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SYNOPSIS OF THE JOURNAL

BIOLOGY AND NATURAL SCIENCES

S.P. Evdokimov

Laws and Tendencies in Paleogeography

On the basis of analysis of theoretical basis in physical geography and paleogeography laws have been formulated. These laws take into account the time factors and concern the development of natural geosystems. The analysis of the presented laws will contribute to the progress in theory and practice of research in paleogeography.

V.I. Chasovsky

Influence of Central and Peripheral Development on Changes in the Territorial Structure of Industry in CIS Countries

The problems of interaction between centre and periphery at various levels are studied. The aim was to reveal the factors, causing the change of these stages and corresponding to spatial processes, and to compare the features of the contemporary stage of regional development in industries in the Commonwealth of Independent State's (CIS).

I.J. Baranovsky

Comparative Analysis of Development Level of Social Infrastructure of Smolensk Region and Regions of Central Federal Department

The article is devoted to the development of components of social infrastructure in Smolensk region and other regions of Central Federal Department. Regions are ranged on the basis of the statistical analysis according to indexes of social infrastructure development. The reasons of the present crisis in public service are discovered. The article also considers the problem of conformity between the level of development of social infrastructure in regions and the potential of regional economics and social system.

J.S. Zverkova

Some Aspects of Ecological Condition of the Water Ecosystem of the Dnieper on the Territory of Smolensk Region

The article draws the readers' attention to the results of hydro-chemical analysis of waters and bottom-dwelling sediments in different parts of the river Dnieper on the territory of Smolensk region. The waters and the ground of the Dnieper are polluted by heavy metals (Zn, Cu, Pb, Cd, Ni), which due to both natural and anthropogenic factors. The study of the macrozoobenthos on the same territory revealed that the bottom-dwelling organisms are characterized by low number and insignificant species diversity. This proves the ecosystem to be unstable on the whole.

N.D. Kruglov

Two Systems of Molluscs of Family Gastropoda Pulmonata Lymnaeidae: European and Russian. Where is the Truth?

Peculiarities of shell and copulative system morphology of Lymnaeidae family in Europe and Northern Asia have been studied in detail. The obtained results suggest that all the variety of Lymnaeidae molluscs of this region is grouped into two genera: Lymnaeidae Lamark, 1799 and Aenigmomphiscola Kruglov et Starobogatov, 1981. Argued proof of existence of 13 subgenera in Lymnaea genus is presented. Morpho-physiological hypothesis of development of each subgenera is formulated. Short diagnosis is presented for 2 genera and 13 subgenera taking into account peculiarities of shell and copulative system morphology.

O.A. Starodubtseva

Additions to Fauna Staphylinidae (Coleoptera: Staphylinidae) of Smolensk Region

«Staphylinidae» is a numerous family of bugs. Staphylinidae are the important part of biocenoses due to their variety and numerous number.

On the basis of the research in 1991 – 1996 the list of Staphylinidae of Smolensk region was created, which includes 204 species. In the article the annotated list of 109 kinds of Staphylinidae is given, from which 24 species are new for Smolensk region (they are marked by an asterisk).

The research on the territory of Smolensk region were carried out from May to October 2006 – 2008. Beetles collecting was carried out with use of standard methods in entomological and soil-zoological research. Entomological sieve was used especially widely.

MATHEMATICS AND TECHNOLOGICAL SCIENCES

V.D. Budaev

About the Carleman Condition and Norms Equivalence of Root Functions on Different Intervals

The article deals with an arbitrary ordinary linear differential operator of even order. The root functions are interpreted irrespective to the kind of boundary conditions. In 2002 the author suggested the following hypothesis: if Carleman's condition is not satisfied then norms of root functions on different compacts are not equivalent. This hypothesis has been proved for the second- and forth- order operators. The main result of this paper is the following: if this hypothesis is valid for the simplest operator $Lu = u^{(2m)}$ then it is valid for every even order operator.

E.G. Kiryazkii

About Some Properties of Functions with Positive Real Part of n-th Derivative in a Unit Circle

The article presents a detailed study of the properties of functions of the form $F(z) = z^n + \sum_{k=2}^{\infty} a_{k,n} z^{n+k-1}$ for which $\operatorname{Re}\{F^{(n)}(z)\} > 0$ under any $z \in E = \{z : |z| < 1\}$. The author sets the signs of functions membership to the mentioned form, evaluates coefficients modules of expansion into power series, evaluates modules and real parts of these functions. Besides the author sets the theorem of covering which belongs to an image of E-circle when reflecting this

circle by any function of the mentioned form and finds the radiuses of those circumferences $|z| = r < 1$, which are reflected by the mentioned functions on to the convex and star-shaped closed curves.

V.F. Zaitsev, A.A. Petrushenko
About Exponential Non-Local Operators Specified by Power Series

In this article the authors consider the general class of second-order differential equations $y'' = F(x, y, y')$ and hypothetical exponential non-local operator (ENO) $X = \exp[\int \zeta(x, y, y') dx] \partial_y$ under the assumption that functions F and ζ are representable by derivative y' expansion in Taylor's series:

$$F(x, y, y') = \sum_{k=0}^{\infty} \varphi_k(x, y) (y')^k \quad \text{and} \quad \zeta(x, y, y') = \sum_{k=0}^{\infty} \sigma_k(x, y) (y')^k .$$

On the basis of the stated expansions the regular algorithms are created for finding the solutions of the so called direct and inverse problems in the form of formal series with the indication of evident recurrent formulas. Important particular cases of solving the inverse problem are considered and the corresponding examples are given.

K.M. Rasulov
Three-Element One-Sided Boundary Value Problem with the Shift of Karleman in the Classes of Analytic Functions in a Circle

The article is devoted to working out of constructive algorithms of solving three-element one-sided boundary value problem with the shift of Karleman in the classes of analytic functions in a unit circle when the problem does not degenerate into two-element boundary value problem without the shift.

V.P. Dyakonov
From Microelectronics up to Nanotechnologies

In the article the transition from microelectronics to nanotechnologies is considered. Problems connected with this and some ways of solving them are described. Special attention is paid to the perspectives of nanotechnologies in computer engineering techniques.

V.V. Borisov, D.A. Bystrova
The Model of Informational Interaction and Working out the Decisions in the Management Process of Intricate Socio-Economic Systems

In the article the classification of problems and stages of working out and making decisions is presented as well as the model of informational interaction in working out and making decisions in the management process of intricate socio-economic systems.

A.V. Bystrov, A.U. Kashkanov
Structural Organization and Functioning Algorithms of Distributed Integrated Complex Systems for Object Identification

The article discusses possible development of systems of radar identification of objects using a complex of information sources of different physical nature, modern theories and systems of artificial intellect.

PHILOSOPHY, SOCIOLOGY AND CULTURAL STUDIES

O.N. Starostina
«Forest» Toponyms of Smolensk Region as a Sociocultural Phenomenon

The article defines the role of forest in the archaic system of mass ecological awareness. It reveals the sociocultural status of forest in the traditional system of spiritual values of the Russian ethnos on the basis of notions of forest in toponymical materials of Smolensk region.

A.V. Sergeeva
Consciousness as a Spiritual Factor of Health

This article deals with consciousness in the capacity of spiritual factor of human health. The analysis of spheres in consciousness, marked out by psychologists of the XXth century, and its nature reveals the mechanism of the influence of consciousness on human body. The article singles out the levels of human consciousness and the behavioral strategies which correspond to these levels and determine the quality of human health.

An original model of health is presented, which is based on the principle of consciousness expansion through cognition, contact with the world, acquisition of spirituality. Health is considered as the consequence of individual conscious effort to master the spiritual constituent of being.

PSYCHOLOGY AND PEDAGOGY

I.A. Shamileva
Ecocentric Education of Junior School Students

The ecocentric education is one of the main means to form a new mentality and the way of life characterized by harmonious relations between man and the environment. The ecocentric education is based on the paradigm of «sustainable development» and a new type of ecological mentality, consciousness and world outlook – ecocentrism. Aims and essence of primary ecological education are discussed. At primary school ecological knowledge must be developed on the basis of the main subjects. A new integrative level of the whole system of ecological education is necessary in primary school.

A.V. Zyatkova

The Issues of Creation of Positive Personal Emotional Attitude to the Nature in Younger Teenagers

The problems of the basic directions of modern ecological education of younger teenagers are considered in this article. Specific features of younger teenage age and possible upbringing of positive attitude to nature are demonstrated on the basis of education of their emotional personal attitude. The experimental data on the degree of display of attitude to nature on the basis of emotional-sensual and cognitive components in younger teenagers is given. The article presents pedagogical conditions promoting the creation of positive emotional personal attitude to nature in younger teenagers and providing effective development of moral-ecological values, directed to understanding of non-pragmatic attitude to nature.

A.N. Savenkov

Television and Upbringing: Problems and Perspectives

In this article the author gives his attention to the problem of Mass-Media and their negative effect on young people. The author establishes main reasons of Mass-Media influence on the youth. In this article the author points at the fact that nowadays Mass-Media are «parallel school». At the same time children's interest in studying at school is very low. Using examples from magazines, modern television shows, films for young people the author shows socially negative effect of Mass-Media. The author pays attention to the fact that this «effect» is controlled neither by the state nor society. In conclusion the author gives the ways of solving this important problem.

A.V. Dyundin

The Issue of Information Recoding in the Process of Education

The article is devoted to the issues of building the system of tasks, which takes into account individual peculiarities of the cognitive activity of people in the process of education.

V.P. Guba, A.V. Rodin, G.A. Moiseenkov, N.N. Bogdanov

Valueologic Bases of the «Passport of Health» as an Individual Health Preservation Technology in the System of Higher Pedagogical Education

The article is devoted to experimental validation of valueologic bases of «the passport of health» as an individual health preservation technology in the system of higher pedagogical education. Introduction of individual cards («passport of health») provides positive dynamics of parameters of functional and physical readiness of the learning youth.

O.S. Morozov

Pedagogical Culture of Family and Important Issues of Health, Education and Successful Socialization

Competent solution of problems in the development, the sanitation, the formation of contemporary society depends to a great degree on pedagogical culture of families and are at the same time the indicators such culture. The contemporary state of the issues of health, education, culture require innovation approaches for successful socialization of students, in

which pedagogical experience, intellect and especially the moral position of the parent (nonacceptance of pressure on the personality of child) are important.

The material, proposed in the article, presents the significant theoretical and practical interest, it can be used by specialists in pedagogy, psychology, education.

I.J. Makarova, E.V. Semakova

Social and System Factors in the Development and Prevention of Attention-Deficit Hyperactivity Disorder Syndrome

The article presents the results of our own research, which was held in nine regions and areas of Russian Federation (2002 – 2006) – Andreapol, Kaluga, Kemerovo, Safonovo, Sergiev Possat, Smolensk, Cherepovets, Yakutsk, Yaroslavl) by physicians (interviewers) using a standard questionnaire. In randomly selected kindergartens and primary schools the parents were asked to complete a special development questionnaire, which was later entered into a standard computer database. In towns with the population less than 1,000,000 100 families were interrogated, in cities with population more than 1,000,000 – 200 families. Participation in the study was anonymous and voluntary. 1615 families participated in the survey. The presence of attention-deficit hyperactivity disorder (ADHA), the social and the systemic family factors taking part in the mechanisms of ADHD were researched and estimated. The report established the significance of the social and the system family factors in initiating and developing the disorder, studied their structure and estimated the contribution of the social-psychological environment.

Our results allow developing the possibility to produce medico-psychological model of prevention of attention-deficit hyperactivity disorder on the first, second, third levels.

D.A. Demyanova

To the Problem of Conscientious Attitude to Health Formation in the Students Society

The article offers an investigation of the main factors of healthy life-style for the formation of a complete image of the students' health on this basis and for finding out the dynamics of the attitude to health in the process of growing up in the students' society. Methodology include the following: tests of physical, mental, social health by G.S. Nikiforov, the questionnaire «The investigation of healthy life-style conception» by O.S. Vasilyeva, E.V. Zhuravleva, the technique «The investigation of personality with the use of the modified form B of the inquirer FPI» by A.A. Krylov. The article includes the analysis of the obtained data and the conclusions as to how students perceive health and responsibility for it.

T.V. Timoshkova

Stress and its Influence on Psychological State of Health of Students

The article deals with the issues of the emergence and the development of the term «stress», nature of phenomenon «mental stress» and the valuation of the importance of the role of positive emotions of the highest intellectual order in stressful situations. The results of psychological investigation of the stress influence on the psychical and psychological level of the health of students are described here with the help of tests «Emotional stability», «Threat of depression» and questionnaires «Signs of stressful intention by Sheffer» and «The level of anxiety», offered by G.S. Nikiforov.

M.V. Romanova

Internet and its Role in Modern Society: Psychological Aspects

Internet is a space inhabited by people and it is impossible to imagine it without people as it was created by them and for them.

The subject of experimental and theoretical research is motives of staying online. There were 2 stages in the research. At the first stage we learnt what attracts people in the World Wide Web, and at the second stage – the role of the Internet communication in users' lives. The author established the statistics of the main ways of communication, determined the aim of communication, discovered the category of people who are most frequently communicated by other Internet users with and ascertained the main problems connected with active usage of the computer. The problem of communication through the Internet is really important nowadays.

T.A. Sidorchuk, S.V. Fedosova

The Influence of Psychological Types of Medical Personnel on the Quality of Medical Aid in Diabetes Mellitus Schools

New diagnostic and treatment technologies, increasing requirements to qualified aid by Nursing – all these factors urgently require a higher level of education at Nurses' Department and higher psychological, pedagogic competence and personal qualities of Head Nurses.

Medical professionals educate patients with diabetes mellitus (DM) to self control of their condition in close co-operation with a district doctor (GP); this may act as vital element to improve diabetic management strategies. Inadequate psychological and pedagogical training for nurses, inability to organize professional relationship – all these factors influence the quality of ancillary personnel training in diabetes mellitus Schools.

S.J. Devyatykh

Modern Views of Psychosexual Development and Criteria of its Social Success

Psychosexual development is a complex, multidimensional, and phase process of the formation of sexual self-consciousness, the system of sexual reaction and achieving by a person a faculty for partnerships in accordance with sexual norms in society.

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