norms and traditions by using totally new poetic forms based on the most archaic designs and language orientations. The mobility of borders between the simple and the complicated in such a paradigm of the text is the balance factor, and constant overcoming of these borders creates a dynamic model of perception. Shukshin as an artist of the middle of the 20th century to a greater degree subjected to changes, transitions and shortcuts (often provocative from the point of view of the dominating cultural representation of that time) demonstrated some avant-garde principles of organization of the text material in his undeveloped poem.

**Key words:** Shukshin; poetics; tradition; folklore; Russian literature

P. 19. *Zhamsaranova Raisa G.* Chita State University. **CONCEPT "FOREST/FORESTER" IN ETHNONYMY OF ANCIENT DAURIA.** The article is devoted to the problems of the reconstruction of the conceptual picture of the world of the aboriginal population of Dauria. People's belonging to the tribal society determined their comprehension of themselves as inseparable from nature. The transcendent source of mentality of a tribal person is revealed in the ethnonym, which is of symbolic origin. The scientific study of tribal proper names makes it possible to find connections between the ancient names of Northern Asia (Dulu/Dulga, Oyrat, Daur/Dagur), the names of kins of Dauria (Tabanguud, Tungus-Duligaad) and one and the same semantics of "forest/forester". The socionym "forest/forester" united tribes and kins who led a particular type of life – living in thick wood, having nomad camps in wood, migrating in the wooden zone of Eastern Siberia, hunting and, probably, deer-breeding. Among those tribes of "forest people/foresters" during the Mongol period of history of the Middle Age of Asia, the Tumen-Oyrat or Oyrat are mentioned according to the text of The Sacred Mongol Story. The ethnonym means "forest people/foresters" where *oy-* means "forest/wood" + *orod* meaning "people" as D. Banzarov suggested. In the 19th century a famous explorer of Mongolia G.N. Potanin wrote a legend about the Oyrat-Dyurbyut, the name we may interpret as "four forest peoples". We suppose that a more ancient ethnonym is Dagur/Daur, which literally means "forester" or "forest wanderer" in the Old Turkish language. The names of Buryat kins: the Tabanguuds and they are semantically identical to those ancient ethnonyms. We unite these names as they are one lexical origin – the Ket word *tabang* (forest). The kin's name of the Nerchinsk Tungus (Duligaad/Duligar/Dular/Dolotsky) can also be correlated with the semantics of the ancient tribal name of the Dolgans – *tya-kihi*. It is worth mentioning that the Dolgans use another ethnonym for naming themselves and the neighbouring Evenks – *tya-kihi*, which means "forest/forester" or "forest nomad". So the etymology of some ancient and Middle Age ethnonyms of Northern Asian tribes and kin let us state that the concept "forest/forester" existed in the reconstructed picture of the world. The concept reveals the hidden cognitive principles of tribal nomination of nomad mentality when forest was realized as a universal dwelling for a forester. A forester comprehended himself as a necessary part of forest which symbolized the universe for him. We suppose that such names representation of the ancient picture of the world through the tribal and kin's names reveals an archetype of wood or tree as a natural energy with man-bearing functions. Legends say that the Khor-Buryats, for example, descend from the birch-tree.

**Key words:** concept "forest/forester"; ethnonymy; ancient Dauria.

P. 24. *Konstantinova Anna A.* Kuban State University of Technology (Krasnodar). **ANGLO-AMERICAN PAROEMIAS OCCASIONAL TRANSFORMATION IN THE LIGHT OF COGNITIVE-DISCURSIVE APPROACH IN LINGUISTICS.** The present article studies the phenomenon of occasional modification of proverbs and proverbial expressions as a modern characteristic feature of different forms of the English language discourse. About 8,000 examples of proverb use in cinematographic, newspaper, public speech, and song discourses served as the material for the research. On the basis of our study we can state that proverb modification is predetermined by cognitive and pragmatic factors. Through creative use of proverbs and proverbial expressions the author can solve the following pragmatic tasks, which help influence the target audience: attention capturing, expressing attitude and evaluation, creating stylistic effects (increase of expressivity, emotionality, and creation of individual style). Occasional paroemia modification extends the linguistic frontiers of culture, reflects new modes of thinking, and shows new directions for action. Thus, the phenomenon of occasional modification enables the author to adjust proverbs and proverbial expressions to any discursive situation and results in their transformation. Hence, one of the acutest tasks of paroemiology is registration and analysis of nonce paroemias within the framework of the cognitive-discursive approach in linguistics. Having studied the instances of proverb and proverbial expression use in the above mentioned types of the English language discourse, we distinguished the following four groups of novel paroemic formations differentiated on the basis of the result of the creative use: 1) proverbial hapaxes are tightly connected with their context and have no sense beyond it; they have little literary value and, thus, limited effect potential; 2) author's words and expressions on the basis of traditional paroemias; 3) antiproverbs, i.e. new paroemic units created on the basis of traditional proverbs and proverbial expressions; they are independent formations having a meaning of their own. Antiproverbs, which use elements of traditional paroemias, express a novel idea; 4) pseudo-proverbs, i.e. new paroemic formations built according to the traditional proverbial patterns. We do not consider them proverbs for we dispose of no data on their currency. However, their separate study is deemed important as these formations express some generalization and use standard proverbial structural-semantic models with frequent application of traditional proverbial markers.

**Key words:** paroemia; nonce transformation; discourse; cognitive-discursive approach.

P. 29. *Moiseyeva Mariya N.* Novosibirsk State Pedagogical University. **FUNCTIONS OF CONSTRUCTIONS WITH THEMATIC SPEECH IN TEXTS.** Thematic speech (TS) represents a way to transfer someone else's speech when the author states the content of someone else's speech in general; it is quite often limited only to the message of a theme or a list of questions mentioned by this or that person, without explaining what the person said on the given questions. The purpose of the article is to characterize the functioning of constructions with TS (CTS) in the text and to define their basic functions. The main distinctive feature of TS is generalization. The substantive form "about + prepositional case" represents the compact proposition. This distinctive feature of CTS is close to the similar characteristics of pronouns; therefore the complex of functions of CTS in the text can be considered in comparison with the similar functions of pronouns. When we characterize the functions of CTS in the text we must consider not only the closest context that helps realising them, but also the peculiarities of reference, the radius of their action and the positional criterion. The whole complex of the above mentioned features allows characterizing the compositional function of CTS, which is realised in case when the initial and reproduced information is in the same text

(an article, a note, etc.) or in different texts on the same topic (headings in a newspaper or different issues of newspapers). Depending on the place in the text CTS can perform the following functions: the function of introduction (in preposition); the function of conclusion (in post-position) stating the main idea. The basic function is introduction. Depending on the position of CTS in the text: in the title, subtitle or beginning of a complex syntactic construction, they possess different "action radius". The introduction function combined with the function of prospection establishes the connection with the subsequent text. In the text CTS can carry out the function of conclusion, not typical for TS. It is realized in the sentences which are in postposition to the text (the function of retrospection) and sum up previous statements or the text. The "action radius" in this case is the whole article. Thus, having considered CTS from the point of view of their position in the text and the functions they carry out, we have learnt that besides reproduction of information TS is characterised by a special function – connecting based on conclusion, generalization. This function is realized in different positions in the text, combined with the functions of prospection and retrospection. It also depends on the "action radius" of the whole text or its part.

**Key words:** thematic speech; text; text functions; prepositional case.

P. 33. *Salakhutdinova Tatiana Yu.* Tomsk State University. **THE GHOST MOTIF IN N.S. LESKOV'S NOVEL "LADY MACBETH OF MTSENSK"**. The purpose of this article is to understand the function of the ghost motif in the plot of the text, to create images of the characters and narrative structure of one of Leskov's early novels, *Lady Macbeth of Mtsensk*. Here, the motif of a ghost writer was first used by the writer, ensuring its further active use. Despite the lack of the author's assessment of the nature of the phenomenon in this novel, and in other works by Leskov unique, despite the frontier character of such categories as ghost, dream, hallucination, we can still determine Leskov's concept of "ghost" as a phenomenon of a human or animal, not a given object, different from the Russian folklore equivalents of ghosts (zombies, vampires) with emphasis on the other world materiality. On the contrary, it is the awareness of the immateriality of the ghost image that largely determines the internal development of the protagonist of the story. Our understanding of the motif is close to the definition of A.N. Veselovsky, who considered motif as a kind of a sense bearing unit, morphologically decomposable into the unchanging and changing parts. The semantic "core" of the ghost motif in Leskov's works, including *Lady Macbeth of Mtsensk*, in our opinion, is the situation of the person meeting the spirit of the dead, which appears in the form of an animal, half-human and half-animal, and human, able to move and speak, emerging out of nowhere and disappearing to nowhere. The peripheral, changing part of the motif is the way the ghost appears, the identity of the dead, the reason of coming, etc. The proposed interpretation of the core of the motifs is thought to be connected with the type of consciousness of the characters, including the image of the narrator. In particular, it is their idea of the inner essence of the person who continues his postmortal being near the scene of his death, especially the violent one. The motif is known to be an integral part of the plot and it can become a plot itself (cf. with A. Boehm, who calls the plot a "complicated motif", which we see in *Lady Macbeth of Mtsensk*). The plot-forming potential of the motif in this novel allows dividing it into stages (character's action → ghost appearance → change in the consciousness of the character), and identifying the accompanying motifs. As a result of the analysis of the story the author of this article concludes that the ghost motif is very important for the novel's ideological, thematic and motive complex. It defines the plot structure and interpretation of its semantics, acts as a mirror of the protagonist's inner life, causes her internal development, functions as psychological analysis, builds the system of characters in the story, and distinguishes the voices of characters, the narrator and author.

**Key words:** tale; ghost motif; national character.

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P. 38. *Bogdanova Marina A.* Pedagogical Institute of Southern Federal University (Rostov-on-Don). **ANTHROPOLOGICAL MEANING OF SPORTSMAN'S HABITUS (SOCIO-PHILOSOPHICAL ANALYSIS)**. The author considers the concept "habitus" to be rather productive for the purposes of philosophical and culturological research of sports activity, also comprising the heuristic potential. There are not enough research papers, devoted to the cultural-anthropological analysis of sport corporal practices, in which corporal transformations and problems of cognitive styles dependence on corporal habitus are investigated. Habitus means a complex of individual corporal skills represented in gait, gesticulations, manners, which reflect the crystallization of the acquired personal experience in "depth" of his or her corporal consciousness. Habitus unites person's mental and physical preferences accompanied by the choice of different personal practice schemes. The main feature of habitus is its unconscious structure. Unconsciousness of habitus is defined by its corporal nature: attitudes, preferences (or "dispositions" according to Borides) enter the corporal nature and show in individual styles of life. Investigating sports which deal with human corporality as a kind of social practice, the author comes to a conclusion that sports are not merely a conglomerate of customs, habits and physical preferences, but also a style characteristic of culture, the reflection of habitus according to Bourdieu. Models of sports action: their configurations, spatial structure, relations among participants, samples of energy application have basic differences at the level of people's corporal organization in numerous kinds of world sport competitions. The research of ethnologic features of corporal behaviour and sports practices is reflected in the concept "ethnomotricité". The author believes that M. Merleau-Ponty's understanding of corporal schemes or body patterns, which set, limit and define consciousness opportunities, have something in common with P. Bourdieu's "habitus". Corporal schemes are a special sort of life styles, which organize human body movements and define its interrelations with the world around. The author considers that phenomenal achievements in sports can be explained by a sportsman's habitus, relevant to his or her kind of sports, which helps the mind to distinguish, feel and plan a necessary vector of movement and action. The harmonious partnership of environment with a sportsman's body becomes possible due to habitus. Thus, cultural history of humankind, the history of creation of instruments of labour, tools, metric systems and activity technologies including sports is simultaneously the history of human body formation.

**Key words:** habitus; Pierre Bourdieu; body schemes; Maurice Merleau-Ponty; ethnomotricité.

P. 42. *Borovinskaya Daria N.* Surgut State Pedagogical University. **FOREIGN EXPERIENCE IN RESEARCH OF CREATIVITY IN 20TH CENTURY**. In the introduction part of the article the author gives a proof of the topicality of the issue, defines the goal and formulates the problem of the research. In the basic part of the work, the main approaches in research of creativity abroad, which had active development in the 20th century, are given. The analysis of foreign literature shows that understanding of creativity is changing. In pragmatism, the creative process is related to discovery and its practical correlation when it is scientific and theoretical is an invention aimed at solving problem situations (J. Dewey, P. W. Bridgman). Development of the ideas of neo-realism, represented in the works of philosophers of the continental Europe (E. Husserl, A. Whitehead) contributed to a different understanding of creativity. The process of

creation is a form of the unity of the universe. Psychology possesses profound knowledge on the theory of creativity development by foreign researchers. Creativity became an object of scientific study primarily because of the general interest in individual differences. This approach recognizes that individuals differ psychologically in traits or attributes. The creative act is multifaceted as well. It includes psychological, environmental, cultural, physical, and intellectual aspects. A large body of evidence has been accumulated in connection with the effort to identify particular personality traits, which lay the basis for creativity. E. Fromm, J.P. Guilford, A.H. Maslow, C.R. Rogers discussed the main ideas; other scientists (A.A. Angyal, F. Barron, E.R. Hilgard, V. Lowenfeld, N.C. Meier and R.L. Mooney) identified creative traits. Another body of data has been collected to prove that creativity can be fully explained as a series of chronological stages, each stage making its unique contribution to the total process (J. E. Arnold, J.M. Montmasson, G. Wallas). Summarizing all the points of view, J. Hallman proposes that a creative act can be analyzed from the point of view of five major components: as being a complete act, a unitary instance of behaviour; as being the last stage in the production of distinctive objects or forms of living; as being formed due to certain mental processes; as being dependent on specific personality transformations; as occurring within a particular kind of environment. The cognitive and multiple factor approaches develop actively in recent years. According to M. Boden, computational ideas can help us to understand what makes human creativity possible. This does not mean that creativity is predictable, nor even that the original idea can be explained in every detail after it has appeared. It offers to use computational ideas in understanding in scientific terms to learn how intuition works. In the final part of the article, the author expresses an opinion that there are some distinctive features in research of creativity abroad. Firstly, it is the focus on the practical solution of problem situations in modern society. Creativity is interpreted as a successful combination of ideas that are generated by the need to solve a specific problem in the changing society. Secondly, the definition of creativity in terms of features gradually changes to the definitions of creativity in terms of process. Thirdly, the emphasis in the study of creative thinking abroad is transferred to the distribution of tools and methods to accelerate the creative process in recent decades. They are aimed at development of several aspects of thinking, including the means of artificial intelligence.

**Key words:** conceptual approaches in foreign research of creativity in the 20th century; creativity; creative thinking; conditions of development of creativity; distinctive features and trends in research of creativity.

P. 47. *Konstantinov Dmitriy V.* Siberian State University of Physical Culture and Sports. **PHYSICAL CULTURE AND SPORTS IN THE CONTEXT OF HUMAN INCOMPLETENESS.** The author analyzes the reasons of the existence of physical culture and sports from the point of view of human needs. Among the variety of these needs he seeks the key one, which allows existing of physical culture and sports as self-valuable phenomena. V.B. Barabanova analyses the approaches to the reasons of sport from the point of view of human needs. She points out that sport loses its intrinsic value and becomes an instrumental phenomenon when one explains the occurrence of sport genetically. In contrast, Barabanova asserts that physical culture and sports express human need for self-improvement, self-realization. In his turn, the author considers the existential-ontological roots of this need. He bases on the notion about the human as a creature that is not complete, that is constantly striving to go beyond oneself. Using the concept of the human form, the author shows that the human can be considered as a self-causal phenomenon. In other words, the condition of the human is the human himself. That is why the human is not something complete, once given. The aspiration to overcome one's incompleteness is an existential feature of the human, one's basic existential need. According to the author, this incompleteness is the reason and driving force of all human culture in its diverse manifestations of specific forms. If one considers the human need for self-realization as the principal reason of existence of physical culture and sports, in this case they really can be interpreted as self-valuable phenomena. The author shows that the human nature, besides incompleteness, also includes another important quality – non-predetermination. Actual, absolute determinacy cannot exist in human life, because the human depends on many factors; and the human is not able to follow and take into account all of them. In the opinion of the author, the human non-predetermination is the reason of the “dualism of transgressive art” (V. B. Barabanova), which may lead to the destruction of the already created. The sphere of physical culture and sports is the area of the transgressive art, because it is connected with the expansion of the limits of physical and mental opportunities of the human. Hence, there is a risk of crossing (especially in professional sports) certain limits, beyond which the human in humans can be destroyed. It is possible, for aspiration to self-realization is natural for every human, but it exists as a possibility that might not be realized.

**Key words:** physical culture and sports; human existence; human incompleteness; human non-predetermination.

## CULTUROLOGY

P. 51. *Ilyushina Viktoriya V.* Institute of Northern Development, SB RAS (Tyumen). **CULTURE DYNAMICS IN THE FOREST-STEPPE REGION OF THE URAL-OB BASIN.** Basing on the synergetic methodology, the article considers the dynamics of culture in the forest-steppe region of the Ural-Ob basin in the 2000–500 B.C. During the Bronze Age, the Andronovo cultural and historical community (ACHC) is determined on all the territories of this region and includes the Alakul, Fyodorovo and Cherkaskul cultures. In the structure of the holistic dynamics of a culture the second of them may be recognized as its pre-bifurcation period. Around the 13th century B.C. the process of disintegration of ACHC, which resulted in the formation of the Cherkaskul antiquities and the Andronovo cultures of the first order, may be identified with the beginning of the bifurcation (transitional) period. The bifurcation period is divided into three stages. The first stage is disintegration of ACHC and formation of the fractal structures (the bifurcation point). Thereupon, it was proposed to extend the time frame of the transitional period till about the 13th century B.C. The Andronovo cultures of the first order were some intermediate forms, which developed into more stable formations – the Barkhatovo, Suzgun and Irmen cultures, which may be recognized as the beginning and expansion of the second stage of the bifurcation period. However, the endogenous dynamics of these cultures in the direction of chaotic processes absorption was interrupted by the migration of some northern population groups, which resulted in the second bifurcation point in the 9th–8th centuries B.C. No less than two trajectories of development within each Late Bronze culture were observed in the content of the third stage of the bifurcation period. In the system of the Barkhatovo culture these trajectories were presented as the formation and development of the east variant of the Itkul culture of the second type and the Baitovo culture. In the Suzgun culture one of these trajectories was represented by the Krasnoye Ozero antiquities; the second – by the Zhuravlevo complexes. In the Irmen culture one of the trajectories is linked with the forming of complexes of the Zavyalovo type, a part of the early stage of the Bolshaya Rechka culture. The other is connected with the forming of the Early Sargatka antiquities. Thus, three alternative ways out of bifurcation were determined on the third stage of the bifurcation period: “the structure of the past”, never realized; “the structure of the present” represented by the Krasnoye ozero culture; and “the structure of the future” embodied in the Baitovo, Zhuravlevo, and Early Bolshaya Rechka cultures, and the Early Sargatka antiquities. Transition to the last structure-attractor marked the

beginning of the post-bifurcation period of the development and linked with the forming of three Early Iron cultures by the 6th–5th centuries B.C.: the Bogochanovo, Bolshaya Rechka and Sargatka cultures.

**Key words:** dynamics of culture; synergetic paradigm; Bronze Age; transitional period; Early Iron Age.

P. 55. *Malakhatko Ulyana V.* Tomsk State University. **NEW RELIGIOUS MOVEMENTS IN TOMSK.** In the article the author characterized religious organizations, which have officially been registered at the end of the 20th – beginning of the 21st centuries and are related to new religious movements (NRM): the Church of Jesus Christ of Latter-day Saints in the Tomsk region, the Diamond Way Buddhist centre of the Karma Kagyu School in Tomsk and Tomsk community of the International Society for Krishna Consciousness. According to one of the classifications, the Church of Jesus Christ of Latter-day Saints belongs to neo-Christian trends, and the other two organizations belong to the oriental ones. In the article the foundation history of these organizations in Tomsk is described, as well as the organizational structures of the communities, the platform for religious beliefs and cultural practices. Various ways are depicted of how the organizations participate in the cultural life of the city. The information is given about the social programs which are first of all realized by the Church of Jesus Christ of Latter-day Saints and by Tomsk community of the International Society for Krishna Consciousness. While preparing the article, various materials were used, which the author collected by interviewing the leaders and other representatives of the communities while visiting different events they organized. Characterization of the Buddhist centre of the Karma Kagyu School in Tomsk and Tomsk community of the International Society for Krishna Consciousness is based on a questionnaire filled in by their members. The Church of Jesus Christ of Latter-day Saints and Tomsk community of the International Society for Krishna Consciousness were founded in 1998 and 2000 accordingly as a result of missionary activities. The Diamond Way Buddhist Centre of the Karma Kagyu School was founded by Tomsk citizens who became interested in studying this religious tradition in 1999. The basis for the religious teaching of the Church of Jesus Christ of Latter-day Saints is the belief in the divine nature of Jesus and an original teaching about an ancient nation who lived in America and preserved the purity of Christ's Commandments. Cult practices of the church include baptizing, confirmation, Communion, monthly Fast, baptizing for the dead. The Church community has a certain organizational structure: the division is based on gender and age. The International Society for Krishna Consciousness which includes the Tomsk community worshipping vaishnavism, a monotheistic religious doctrine, based on the cult of God Krishna, as the most worshipped incarnation of Vishnu (the Highest). The basis for the cult practice is individual mediation and collective singing of sacred hymns. Tomsk community consists of cells (nama-hattas) which are lead by spiritual leaders. The majority of members are students and people with higher education. The Buddhist trend which the Diamond way Buddhist Centre of the Karma Kagyu School in Tomsk follows is defined by Vajrayana (Mahayana), which suggests reaching the state of Buddha during one life. The main form of practice is individual and collective meditations. The majority of members are senior university students and people with higher education.

**Key words:** the Church of Jesus Christ of Latter-day Saints in Tomsk region; Diamond Way Buddhist Centre of the Karma Kagyu school in Tomsk; Tomsk community of the International Society for Krishna Consciousness.

## HISTORY

P. 59. *Zolotareva Natalya V.* Tomsk State University. **ANTHROPOMORPHIZATION PHENOMENON IN TRADITIONAL CULTURE OF THE OB-UGRIC PEOPLES.** The article is devoted to the analysis of anthropomorphous images of the Ob-Ugric peoples. In their culture an anthropomorphous shape was given to the ceremonial doll, children's toys, images of spirits and the dead. On the basis of correlation of the anthropomorphous images with certain age categories, five stages in life cycle of the person are allocated – prenatal development, birth and infancy, childhood, adult life, life after death. At each stage a constructive description of images is given, the evolution of manufacturing materials is tracked; the functions and symbols are revealed. At the first and second stages the person is accompanied with “ceremonial dolls”. They are the first material form of the yet unborn child and perform the following functions: communication of mother/child and the spirit of Xian, divination, purifying and guarding. The anthropomorphous image of the third stage is the doll with psychological, social, world-view, creative and gnoseological functions. Two kinds of dolls existed: made of beaks and skins of a bird and made of a fabric. All dolls have no face, so that no “spirits” would enter them. Doll's clothes represent a mini-copy of outer clothing of adults. The clothes are the embodiment of the external image of the person, its materialized substance. Thus, the doll symbolizes the external shape of the person. The fourth stage is connected with images of family and local spirits. Male images of family and local spirits represent wooden anthropomorphous images. Female images of spirits show more archaic features: their original base was the skin of an animal later replaced by metal images of animals and a fabric, and a piece of wood, which transformed into anthropomorphous wooden images. The characteristic feature of all images of spirits is the detailed study of face and use of conditional clothes, which distinguishes them from dolls, in which the basic attention is given to clothes. It means that these images personify the spiritual component. The fifth stage is connected with ittermas – receptacles of the soul of a dead person. Two materials were used for manufacturing ittermas. One of them is wood, which first transformed into a mould, and then – into a metal cast. The second material is fabric and, later, clothes. A more modern variant of the image does without the fabric basis using clothes only. Images of the dead do not have a uniform rule of depicting the face. But all ittermas have clothes. Thus, we come to a conclusion, that the given images should be outwardly similar to the person. It follows that ittermas were thought of as the refuge of the soul, and its constructive characteristics underlined the material component in the person. So, in the traditional culture of the Ob-Ugric peoples anthropomorphous images accompany the person all life long; at each stage they have various functions and symbols. Limits of human life do not coincide with limits of physical existence. They are thought of more broadly and thus close the cycle of life including the real and other worlds.

**Key words:** ceremonial doll; toys; images of spirits; images of dead people.

P. 63. *Kinyov Sergey L.* Tomsk State University. **IMAGES OF MOSCOW PRINCES OF DYNASTY WAR PERIOD IN THE SECOND QUARTER OF 15TH CENTURY IN NATIONAL HISTORIOGRAPHY.** In national historiography devoted to the formation of the united Russian state in the 14th–15th centuries there is a tradition of different attitude to the Russian Princes of the period. The division was binary. The Rurikovich successors were (are) divided into progressive and other (reactionary, separatist and simply short-sighted). The Princes of Moscow refer to the former ones. With the regard to the events of the 15th century when major conflicts occurred, as a rule, inside the Moscow Prince's family, the representatives of its various branches were opposed one to another. In the opposition of the Princes of the first half of the 15th century we can distinguish two issues. First, historians have contrasted the two branches of the Moscow Prince's family, the oldest one and the so-called “Galitsky”. Secondly, we talk about the opposition of the

Princes personally. The basic criteria of the opposition are: personal qualities, qualities of a politician, attitude to the order of succession to the Grand Reign and the role (progressive or reactionary) in the historical process. The juxtaposition is most evident in the narration of the dynastic wars of the second quarter of the 15th century in the Moscow Principality. As a result, several interrelated collective images of Princes were formed: the supporters of the new succession principles and the great defenders of antiquity; unifiers and separatists, and even according to the moral and intellectual criteria, the “positive” Princes of Moscow and the negatively assessed “Galitskys”. The appraisal given to the Princes by historians of the 19th–20th centuries are particularly striking and emotional. Moreover, this assessment considerably coincides with the evaluation of representatives of several generations of researchers, regardless of the availability of sources and scientific concepts, which they used. The article deals with the established image of the Galitsky Princes in national historiography, Basil the Second’s opponents in the struggle for the Grand Reign; and it is compared with the testimony sources, which are available to researchers, who created that image. During the investigation we learn that the result of the research is influenced by the sources selection principle and such external factors as social status, form of government, social and political views of the author and the authority of the predecessors. Moreover, this article suggests a new version of understanding and narration of the dynastic wars in the Grand Principality of Moscow in the 2nd quarter of the 15th century, taking into account the testimony of the so-called “independent chronicles”, and political culture, in particular, typical of Russia of that time.

**Key words:** North-Eastern Russia of the 15th century; Moscow Princes; Russian chronicles of the 15th–16th centuries; historiography.

P. 69. *Seryakova Nelly A.* Tomsk State University. **PANCAKE WEEK ENTERTAINMENT IN TOMSK IN THE SECOND HALF OF 19TH CENTURY.** This article is devoted to the study of festive culture in Tomsk in the second part of the 19th century, namely to one of the most favourite Russian national holidays - the Pancake Week opening the spring cycle of ceremonies of the national calendar. It is the first time the celebratory culture of Tomsk has become a subject of ethnographic study. Preceding the Lent in Christian ceremonialism, the Pancake Week had no certain date in the calendar. The holiday traditionally begins seven weeks prior to Easter, and lasts for seven days before the Lent. On the basis of the studied periodicals we learnt that the Pancake Week was celebrated in Tomsk in February – the first half of March. The source for the reconstruction of Pancake Week entertainments is materials of the local newspapers: *Sibirskiy Vestnik*, *Sibirskaya Gazeta*, *Sibirskaya Zhizn*, *Tomskiye Gubernskiye Vedomosti*, *Tomskiy Listok* and *Tomskiy Spravochny Listok*. The complete study of the periodicals source (till 1899) has made it possible to reveal celebratory entertainments characteristic for the Pancake Week, which are described in articles. The author divides them into traditional and new, their transformation is tracked. The traditional elements of the Pancake Week in Tomsk during the specified period were the bliny, sledging off mountains, horse races on the river ice, fisticuffs and wrestling. In spite of the fact that the magic component of the city’s celebratory activities practically lost its value, formally they still corresponded well with the rural peasant culture. The new city’s entertainment was skating, horse races at the hippodrome, circus, magicians, and masquerades. Buffoonery, roundabouts and balls were also arranged, but they did not become a traditional element of the Pancake Week. In the article the transformation of traditional elements of the holiday is studied: fisticuffs become fights, sledging is partially replaced with horse races, wrestling disappears. Its successor much later is circus fight. The material shows that the festive culture of Tomsk during the Pancake week in the second half of the 19th century was developed. It included a set of elements, constant and variable, connected with the rural peasant culture and innovations, caused by the forming culture of the city, in many respects under the impact of the western influences. Tomsk did not lack for public amusements. In the city on the Pancake week entertainment was organised in different places for the population of different levels.

**Key words:** festive entertainment; Tomsk; traditions; innovations.

P. 72. *Syryamkin Maksim V.* Tomsk State University. **INNOVATIVE ACTIVITY DEVELOPMENT IN TOMSK REGION IN 1989-1992 BY EXAMPLE OF TOMSK SCIENTIFIC AND TECHNOLOGICAL CENTRE “TECHNOPARK”.** The article examines the role of the Science and Technology Centre Technopark in the development of the innovation infrastructure of Tomsk and Tomsk region based on local archival documents and materials. The article refers to the documents and materials from the state archives of Tomsk region and the centre of documentation of modern history, revealing the initial stage of launching of Tomsk Science and Technology Park. The experience of creation of the science and technology park in Tomsk has been investigated in the article. The basic lines of activity of Technopark such as new materials and technologies, informatics, automation, instrumentation, education, public health service and environmental science have been revealed. The experience of overseas technology parks has been analyzed. Well-known science and technology parks such as the Silicon Valley in California, Route 128 in Massachusetts, the Cambridge Phenomenon in England, and the Isar Valley in Germany have been described. The idea of creating such a park in Tomsk region appeared at end of 1989 among well-known scientists of Tomsk. The main initiators were V.P. Tarasenko, the Scientific Director of the Research Institute of Automation and Electrical Mechanics of Tomsk State University of Control Systems and Radio Electronics and V.A. Prets, the Director of the Engineering Centre of the Research Institute of Automation and Electrical Mechanics “Uskoreniye” (Acceleration). In 1990 they persuaded the local authorities to create a technology park, which would represent a regional centre of new technologies, commerce and international relations, without big financial investments. The park was supposed to have modern exhibition halls, a pilot plant, a bank of commercial information, a retraining centre, an export company, a design department, a hotel facility and a number of other services. The article describes how the Technopark implemented these goals: managing and coordinating of basic and applied research and development work on actual problems of science, technology and production; organizational and economic support of promising scientific and technological projects, engineering ideas; production of new equipment, materials, construction and development of new technologies; production of high technology products and consumer goods; building of relations with foreign countries, creating joint ventures and cooperation in production, science, education, culture, trade, tourism, exhibitions, seminars and other events; training and retraining, creation of information files, reflecting latest achievements of domestic and foreign science and technology; realization of international trade, advertising and commercial activities, marketing, engineering, licensing, leasing, consulting services, the creation of sources of cooperative financing; setting up of an innovative bank, creation of production and social infrastructure.

**Key words:** Technopark; innovation; innovative activity; development of innovation infrastructure; science; education; Tomsk.

P. 76. *Embrekht Roman V.* Tomsk State University. **EDUCATIONAL MIGRATION SIGNIFICANCE FOR TOMSK OBLAST DEMOGRAPHY DEVELOPMENT IN 2000–2009.** At present, every year the number of people leaving for other countries to receive education increases. In 2006 more than 5 million people left. The Russian Federation has a developed educational system, but only 4% of educational migrants choose to study in Russia. Foreign students are very useful for the country, because they create the image of the country; spread the language, cultural and technical standards of the country they studied in. They may also be useful as new citizens,

because the period of study adapts them to life in the country and the city of learning, which is important for Russia with its demographic problems. The base of the Russian education allows taking the CIS citizens, who know the Russian language (as opposed to some qualified teachers). The relatively small number of Tomsk residents and a developed educational complex affect the composition of the population. Quantitative leadership is complemented by a high quality of higher education, as the increase in the number of students (2.5 times in 1995–2004) based not only on the establishment of branches or small private universities, but also on the expansion of admission to the already existing “old” universities with better trained teachers and better teaching quality control. Of 100 thousand students in Tomsk universities, 50% are from other cities (cf., in the higher school complex of Tatarstan the proportion of students from other regions is only 3%). But 75% of non-resident students leave Tomsk region after graduating, which indicates the incomplete use of this demographic resource. The article discusses the role of students from other cities and countries for Tomsk oblast demography in 2000–2009, ways to enhance the attractiveness of education in Russia (in general) and in a specific region (in particular), the problems of recruitment and adaptation of foreign and non-resident students in Tomsk and possible ways to resolve them. Tomsk is the third city in the country in the percentage of students in the population.

**Key words:** Tomsk oblast; demography development; educational migration; students.

## LAW

P. 80. *Vedernikov Andrey N.* Russian State University of Trade and Economics (Moscow). **ON CONCEPT AND ESSENCE OF PERSON'S CONSTITUTIONAL RIGHT TO JUDICIAL PROTECTION.** In modern constitutional law of Russia the right of persons to judicial protection of their rights, freedoms and legitimate interests attracts special attention owing to its considerable practical prevalence in various kinds of court procedures and the importance of the protected rights and freedoms. It is also urgent as for protection of rights any subject can address not only to the domestic judicial system, but also to international judicial bodies and, in case of a favourable decision, to receive both the legal protection and the , but also compensation. The right of the person to judicial protection is among the basic, inalienable and unimpaired rights, which are not subject to restriction under any circumstances, even in case of the state of emergency (Part 3, Art. 56 of the Constitution of the Russian Federation), which testifies to its importance among other rights and freedoms of the person.. Stated in Part 3, Art. 46 of the Constitution of the Russian Federation, the right to judicial protection as a right to protection of rights and freedoms guaranteed to everyone has some more positions developing and specifying it in the text of the Constitution. Generally, judicial protection of personal rights and freedoms is a right to protection by the person of the rights and freedom by means of court, i.e. a body representing one of the independent branches of the government. Consequently, it is possible to consider that exercising the right to judicial protection is one of the ways of the state protection of the rights and freedoms of the person and the citizen, guaranteed by the Constitution of the Russian Federation (P. 1, Art. 45). We must mention that the Constitution also gives people a right to protect their rights and freedoms by all means allowed by the law (P. 2, Art. 45), i.e. it initiates the activity of the person in this direction. Positions of Parts 1 and 2, Art. 48 of the Constitution have a most direct relation to realization of the right to judicial protection; they say about the right of everyone to receive qualified legal aid, free of charge in some cases, and about the right of every person detained, taken into custody and accused, subjects most longing for legal aid, to receive it from the lawyer (defender). As a result, it is possible to conclude that the constitutional law on judicial protection is a multidimensional legal formation with a complicated structure giving the person a possibility to address to the court for protection of personal rights, freedoms and legitimate interests, to protect them personally or by the lawyer (defender) and to have satisfaction of the rights and freedoms.

**Key words:** constitutional right; right to judicial protection.

P. 82. *Akhmedshin Ramil L.* Tomsk State University. **SOME PSYCHOLOGICAL ASPECTS OF SEARCH.** The tactical positions that reveal the essence of the search are: 1. When conducting a search the inspector does not participate in it directly, concentrating on the analysis of the behaviour of the searched, applying direct force if necessary; 2. Concentric and eccentric methods of the search cannot be effective enough. The search is made from the door clockwise along the walls; the centre of the searched space is checked last of all. As people conducting the search bear considerable load, especially the visual one, it is necessary to create conditions, which would increase their sensitivity threshold, optimally support their visual capacity. Thus, the place of the search should be provided with the necessary light equipment (uniform illumination, characteristic for mornings). It is also necessary to apply the scientific and technical means of criminalistics and special methods. Unlike interrogation, the search does not require applying tactical techniques focused mainly on the personality of the searched. Nevertheless, they are used and their value is indisputable. It is expedient to define the importance of using the data about the personality of the searched in the following aspects: data that allow optimizing the condition of the searched for a successful completion of the tasks of the search; data that allow optimizing the process of supervision over the behaviour of the searched within the tasks of the search. The fatigue of people conducting the search is different from the fatigue of people who examine scenes of crimes. The reason is that people search an unknown space in the conditions of active counteraction of the searched, which has a strong distracting impact on the attention of the investigation group. All this leads to undue fatigability, faster decrease of the working capacity, especially by the end of the search. Thus, organization of breaks is reasonable, by the rules, characteristic for examination of crime scenes with accounting for the peculiarities of the course and sequence of search actions. Domestic researchers recommend making interrogation and confrontation right after the search to supply the data acquired during the search with new information. The given recommendation is topical, for when during the search objects are found proving the accused guilty, s/he is in a difficult psychological position, which distorts many mental processes, weakens the volition of hiding the fact of crimination.

**Key words:** search; tactical method; role.

P. 86. *Voronin Oleg V.* Tomsk State University. **PROSECUTORS' CUSTODY SUPERVISION RESTORATION IN 1920S.** Custody monitoring during the first years of the Soviet Rule was characterized by such features as partial restoration of the formal prerevolutionary trial and social forms of imprisonment control, a total lack of legal experience, a wide application of local rule-making and a consecutive realization of class approach. Particularly, the custody monitoring process in that period was an additional duty of new revolutionary agents, which was given them by the Soviets organs (Revolutionary Committees) of different levels. There was no clear idea about the goals, sphere of activity, forms and system of agents that could provide imprisonment monitoring. It happened due to the difficult situation caused by the Civil War and the Intervention. The end of the Civil War and the New Economy Policy contributed to the criminal law and criminal procedure legislation development in the 1920s. At this time the restoration of the former prerevolutionary

control and justice units including the prison monitoring ones took place. But in spite of the formal similarity with the previous units the newly arranged Soviet prison monitoring had a particularly new content. The Prosecutors' Control conversions changed the Prosecutors' Office into the main agent of the central public monitoring of the whole public activity. Thereupon, the previous prison control forms were substituted by Prosecutors' Supervision which represented a more perfect form of monitoring activity. Even at the stage of formation the sufficient features of the new Prosecutors' Custody Supervision included an external independent character, a high level of centralization, an efficient appointed sphere of activity, a large arsenal of remedy instruments using which gave legal effects. A low prestige and undeveloped professional skills of the first Soviet justice organs, permanent interference into their activity of the Soviet and Communist Party structures made the Russian legal community support the ideas of the previous Prosecutor's Supervision restoration and formation of a legal base for its activity. As a result, in January 1922 the Fourth Congress of the Soviet Justice Activists made a decision to restore the Prosecutors' Office and to adopt new criminal legislation as well as new criminal procedure legislation. At the same time many questions of Prosecutors' Custody Supervision organization and execution still remained unsolved. At that stage of historical development this kind of legal activity did not yet have its own embodiment. The sphere of Prosecutors' activity did not have a concrete subject and frames. The Prosecutors' Supervising was not detached from trial custody control and monitoring opportunities of NKVD (People's Commissariat of Internal Affairs).

**Key words:** penitentiary control; criminal-executive system; public prosecutor's supervision; institution of confinement.

P. 89. *Knyazkov Aleksey S.* Tomsk State University. **INVESTIGATIVE THEORY AS ELEMENT OF CRIME INVESTIGATION INFORMATIVE MODEL.** Construction of new methods of detection and investigation of a crime is accompanied by the analysis of content and value of the already existing methods, proposed as cognitive models, investigative theories. The author attempts to review questions of investigative theory from its correlation with other suggested investigative models. The author notes that conceptual and material models should not be opposed to each other: to build a material model it is necessary to abstract from secondary features of a real object, in other words to execute conceptual modeling. Considering that modeling is the process of research, in our opinion, the difference between conceptual and material models consists in the mode of its inclusion in that process: the former is included notionally, the latter one – visually. The investigatory version is defined as a mental model and compared, first of all, with a material model. The division of models into mental and material, in our opinion, is not an opposition of one model and the other: to construct a material model, it is necessary to first abstract from minor signs of a real object, i.e. to carry out, as a matter of fact, mental modeling. So, the distinction between mental and material models, in our opinion, is that the first enters the research process speculatively, the second one – sensorily, visually evidently. Examining the role of criminalistic description of a crime in modeling of crime investigation, the author comes to a conclusion that it is not limited to the role of the theoretical basis of the investigative theory. Criminalistic description of a crime in the beginning of case investigation is a means of criminalistic analysis of causative-consecutive links between the elements of a criminal action, which received its reflection in material and ideal traces. We should obviously speak about information modeling of crime investigation as about the process that involves various interconnected models: criminalistic description of a crime, investigative lead and investigative situation. The scientific positions of the information model of investigation were reflected in such categories as “criminalistic crime description” and “criminalistic investigation description”, which entirely correspond with the two classes of models some authors allocate – models of a crime and investigation models.

**Key words:** investigative theory; theoretical basis of investigative theory; conceptual model of investigation; informative model of investigation of a crime; criminalistic description of a crime.

P. 93. *Kodintsev Aleksandr Ya.* Surgut State University. **THE SOVIET STATE LEGAL POLICY REALIZATION BY JUDICIAL AUTHORITIES DURING CAMPAIGN FOR IMPLEMENTATION OF THE PRESIDUM OF THE SUPREME SOVIET OF THE USSR DECREE OF AUGUST 10, 1940.** On the eve of the Great Patriotic War Stalin initiated some important campaigns connected with an increase of discipline of workers and employees. Campaign for realization of the Decree of August 10, 1940 (the Decree 8/10) became one of the most important. Before the Decree was signed the given acts were considered as administrative offences. The Decree 8/10 introduced 1-year sentences for small thefts at enterprises, no-less-than-1-year sentences for hooliganism, irrespective of the caused harm. It was badly coordinated with the Criminal Code of the RSFSR and the court practice. The USSR Council of People's Commissars passed a decision almost cancelling the procedure on small theft cases. In the second half of 1940 the USSR had 72481 cases under the Decree 8/10 on small thefts. 54204 persons were convicted. The campaign recessed quickly. The campaign for realization of a part of the Decree on hooliganism had a larger scope. The order of September 6, 1940 almost cancelled cases on hooliganism. The case on the detained criminal went directly to court. Preliminary investigation was only made in exceptional cases. The case was heard within a 2-day term; and the sentence was carried out immediately, irrespective of the appeal. Lawyers expanded the Decree 8/10 application, adjusting various acts to it. During the first half of 1940 39304 persons were convicted of hooliganism in the USSR, during the second half – 130291 persons. During the war the Decree application was limited essentially: according to P. Solomon the number of the convicts for small thefts was about 60000 persons a year. Courts began to sentence thieves to technical works (below the lowest limit). As a result, the judiciary practice on plunders, existing till August 10, 1940, was actually restored. The number of persons convicted of hooliganism was 199813 in 1940, 12599 in 1943, 69789 in 1946, 40133 in 1947, 45000 in 1948, 70100 in 1949. Cases on hooliganism during and after the war were often classified as those causing bodily harm or insults. According to P. Solomon the average number of cases on hooliganism was 73000 a year in 1946-1952. Actually the Decree 8/10 was not applied any more, but formally it was cancelled only after Stalin's death. Campaign for realization of the Decree of August 10, 1940 developed as other Stalin's criminal campaigns. After a short-term activation the campaign slowed down and finally stopped in early 1950s. The campaign did not complete its mission and resulted in numerous wrongful sentences.

**Key words:** petty hooliganism; petty theft; repressions.

P. 96. *Krivoshein Ivan T.* Tomsk State University. **ON NATURE OF CONSCIOUSNESS.** Consciousness is a fundamental category of philosophy and science. Thousands of papers are devoted to researches of consciousness and its origin, however, it is hardly possible to assume that they are exhaustive, and consciousness, as well as consciousness derivatives, is thoroughly cognized, that the creative role of consciousness in person's formation and development is revealed fully. Consciousness is a multinatural problem, reflecting the unity of natural and social issues. Scientists know much about the material brain component, brain “substance”, but they still have no clear answer to the question of the origin of consciousness. Philosophy made a rather essential contribution, but still has not answered the question of why consciousness is possible. The more we learn about consciousness and the subject, the human historical culture, the

natural person, the more drastic the area of concern becomes. The occupational concept, well-known in philosophy and science, confirming the initial role of labour in the origin of consciousness causes scepticism and mistrust in the researchers' community. With the changes in the philosophic world outlook paradigm, alteration in scientific world outlook is likely to happen with new emphasis, new content and, thus, interpretation mostly conditioned by the person's inherent features, both natural and social, is inevitable. The origin and the nature of consciousness still remains one of the greatest mysteries of the person. Reconsideration, reevaluation, including new hypotheses of the origin of consciousness, is becoming a characteristic feature of our time. Practical demand for more profound understanding of interconnection of the social and the subject; of the role of consciousness in this process is finally defined by understanding the nature of consciousness. In the article, the purpose of reference to consciousness is an attempt to interpret the nature of consciousness as a specific human ability. Its importance for understanding of the person, the culture, relations with the world and with oneself is impossible to overestimate. Understanding the nature of consciousness is a precondition that allows specifying the essence of its mediating role in the subject's interaction with the world and reality. In the context of the aforesaid, reference to the nature of consciousness is not a random or idle inquiry. It is impossible to consider the extensionality of consciousness and subject nature without understanding the nature of consciousness.

**Key words:** human; subject; consciousness; idea; cogitative activity culture.

## ECONOMICS

P. 100. *Lee Anna S., Kazakov Vladimir V.* Rostov State University of Economics, Tomsk State University. **SOCIO-ECONOMIC SYSTEMS SUSTAINABLE DEVELOPMENT LOGICAL AND STRUCTURAL SCHEME FORMING.** One of the main objects of Russian economy at this moment is modernization. Economy modernization implies development on an innovation base that presupposes both the development of conceptually new technologies, including managerial ones, and the usage of the best foreign experience of the leading world states. Transformation of social and economic relations, characterized by a high track record of all economic processes, has begun. The concepts of management, capable of providing the economic growth stability, with provision for social and ecological factors are becoming particularly significant. The conception that meets the case is sustainable development. It allows overcoming constantly appearing crisis situations on all levels of management (federal, regional, local). National economy sustainable development rests upon its regions sustainable development (Russian sustainable development model feature), and the latter depends on municipal regions. Economic, social and ecological problems must be solved to ensure national economy, region and municipal region sustainable development. It is necessary to create an integral information complex that will help to estimate the sustainable development level of socio-economic systems key aspects. The purpose of this information complex is sustainable development results tracing and efficient managerial decision ensuring. The system approach as one of the basic research principles has made it possible to identify basic subsystems, elements, connections, aims, and functions, to formulate logical and structural scheme of a sustainable development management system. The logical and structural scheme of socio-economic systems sustainable development management system consists of the following elements: aggregate economic potential impartially existing on a specified territory becomes a sustainable development management system input. Then we describe the whole range of elements (preconditions, socio-economic system levels and this system's sustainable development components), which generate the managing subsystem. The managing subsystem sustainable development state can be traced by the integral information complex (information subsystem). Sustainable development state monitoring and estimation will make it possible to define its level (integral estimation that is the system output). On the basis of this information the managerial subsystem (government bodies) can define zones demanding priority attention, provide efficient policy capable of changing the managing subsystem function conditions to increase sustainable development level and people's life quality as a result, based on efficient innovative economy and nature wealth preservation.

**Key words:** socio-economic systems sustainable development, system approach, sustainable development management, sustainable development monitoring and estimation.

P. 104. *Nedorub Anatoly S.* Rostov State University of Economics. **EXPORT SHIPMENTS PLANNING TO COUNTRIES WITH HIGH SEASONAL QUANTITATIVE POPULATION CHANGES BASED ON MIGRATION FLOW MATHEMATICAL MODELING.** The global economic cooperation process is becoming more complicated for Russian exporters who have to face the problems of acquiring new markets and maintaining the present one. Companies are forced to create new methods of controlling and restructuring of their material and financial resources in order to achieve their best performance. Considering these factors the tobacco industry is not an exception. International health organizations together with governments of many countries unite to create a strong anti-tobacco policy and prevent cigarette producers from distributing their product. That is why tobacco companies tend to carefully plan their strategy. They try to take into account as many factors, influencing the market, as they can. One of them is market volume. It can supply the producer with important information, help to estimate the probable result and choose the best tactic. The article describes the basic equation that is used by tobacco producers in calculating the volume of an aimed market using information about population, smoking rate factor, daily cigarette consumption by one smoker, time period and variable coefficient. The first four factors are usually defined statistically or evaluated according to experience. The variable factor is difficult to estimate due to dynamic changes in the market status. In this case cigarette companies apply to third party organizations which gather and analyze the required and often unreachable data. The Republic of Abkhazia, being an example in the present article, is a popular touristic region. This means that in order to calculate the market volume equation and apply the variable factor tobacco producers have to consider the migration process, which is not constant, but periodical. The graph that shows the yearly migration flow in and out of Abkhazia is presented and based on the customs statistics. It gives the possibility to see the population dynamics and calculate an accurate market volume at any period of time. As a result, tobacco producers can plan their export activities and shipments very carefully in order to maximize their efficiency, increase sales, avoid "out-of-stock" situations and satisfy the market needs. The main tool in this case is to create a non-stop circular process of material and financial resources transformation and maintain a constant product presence in distribution and outlet chains. In addition to that the company has the ability to improve its inner market sales rate by giving an opportunity to find the preferred product anywhere outside the local region for the consumer.

**Key words:** export, material flow, planning, population, market volume.

P. 107. *Akerman Yelena N.* Tomsk State University. **EVOLUTIONARY ECONOMIC THEORY: NEW ECONOMY METHODOLOGY RESEARCH.** The purpose of the article is to investigate the features of new economy on the basis of points of the evolutionary economic theory. The object of research is the processes of transformation of economic relations under the influence of new economy.

The features of the economic processes formed under the influence of new economy, accompanied by the accelerated computerization of all the spheres of person's life, intellectualization of production, transformation of the sphere of services into the leading sector of the national product manufacture and population employment, are considered in the article. The analysis of the content of such theories as information economy, economy based on knowledge and innovative economy allows speaking about their cognitive compatibility and complementarity as the general object of research, new economy, exists. The application of the principles of the evolutionary economic theory (economic synergy) as methodology of formation of the concept of new economy has allowed revealing features of transformation of social and economic relations in the dominating social and economic structure of the world economy. The results of the conducted research show that new economy is not just simple intersystem changes caused by occurrence of new economic sectors connected with the domination of the intellectual capital and information-communication technologies. It reflects the general-system changes when qualitative transformations influence the structure and all levels of the public system, when the technological way, the social and political organizations change. It is noticed that in new economy the objective conditions for development of informal institutes and relations caused by its raised dynamism, social roles and multiple aspects are created. At the same time, development of "new economy" is connected with strengthening of the processes of the organized intersubject interaction and transition from a spontaneous-competitive to a purposeful (adjustable) mode of self-organizing.

**Keywords:** evolutionary economic theory; new economy; information; knowledge.

## PSYCHOLOGY AND PEDAGOGICS

P. 110. *Bokhan Tatiana G., Balanev Dmitriy Yu., Matsuta Valeriya V., Taskina Irina A., Shchetkina Natalya N., Frokol Anna S.* Tomsk State University, Gorno-Altai State University, N.F. Katanov Khakass State University (Abakan), Tuvan State University (Kyzyl).

**SIBERIAN YOUTH PERSONAL PREPAREDNESS FOR INNOVATIVE BEHAVIOUR.** The study revealed ethnic and cultural resources and deficits in the development of the innovative potential of Siberian youth. Successful realization of the innovative strategy in Russia depends on the people who actively find new ways of life activity and create innovative products. Peoples of Siberia represent the multicultural space of Russia and make their contribution to its development. Economic-psychological self-preservation of Siberian peoples depends on the active role of the population. Therefore, there is a research interest to the personal resource of Siberian youth as a possible resource of the innovative behaviour. Cultural-historical and anthropological approaches in psychology are the methodological basis of research. Systemically important components of the innovative potential are the readiness to change and hardiness. Their study yielded new scientific evidence about the personal preparedness of Siberian youth for innovation, as well as determination of ethnic and cultural determinants of the preparedness to change and hardiness. The results of the study indicate a low level of personal preparedness of Siberian youth for innovation behaviour. The innovative potential of a personality, which is manifested in high rates of the readiness to change and hardiness of Siberian youth, is determined by constructive thinking, positive self-attitude and effective environmental management. Non-constructive thinking, conflict self-attitude and difficulties of environmental management are psychological factors, which prevent the formation of the innovation potential of personality of Siberian youth representatives. The study established ethno-cultural dynamics in the importance of qualities, which contribute to hardiness. This dynamics reflects the transformation of traditional values. The study identified ethno-cultural base for creating the Siberian youth personality potential. Inability to transform the ethno-cultural base of the innovation potential may be determined by several factors: ineffective strategies for coping with difficult situations and continuing stress tension; ineffective social qualities: rancour, conformity, indifference, naivety, uncertainty and secrecy to social contacts; low levels of activity, which are manifested in laziness, insecurity, impermanence, humility and boastfulness; inflexibility with regard to one's own self-esteem and selfishness. Accounting for the identified deficiencies in the innovation potential of personality of youth representatives in developing and psycho-correction work in the educational environment of high school will facilitate the formation of personal preparedness of Siberian youth for innovative behaviour.

**Key words:** innovation behaviour; personal availability; hardiness; readiness to change; youth; peoples of Siberia; ethno-cultural determinants; personal deficiencies.

P. 115. *Zelenkina Irina N., Zagrevsky Oleg I.* Tomsk State University.

**FEATURES OF YOUNG FEMALE GYMNASTS' PHYSICAL FITNESS IN MODERN RHYTHMIC GYMNASTICS.** It is known that the level of motor capabilities directly influences the sports-and-technical achievements in the selected kinds of sports. The higher the level of their development is, the faster and more qualitative the physical actions learning process proceeds, and the higher the sports result is. The system of physical fitness for young female gymnasts has not been created so far since there is no scientific justification of the upcoming activity. The dynamics of physical fitness training load has not been identified in terms of the gymnasts' age. The key factors for physical fitness of gymnasts in the aspect of age, etc have not been set. The objective of the research was to identify the peculiarities of female gymnasts' physical fitness with regard to their age. The following methods were applied: testing the physical fitness of female gymnasts by 19 tests, mathematical statistics methods, as well as the factor analysis by the principal-factor method with their further rotation under "varimax" technique. Upon carrying out the calculations associated with the determination of key factors for physical fitness of female gymnasts of the age of 5-10, the results were obtained that proved that the factor structure of the physical fitness of young female gymnasts has certain age-related peculiarities, with this structure being varied. The structure has the so-called "drift". For example, at the initial stage of training in modern rhythmic gymnastics the priority in physical fitness is assigned to spring ability, followed by intermuscular coordination and mobility of hip, shoulder joints and lumbus flexibility. The structure of physical fitness changes at the age of 6. The priority is given to the development of mobility in hip joints and lumbus flexibility, which is followed by spring ability on left and right legs, mobility in shoulder joints and static power endurance of back muscles. Based on the identified leading factors of physical fitness, a training program has been formulated for young gymnasts. It takes into account the priority of certain physical qualities in the age aspect, taking into account the application of teaching influences, adequate specificity of the developed quality and future activities. The obtained results allow controlling the training process in a scientifically justified way.

**Key words:** factors for physical fitness; spring ability; intermuscular coordination; flexibility; joint mobility; power endurance; tests.

P. 120. *Kapilevich Leonid V., Tikhonova Anna V., Putintseva Yelena V.* Tomsk State University, National Research Tomsk Polytechnic University, Siberian State University of Physical Education (Omsk).

**COMPARATIVE ELECTROMYOGRAPHIC ANALYSIS OF DIFFERENTLY-SKILLED DANCERS' MOVEMENTS.** Sport dancing is a hard-house type of sports, so dancers at the first classes face a variety of movements, which differ in amplitude, direction, speed, and different combinations at different times and different

directions of movements of body parts. All this diversity must be implemented within strict spatial and temporal parameters, within the rhythmic picture of a dance. To form a skill of managing their dance moves dancers need a special motor training. To optimize the management of the process of such motor trainings a theoretical and experimental study must be conducted of criteria of objective control of dance movements. In analyzing the data we found mixed results of bioelectric parameters of right and left rectus muscles of thighs among highly skilled dancers. We observed that when performing the basic dance movement "time-step", the maximum amplitude contraction of rectus muscles of the left thigh of young men is significantly higher than that of girls. The maximum amplitude contraction of rectus muscles of the right thigh of girls is higher in comparison with boys. Similar results of the priority of the "take-off" leg according to the gender were also detected among secondary indicators: the mean and total amplitudes and mean frequency of rectus muscles contraction. Apparently, these figures are associated with the specifics of the dance sport: when performing the competitive variation of a duet dance the he-partner usually begins with the right foot, while loading the left, and the she-partner, respectively, starts with the left one, while loading the right leg. Our data are consistent with the studies on the speed of motor reaction of dancers at the audio signal. The authors have noted the fact of priority of the "leading hand" in the tactile interaction of the dancing duet, also associated with the specific of the sport. In addition, we found a reduced period of electrical activity of muscles in the group of highly-skilled dancers. Obviously, this is due to the decrease of time necessary to perform a movement, as it increases the synchronization of motor fibers (by average frequency) and, as a result of this, the period of electrical activity reduces. Consequently, it is the nature of bioelectric indicators of rectus muscles of thighs that determines the level of special motor preparedness in the sport dance. The higher the skill level of dancers is, the more noticeable the difference in the amplitudes and mean frequency of performance in seconds.

**Key words:** sport dance; movement; electromyography.

P. 122. *Kostyukova T.A., Morozova A.L.* Tomsk State University, Novokuznetsk Branch of Tomsk Polytechnic University. **DEVELOPMENT OF COMMUNICATIVE COMPETENCE IN FOREIGN LANGUAGES OF A NON-LINGUISTIC SPECIALIST.** Socio-economic and political life of our modern society is changing in the formation of a united educational field within the Bologna process and transferring to the federal state educational standard of the third generation. This fact makes scientists review approaches to professional training of non-linguistic specialists in the development of the foreign language communicative competence. The authors of the article create new pedagogical bases of the problem that meet the requirements of the third federal state educational standard of higher education. They were tested in Kuzbass State Teacher Training Academy during 2003–2010. The necessity of development of the pedagogical bases is proved by the results of our research. We surveyed 1170 students of Kuzbass State Teacher Training Academy and learnt that only 7% of the students studying a foreign language for 6 years at school and for 2 years at university could speak it at the beginner's level. The authors organized a research work aimed at testing our pedagogical bases of the educational process of the Academy in 2003-2010. We changed the content of teaching to focus it professionally as we realized that the existing way of foreign language training has some drawbacks. For instance, some topics are not interconnected; others are a part of school programs (topics on Great Britain, the USA, Moscow, etc.). Besides they do not satisfy real interests of students and professional topics are studied in the last term. To study the readiness of the students to use the potential of a foreign language in professional development within the university we organized a free-of-charge English Club "Contact", whose members were 3-5-year students who had finished the compulsory course of a foreign language. We questioned the members of the club and found out that students who studied at our course used the potential of a foreign language in professional development within the university. Having analysed the results of the research work we came to a conclusion that our pedagogical bases develop foreign language communicative competence of a non-linguistic specialist.

**Key words:** foreign language communicative competence; pedagogical basis; specialist.

P. 128. *Molchanova Lyudmila N.* Kursk State Medical University. **MENTAL BURNOUT CONDITION OF HIGHER SCHOOL TEACHERS IN THE CONTEXT OF PROFESSIONAL SUCCESS.** At present, the problem of studying the origin and genesis of the mental burnout conditions of higher school teachers in the context of professional success (promotion) is undeveloped, which defines both the urgency and the purpose of the present research. Using the theory of the functional psychological system of activity as a methodological basis (V.D. Shadrikov), the research allowed us to establish the following tendencies testifying to the specific influence of the professional work structure on its occurrence and genesis: 1. Formation of all the three phases of the teachers' mental burnout condition is observed at early stages of professional development; and the peak of the burnout is characteristic for the stage of up to 5 years long, except for associate professors. 2. There is a significant difference between the indicators in levels of their evidence at the phases of "pressure" and "resistance", "resistance" and "exhaustion" of the mental burnout condition of higher school teachers, which shows the discrepancy of the corresponding stages of duration of their professional activity with its phases and the professional work projection on genesis. 3. The non-uniform character of development of the mental burnout condition of higher school teachers is observed in the sequence of changes of its phases. Higher school teachers and associate professors experience exhaustion of psycho-emotional resources and mental burnout missing the phase of "tension", which testifies to its step-type behaviour. The exhaustion of the psycho-emotional resources and mental burnout of higher school senior lecturers and professors are connected with the intense conditions and content of their professional activity. 4. Asynchronous dynamics of all the three phases of mental burnout condition is observed in cases when the professional experience of senior lecturers and associate professors is 5–10 years, and is more expressed in the latter. Asynchronous tension is also regular for teachers at all stages of their professional development (unlike senior lecturers), for associate professors whose professional experience does not exceeded 10 years (unlike senior lecturers), for associate professors with 5 to 10, or over 10 years of professional work (unlike professors). Besides, a significantly high asynchronous exhaustion of the psycho-emotional resources of "young" teachers in comparison with senior teachers is registered

**Key words:** mental burnout condition; professional success; subject and subjective conditions of activity; stages of duration of professional activity.

P. 133. *Polyakova Olga B.* Russian Academy of Education (Moscow). **SELF-CONTROL IN CONTACT AS PSYCHOLOGISTS' AND TEACHERS' DEPERSONALISATION OVERCOMING FACTOR.** The professions of psychologist and teacher are a type of a person-to-person profession. The dominant type of their activities is based on contact, thus emphasizing the importance of high level communication skills. One of the dominant formants of the future psychologists' and teachers' training is forming and mastering a high level of self-control as it is a factor of professional depersonalisation overcoming. Depersonalisation is an element of person's professional deformation, deforming the relations with other people: increasing one's dependencies from others, or increasing negativism, cynicisms of the attitudes and feelings towards the recipients (patient, client, subordinated, colleague and others); or indifferent and even negative attitude to people-clients (contacts with peo-

ple become formal, depersonalised; negative emotions first hidden can result in conflicts; similar conditions exist in closed workgroups, forced to cooperate in close contact for a long time (up to 6 months)); change the attitude either to the client, or to oneself; one of the components of a 2-dimension model of the burnout syndrome. Depersonalisation as a type of professional deformation should not be identified with its definition in psychology in general and in clinical psychology in particular. The understanding of the self-control in contact phenomenon as a factor of specialists' depersonalisation overcoming was broadened. The features of self-control in contact were revealed: high level of the "adult" position in contact and skills to present information; the level above the average of using the synergic communication style, motivated negativism in judgements about people, listening and perceiving of the speaker, style of the contact. Higher school professors are informed about the need of the psychological correction of future psychologists' and teachers' average level of grumbling, emotional tension in situations of communication, disguised cruelty in attitudes to people, in judgements about them, communication skills, self-control in contact; of first negative experience of the contact with people around, open cruelty in relations with people.

**Key words:** depersonalisation; contact; professional deformation.

P. 138. *Timofeyeva Irina V.* Ural State University of Physical Culture, Yekaterinburg Branch. **DEVELOPMENT OF SOCIAL INTELLIGENCE OF CHILDREN WITH CEREBRAL PALSY AS A MEANS OF LIFE HARDSHIPS OVERCOMING.** Problems of psychosocial rehabilitation of children with orthopaedic disorders have been relevant for a long time, which is proved by numerous studies of domestic and foreign authors. Involving parents and close relatives in the process of psychosocial adaptation is particularly important: family is the basic forming and developing environment for the child. The experiences of one's good or bad health are very important in the context of the overall self-identity, the definition of life line, plan of life, and lifestyle. Health and well-being is possible only in case of an adequate adaptation to the social and natural environment; and the processes of adaptation never stop. The effectiveness of compensation is largely determined by the nature of interpersonal relationships of the disabled with the loved ones. Concern, mutual help, emotional support, understanding, and tolerance are powerful psychological tools to learn the hidden potential that strengthens one's belief in one's strength, restores a positive attitude towards oneself. The key personality traits to overcome crises are stability, optimism and confidence. Viability is more related to the choice of one of the alternatives of human behaviour in a problem situation. For successful realisation of an individual in life and work the most important element is the ability to interact effectively with other people. We concentrated on the study of social intelligence of children with cerebral palsy, on the dependence of the development of social intelligence on the family where the child is brought up, on the role of social intelligence in the life of a disabled child. We studied 306 students of special (correctional) schools of the 6th type for children with orthopaedic disorders in Yekaterinburg, Sverdlovsk region towns. Of these, 90 people had a combined defect, cerebral palsy and mental retardation in the degree of moronity. The social intelligence of children with cerebral palsy was studied using the tests of J. Guilford and M. Sullivan. The results showed that the social intelligence of teenagers is not formed. Only with age, with family joint activities, with the child's reaching personal maturity the harmonization of the structure of social intelligence and the balance of learning skills develop.

**Key words:** social intelligence; cerebral palsy; life hardships.

## BIOLOGY

P. 143. *Boyarskikh Irina G., Shitov Aleksandr V.* Central Siberian Botanical Garden, SB RAS (Novosibirsk), Gorno-Altai State University. **PECULIARITIES OF INTRAPOPULATION VARIABILITY OF FRUIT OF LONICERA CAERULEA L. IN CONNECTION WITH ACTIVE GEOLOGICAL PROCESSES OF GORNY ALTAI.** Peculiarities of intrapopulation variability of fruit of *Lonicera caerulea* L. in a geodynamically active area of Gorny Altai (the watershed of the Djazator River) are revealed. The influence of local factors connected with active tectonics on the mass display of a regressive feature – no bitter taste in the fruit of *L. caerulea*, and the level of variability of its morphological features are registered.

**Key words:** *Lonicera caerulea* L.; tectonic section; fruit variability.

P. 148. *Sukhomlinova Valentina V.* Amur State University, Birobidzhan Branch. **REGULAR PYROGENIC IMPACT INFLUENCE ON FOREST PHYTOCENOSIS STRUCTURE IN THE MIDDLE PRIAMURIE CONIFEROUS-DECIDUOUS ECOTONE.** Ecotone is characterized by a peculiar biodiversity that forms the ecosystem safety margin before external destructive factors. The pyrogenic factor influences the habitat, specific composition and structure of phytocenoses. We divide all biocenosis and phytocenosis structural elements into two categorical units: endocenogenetic and exocenogenetic ones. With relation to functional participation in the phytocenosis dynamics and stability maintenance, its every structural block may be considered to be a biocenotic island, in other words, a relatively independent cenosis with its own food chains, specific compositions, element cycles. The main characteristic of the island is weakening or even absence of biocenotic connections with associations of the same sort. The island concept reflects the function of the given cenosis in relation to bigger, enclosing and similar ones. Islands, just like structural elements, are divided into the same cenogenetic categories. The examples of endocenogenetic islands are stubs and fallen trunks. In any forest biocenosis, its inner environment differs from the external one. But the trunk's biota is under the pressure of the host biocenosis, and it adapts easily to its types. An example of an exocenogenetic island is cenoses of mountain tops, or, otherwise, relief depressions as they have a different composition or proportion than the enclosing biocenosis. The influence of the pyrogenic factor on the phytocenosis structure depends on the prepyrogenic phytocenosis state, various nature factors combination and pyrogenic pressure magnitude. To estimate the pyrogenic factor influence on the coniferous-deciduous structure we mark out the following fire periodicity: annual – 1–2 times a year; very frequent – once per 2–5 years; frequent – once per 6–10 years; infrequent – once per 11–20 years; very infrequent – once per 21–30 years; irregular – once per 31–100 years; episodic – more infrequent than once per 100 years. Such periodisation is based on the ecosystem's potentiality to rehabilitate itself up to its initial state. Originally, ground fires increase the degree of horizontal and vertical ecosystem structuredness due to the deciduous species activity increase. Then the fire impact leads to a decrease and, later, elimination of the endocenogenetic islands and to an increase of the number of the exocenogenetic ones. Very frequent fires may form forest paraclimax with a well-defined vertical structure and an almost complete absence of the horizontal structure. Under the impact of annual fires rapid disafforestation occurs because of trees pyrotraumas. At the same time the degree of the horizontal patchiness increases due to the rhizome grass overgrowth. The increase of fire frequency and the pyrogenic factor duration weakens and, finally, eliminates the endocenogenetic islands. Firstly, the number of exocenogenetic islands increases, then it drops to zero. The reason of it is the consecutive pyrogenic reduction of the phytocenosis biodiversity and ontogenesis conditions unification.

**Key words:** biocenosis structure; ecotone; quasi-boreal forests; biocenotic island; pyrogenic association.

P. 155. *Khodanovich Marina Yu., Krivova Natalya A., Gul Yelizaveta V., Zelenskaya Anna Ye., Bondartseva Natalya S., Mikryukova Anna V.* Tomsk State University. **EFFECT OF LONG-TERM GEOMAGNETIC FIELD DEPRIVATION ON BIOELECTRICAL ACTIVITY OF BRAIN OF LABORATORY RATS.** The Earth's magnetic field plays an important role in the activity of living organisms by affecting the course of physiological processes taking place in the body and, consequently, in the behaviour. The aim of the study was to estimate the effect of long-term deprivation of geomagnetic field on brain's bioelectrical activity and behaviour of laboratory rats. The geomagnetic field deprivation, which was supported at zero during 21 days, is achieved by compensation of the magnetic field of the Earth by the system of Helmholtz coils. Fluctuations of the Earth's magnetic field were taken into account using a computer program that calculates current strength for the real time compensation solenoids. The object of the study was mature male rats (12 control rats and 12 rats of the experimental group). Their behaviour before and after exposing them to the weakened geomagnetic field was assessed by the open field test (the latent period of exit from a central square, horizontal activity, rearing, dipping, emotion, self-grooming). 6 rats of the experimental group and 6 control group rats showed EEG and evoked potentials before and after the experiment using hypodermic needle electrodes. The stimuli were the frequent standard (1000 Hz) and the rare deviant (500 Hz) tones with a probability of 80 and 20% respectively. We assessed the value of the mismatch negativity component, which was calculated as the difference between evoked potentials to deviant and standard stimuli. Significant changes in the behaviour of rats of both the groups in the open field test were not revealed. A significant effect of the investigated factors on the EEG spectrum was observed. The exposition of rats in the hypogeomagnetic environment caused a decrease in power of the theta, alpha, beta and gamma1 bands compared with the control group. The weakening of the geomagnetic field also causes a reduction of the mismatch negativity component in evoked potentials after the experiment for the experimental group of rats. Mismatch negativity is the correlate of automatic detection of any changes by means of auditory sensory system. The results obtained may indicate violations of the bioelectric activity of rat brain during prolonged exposition in the hypogeomagnetic environment, manifested in the sensory load, when changes in the environment occur, at least, in the auditory sensory system. The work was supported by the Federal Goal-Oriented Program "Scientific and Educational Brainpower of Innovative Russia" for 2009–2013.

**Key words:** hypogeomagnetic environment; behaviour; electroencephalogram; evoked potentials; rats.

## SCIENCES ABOUT EARTH

P. 161. *Bernatonis Pavel V., Kopylova Yuliya G., Bernatonis Vilis K., Ryabchikova Ella D., Arkhipov Viktor S.* National Research Tomsk Polytechnic University. **ORGANIC SUBSTANCES IN WATERS OF SAPROPELIC LAKES (TOMSK REGION).** Organic substance samples from the waters of 20 sapropelic lakes, located in Asino, Zyriansk, Tomsk, Kozhevnikovo, Shegarka and Krivosheino regions of Tomsk oblast in the floodplains of the Ob, the Tom, the Chulyum, the Kiya, the Shegarka and the Chet Rivers were studied. Lake waters primarily have alkaline, alkaline and even neutral geochemical environments (pH=6.88–8.46), however, an oxidizing environment with Eh value ranging from +32 to 237 microvolt can also be observed. Only in tuff-like sapropelic overgrown lakes there is a reducing environment (Eh ranging from -43 to -82 mV). High organic substance concentration was determined in sapropelic lake waters, which in its turn, colours the water into the yellow-brownish. The correlation between the organic substance and biogenic elements content and lake water mineralization was determined. The maximum concentration in waters with mineralization ranges from 100 mg/l to 400mg/l, while the minimum one – with mineralization up to 100 mg/l and over 400 mg/l. The following results were established: in waters with mineralization up to 100 mg/l the atmogenic source of chemical elements prevails; when mineralization is of 100–400 mg/l the biogenic source prevails; with mineralization of more than 400mg/l the lithogenic source is prevalent. Water enrichment by organic compounds is the result of high biological lake productivity. Besides aquatic vegetation, another characteristic feature of such lakes is a big amount of plankton, including phytoplankton, such as flagellar and diatomaceous algae, and zooplankton – infusorias, daphnias and cyclops. There is numerous and various microflora in the waters of sapropelic lakes, where the total number of microorganisms includes 0.04–2.6 mln. cells in 1 ml of water. The sapropelic formation behaviour in such lakes is based on the trophic lake conditions. The production processes of organic substances dominate their decomposition in eutrophic lakes, while in dystrophic lakes, conversely, the decay of animal and vegetation remains is prevalent. The dissolved organic substance and total nitrogen content, the (Na+K) to (Ca+Mg) ratio, and the oligotrophy index (the ratio of oligotrophic bacteria to the number of microorganisms growing in the plain agar) show that the investigated lakes belong to the eutrophic type. Thus, such lakes have favourable conditions for the formation of sapropelic accumulations, as this accumulation process of organic substances is prevalent to its decay in these lakes.

**Key words:** lake; sapropelic; organic substances; trophic lake condition; sapropelic accumulation conditions.

P. 165. *Buchko Inna V., Sorokin Andrey A., Ponomarchuk Viktor A., Travin Aleksey V.* Institute of Geology and Nature Management, Far Eastern Branch of RAS (Blagoveshchensk), Amur State University (Blagoveshchensk), Institute of Geology and Mineralogy, SB RAS (Novosibirsk). **GEOCHEMICAL FEATURES, AGE AND GEODYNAMIC ENVIRONMENT OF FORMATION OF THE LATE JURASSIC VEHLRITE-GABBRO IL'DEUS MASSIF OF THE BRYANTA BLOCK (SOUTH-EASTERN RIM OF THE NORTH-ASIAN CRATON).** In the geological structure of the Dzhugdzhur-Stanovoy and Selenga-Stanovoy superterrane in the south-eastern rim of the North-Asian craton, a significant role is played by ultrabasite-basite complexes. The largest massif of the vehlrite-gabbro formation type of the Bryanta block of the Dzhugdzhur-Stanovoy superterrane is the Il'deus massif. For plagioclase of this massif the Late Jurassic age of  $154.7 \pm 3.7$  million years was stated by  $40\text{Ar}/39\text{Ar}$  method on plagioclase. This allows distinguishing the corresponding stage of ultramafite-mafite magmatism within this structure. The formation age of this intrusive coincides with the age of the Vesyolkinsky and Petropavlovsky massifs (154-159 million years) of the Selenga-Stanovoy superterrane that may be the evidence of the common Late Jurassic stage of ultramafite-mafite magmatism along the south-eastern rim of the North-Asian craton. The main geochemical peculiarities of ultrabasite-basites of the Il'deus massifs are the predominance of LREE over HREE; the concentration of large-ion lithophiles of gabbros and their depletion in highly charged Nb, Ta, Hf. It suggests that their formation is associated with the cease of subduction with a subsequent rupture of the subducted plate. In this case the asthenosphere matter entered the formed breach and this resulted in the rise of magmas. Their geochemical characteristics show both the features of the subduction origin and the intraplate sources. The conformity of spectra of REE and minor elements distribution, as well as a regular increase of their contents with a decrease in their basicity, allows assuming that ultrabasites, pyroxenites and gabbros are the differentiates of the single magmatic melts. The geochemical peculiarities of basites are the evidence of their crystallization from magmas with the features of both the subduction and the intraplate origin. In combination with the general geodynamic reconstructions it may be assumed that their formation of the massif may be related to the formation of the "asthenosphere window" as a result of a rupture of the subducted plate.

**Key words:** stratiform masses; geochemistry;  $40\text{Ar}/39\text{Ar}$  method; active continental margin; the Dzhugdzhur-Stanovoy superterrane.

P. 173. *Kalinin Vyacheslav N.* Gazpromneft-Noyabrskneftegazgeofizika OJSC (Noyabrsk). **PROSPECTS OF DEVELOPMENT OF GEOLOGICAL-TECHNOLOGICAL RESEARCHES AND MUD LOGGING IN MODERN CONDITIONS OF DRILLING OF HORIZONTAL OIL AND GAS WELLS.** The role of geological-technological researches (GTR) at drilling oil and gas wells is quite topical at present. Available techniques and mud logging equipment demand essential alterations and development of new approaches in carrying out of researches. Specific solutions, features of drilling modes and applied configuration of the drilling tool complicate researches of cuttings and mud. Hence, it is necessary to consider GTR data very attentively taking into account all features of well drilling. The variants of elimination or reduction of influence of the factors that impact research processes can be divided into three directions: A. Reduction of influence of technical and technological factors. The GTR contractor should be given complete data on equipment, technologies, chemical agents, possible effect of neighbouring wells, timely mud laboratory analyses on their influence on gas logging and geological-geochemical researches. B. Alteration and working out of new techniques of carrying out GTR. The task of creation and adoption of uniform standards on GTR activities, taking into account the features of the region of works, still remains unsolved. This problem concerns not only researches in lateral wells. C. Equipment and software improvement is crucial. GTR software and equipment producers periodically make various attempts to create new products in this sphere. There is a variety of worthy and rather perspective products by domestic and foreign companies. In horizontal bores carrying out of a standard complex of geophysical researches of wells is impossible today; only separate kinds of logging are applied, which cannot give unambiguous answers to all the questions. Still, mud logging is the most perspective direction of researches. There is a necessity of complex GTR and geophysical researches data interpretation accounting for all the features of drilling.

**Key words:** geological-technological researches; mud logging.

P. 177. *Demberel Otgonbayar.* Hovd University (Mongolia). **MODERN GLACIATION OF TSAMBAGARAV MOUNTAIN (MONGOLIAN ALTAI).** In this paper, the author researches the glaciated Tsambagarav Mountain, one of the greatest centers of modern glaciation of the Mongolian Altai. In this study of the glaciated mountain range Tsambagarav, the author takes into consideration certain interpretations of the multichannel satellite photographs "Landsat-7" (August, 2002; 2008). The author studies the topographical maps at a scale of 1:100000 of the years of 1945 and 1975. The photographs processing and the thematic interpretation of the glaciers have been performed using computer programs MICRODEM/Terra Base-II; and the decoding of the glaciers has been carried out using a digital terrain model according to the SRTM. The analysis data of the remote sensing mountain glaciers monitoring of the site of Tsambagarav are presented as an electronic data bank of glaciers comprising a cartographic database, thematic databases in the format DBASE, attribute tables digital layers, directories and classifiers. The thematic interpretation of these images by SPACE computer programs GOOGLE EARTH, MICRODEM/Terra Base-II is able to provide an acceptable accuracy of estimates of the size and morphology of glaciers. As a result of remote sensing monitoring we have defined the area, volume, length, thickness, height of the glaciers and their morphological types – as an exposition of glaciers. In the mountainous range of Tsambagarav there are only 40 glaciers with the total area of 73.18 km<sup>2</sup>, the total volume of 3.03 km<sup>3</sup>, at an average thickness of glaciers of 51.3 m. (2008). The glaciers on the mountain ridge exposures are distributed so that their largest number is observed at the north-eastern and northern slopes (40%). The largest number of glaciers is found on the slopes of the northern and north-eastern exposure. The smallest number of glaciers is registered among the glaciers in the southeast, south and southwest exposures. From the morphological point of view the glaciers are of four types (valleys, cirques, hanging and flat). Of these, the most common type is the hanging and the cirque-valleys glaciers (70% of the total number of the glaciers), the flat tops of the glaciers occupy 36.13% of the total glaciation of the mountainous site. The vertical distribution of the glacier area has its own characteristics in the three mountain ranges. In the first massif, Tsast-ula, the zone of the maximum glaciation area locates within the range of 3500-3750 m (32.86% of the total area of the glaciers), the second massif of Yamat-ula is in the altitude range of 3500-3750 m (74.71% of the total glacier area); and the third massif, Hoh-nuru-ul, is in the altitude range of 3750-4000 m (41.52% of the total glacier area of the mountain site).

**Key words:** glacier; glaciation area; river basin; exposure.

P. 180. *Rychkova Irina V.* Tomsk Polytechnic University. **SEQUENCE-STRATIGRAPHIC SUBDIVISION OF THE UPPER CRETACEOUS – EOCENE OF THE SOUTHEAST OF WESTERN SIBERIA.** Paleontological remains play a significant role in the allocation of sequences of the southeast of Western Siberia. The analysis of microfauna foraminifers from sections of wells in Western Siberia was carried out: composition, structure, form and relationship of sea organisms with the changing environment, their reaction to eustatic changes. The morphological analysis of higher plants, which are found in the wells and outcrops of the extreme southeast of Western Siberia, was also performed. In the Upper Cretaceous section the context of the study area can be divided into three sequences: the Cenomanian-Turonian, Coniacian-Santonian and Campanian-Maastrichtian ones. In the Lower Eocene section there are two sequences: the Selandian-Early Thanetian and Upper Thanetian-Bartonian ones. Tracts of low sea level stands in Western Siberia were formed in the conditions of the sea level decrease, its shallowing. They have depleted foraminifers complexes, spread all over the territory of Western Siberia as quartz-siliceous and lime benthos. The Late Cretaceous floristic complexes are characterized by small leaves and lamina integrity, which is connected with the arid climate in the plains remote from the sea coast. Transgressive tracts were formed with the rapid increase of the sea level. The foraminifers fauna is characterised by its diversity of species and abundance of quantitative composition. The shells are small- and medium-grained, of grey colour. The southeast of the sea palaeobasin is characterised by lime benthos, and the western and central parts are relatively deep, mainly quartz-siliceous. Floristic complexes, connected with the formation of the transgressive tract in the Turonian and Eocene, are characterized by a variety of species composition, large leaves and lamina pinnation. Tracts of high sea level stands were formed in the conditions of a slower marine transgression growth, followed by slow regression. The lower part of the tracts reflects the foraminifers colour. The upper part characterises the regressive phase of the palaeobasin development, associated with the penetration of lime benthos in the central and western parts of the basin, as well as an increase in the content of plankton foraminifers. Thus, the lithologic features of rocks along with the palaeoecology characteristics of the fossil fauna and flora allow allocating sequences in the Upper Cretaceous and the Palaeocene-Eocene sediments of the southeast of Western Siberia, reflecting eustatic changes of the palaeobasin. Sequences reflect the evolution of the basin of sedimentation and explain the behaviour of sedimentary minerals.

**Key words:** stratigraphy; sequence; systems tract.