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A. A. Tolstova*

Saint Petersburg State University, Saint Petersburg, Russia

THE ENVIRONMENT AS AN OBJECT OF PROBLEMATISATION IN DESIGN: TYPOLOGICAL AND GOAL-ORIENTED ASPECTS

The research of environmental design object with the help of categorial-systemic methodology has made it possible to develop a theoretical model and to construct a system of goals and contradictions for its components. The obtained result will allow the researchers to create a base for specification of the algorithm for application of the problematisation method in design engineering.

Keywords: environmental design, categorial-systemic methodology, sequence order of goals, environmental system components, goals and contradictions

UDC 72.01 A. V. Korotich*

Urals federal university named after first President of Russia B. N. Eltsin, Ekaterinburg, Russia

HYDRO-TECHNICAL INDUSTRIAL CONSTRUCTIONS AS AN OBJECTS OF THE MODERN DESIGN

The article outlines some topical aspects of the development of the industry of modern industrial hydraulic structures, identifies the main promising directions for their solution. The main author's form-making concepts of design modeling of aesthetically expressive and technically effective most important hydraulic engineering industrial objects — cooling towers, water towers and barrage dams — are presented. Shown are the author's resulting design solutions for these objects, the technical efficiency of which led to their patentability. Keywords: design, industrial structure, aesthetic expressiveness, cooling tower, water tower, dam, technical efficiency, thin-walled shell, pipe, surface, mesh, structural rigidity, air flow

UDC 37.02 (075.8) N. G. Yakunichev*, S. P. Khelmyanov, A. A. Kiseliyov

Saint Petersburg Stieglitz State Academy of Art and Design, Saint Petersburg, Russia

ON THE SIMILARITY BETWEEN THE ORGANIZATIONAL DEVELOPMENT OF THE OBJECT CULTURE AND DESIGN

The article discusses the idea of common mechanisms between organizational development in culture and design. The stages of structural changes of the object and art culture correspond to the stages of changes inherent to the organizational goals in development of personality — «adaptation — individualization — integration». The article proves the reasonableness to conduct such structural analogies being the basic mechanisms of cultural evolution. The work makes a parallel between the stages of organizational development in design and design teaching. Keywords: object culture, structural organization, design, method.

UDC 74 V. A. Poplevina*

Derzhavin Tambov State University, Tambov, Russia

THE PHENOMENON OF DESIGN DESIGN CREATIVITY AS A MEANS OF OF SHAPING THE CULTURAL ENVIRONMENT

This article explores the phenomenon of design creativity as a means of forming a cultural environment. The components of design creativity are distinguished. The structure of creative activity is outlined. It is proved that design project creativity is based on the form of independent activity of an individual and the

platform of its activity. Keywords: design creativity, structure of creativity, social and cultural environment, individual, society

UDC 004.925.5

A. E. Kheifits¹, M. A. Yuzhakov^{2*}, V. E. Yanchus¹ ¹ Peter the Great St. Petersburg Polytechnic University, Saint Petersburg, Russia ² Saint Petersburg State University of Industrial Technologies and Design, Saint Petersburg, Russia

METHODS FOR STUDYING INFOGRAPHICS INFLUENCE ON IMMERSIVE PROPERTIES OF THE INTELLECTUAL INTERFACE OF A SYMBIOTIC SIMULATOR

The article reveals the conceptual, historical roots of the symbolism and infographics. The authors believe that the possibilities of using infographics in intelligent interfaces to display dynamic information about a managed object have not been sufficiently studied. The authors consider it necessary to test the developed interfaces for the effectiveness of the task of managing a remote object. Keywords: infographics, symbology, immersive environments, intelligent interface, experimental research

UDC 7.03 M. V. Mukhina*, E. S. Bagryanskaya, Zh. V. Chaikina, E. P. Gureeva

Minin Nizhny Novgorod State Pedagogical University, Nizhny Novgorod, Russia

ACQUISITION OF CREATIVE COMPOSITION WRITING BY THE METHOD OF POINTILLISM

This article describes an algorithm for acquiring the skills of creating a creative composition using the pointillism method. The analysis of the famous reproduction of Paul Signac «Santa Maria della Salute», which served as a prototype for the creation of the author's composition — still life. Keywords: continuity, art, Paul Signac, manner of writing, pointillism, artist's style, author's composition

UDC 72.04 N. G. Druzhinkina*

Saint-Petersburg State University of Industrial Technologies and Design, Saint Petersburg, Russia

ART OBJECTS AS PLASTIC SYMBOLIC DOMINANTS IN THE DECOR OF MODERN INTERIORS AND EXTERIORS

This article discusses the principles of design, plastic modeling of art objects, the symbolic purpose of art objects as the dominant module of the spatial environment of exteriors and interiors. Compositional patterns of the subject-spatial environment are revealed by the examples of the works of leading architects, artists, sculptors, designers. The author studies the history of the issue and modern approaches, types of art objects, including small architectural forms, which contribute to the creation of an urban eco-environment. Keywords: art object, architecture, small architectural forms, design, sculpture

UDC 75.02+667 Yu. A. Boyko*, E. P. Dragunova

MIREA — Russian Technological University, Moscow, Russia

APPROACHES TO ACHIEVING COLOR REALISM IN ACADEMIC PAINTING

The article is devoted to the study of pictorial techniques that allow achieving realism when depicting the surrounding world by master's students of the direction «Technology of artistic processing of materials». The paper considers the importance of practical mastery of pictorial skills when students comprehend and solve image problems in the technique of realism. The authors draw attention to the need to develop a h

olistic view of the tasks of academic painting and emphasize the expediency of studying and analyzing in detail the techniques of the old masters. In painting, the feeling of reality is influenced by the ratio of the color perception of the surrounding reality with the color relations on the canvas. The authors analyzed the techniques of academic painting and systematized the ways to achieve color realism in academic painting. Keywords: academic painting, realism, color, color perception, color perception, art paint, technique of painting

UDC 7.02 V. L. Zhukov, L. T. Zhukova, E. N. Tugolukova*

Saint-Petersburg State University of Industrial Technologies and Design, Saint Petersburg, Russia

COGNITIVE MAP AND NEUROLINGUISTIC PROGRAMMING OF MODERN INTERIORS IN THE SYMBOLISM OF ECLECTICISM OF LOCALLY STABLE STRUCTURES OF PASTEL IMAGES OF E. MUNCH

Cognitive (mental) maps are tools or tools for cognitive modeling that can be used to describe various events, as well as to represent the entities, properties and relationships between the VKIDS and the LUS, which determine the subject area of objects in the cluster of pastel technologies in solving the problems of organizing the living space of a person. This work shows the result of interdisciplinary research on the creation of images of VKIDS, as well as the desire to highlight possible heuristic consequences in the context of cognitive sciences, building a presentation of the symbolism of E. Munch's work in the semiotic logic of design theory. Keywords: cognitive mental maps, design, pastels, system, structure, culture, plastic arts, symbolism, interior, E. Munch

UDC 666.1.01 I. P. Kozitsyn, L. T. Zhukova*

Saint-Petersburg State University of Industrial Technologies and Design, Saint Petersburg, Russia

THE MAIN PROBLEMS AND SOLUTIONS THAT ARISE WHEN CREATING FLAT TEXTURED AND CORRUGATED GLASSES

The article is devoted to the main problems associated with the molding and decoration of flat glass by the method of molling. Keywords: molling, flat glass, relief, texture

UDC 66.09 N. I. Sverdlova, L. E. Vinogradova*, L. M. Shtyagina, V. A. Hohlova

Saint-Petersburg State University of Industrial Technologies and Design, Saint Petersburg, Russia

MODIFICATION OF VISCOSE FIBERS BY NATURAL COMPLEXES OF BIOLOGICALLY ACTIVE COMPOSITION

The biochemical modification of viscose fibers was carried out for the purpose of targeted preparation of textile materials with fundamentally new technical and consumer properties corresponding to the quality, requirements and aesthetic tastes of the modern consumer. The selected poly-enzyme compositions differed in the level of activity and content of endoglucanases, glucanases, cellobiases, carboxymethylcellulases, avicelases, xylanases, which ensure the implementation of bioprocess regimes for maximum preservation of fiber-forming components in textile production. The peculiarities of changing the properties of viscose fiber after treatment with poly-enzyme compositions are studied: the equilibrium moisture content, the ability to absorb moisture, capillarity, the volume of micro- and mesopores. The modified viscose fiber is processed into a mixed yarn characterized by increased capillarity. Keywords: viscose fiber, enzyme compositions, capillarity *

UDC 687.174, 687.175 I. I. Shalmina, A. A. Starovoitova*

Omsk State Technical University, Omsk, Russia

FEATURES OF DESIGNING DISPOSABLE CLOTHING FOR FEMALE DRIVERS

Special disposable clothing is in great demand among representatives of various professions in the modern world. These professions are associated with industrial pollution, mechanical or chemical influences. Such clothing is a means of individual protection and ensures hygienic cleanliness and sterility in the provision of medical and cosmetic services, in the food industry. Its main advantage is its low cost, no costs for washing and disinfection, since after short-

term use it is disposed of. The possibility of using disposable clothing for female drivers in the process of preventive maintenance of a personal car is considered in the article. Special attention is paid to the study of materials used for the manufacture of disposable workwear. The results of ergonomic studies are presented. It is revealed that the main movements during preventive maintenance of the machine consist of hand movements forward and upward, body bends and squats. The dynamic effect on the problem areas of the body is determined. The obtained research results are reflected in the recommendations for the design of disposable clothing for female drivers. Keywords: disposable clothing, materials, dynamic effect, female drivers, ergonomics of clothing design, designing disposable clothing

UDC 535.6.07 E. M. Bashenina, M. M. Chernykh*, A. A. Zagoruiko

Kalashnikov Izhevsk State Technical University, Izhevsk, Russia

MATERIAL SELECTION OF THE SCREEN OF INTERACTIVE DEVICE IN THE FIELD OF COLORISTICS

The article examines various materials that scatter light, and the method of expert assessments selects a rational material for built-in screen of device to study the addition and subtraction of color and light dispersion. Keywords: coloristics, scattering power, scattering capability, built-in screen, expert assessment method

UDC 75.023 V. L. Zhukov, L. T. Zhukova, E. N. Tugolukova*

Saint-Petersburg State University of Industrial Technologies and Design, Saint Petersburg, Russia

CLUSTER OF DESIGN OBJECTS WITH PHENOMENOLOGICAL FEATURES OF VARIOUS TYPES OF AGGREGATE STATES OF PASTELS IN THE METADISCIPLINARY SYSTEM «CHEMISTRY — MATERIALS SCIENCE — DESIGN»

This work is devoted to the study of the development and improvement of the subject area of design objects from the standpoint of chemical and materials science structuralization of the modern scientific picture of the world on the basis of axioms that systematically determine the aggregate state of matter in interaction with artulometry, which create the effect of strengthening and harmonizing creative processes in design when organizing a person's living space with a dominant emphasis on pastel technologies. Keywords: design theory, chemistry, materials science, phase transitions, system, attractor, pastel, aggregate state, technology, pigment, solution, airbrushing, bifurcation

UDC 730 O. Yu. Yurieva*

Saint-Petersburg State University of Industrial Technologies and Design, Saint Petersburg, Russia

THE INFLUENCE OF MONUMENTAL SCULPTURE OF THE LATE 19th — MID. 20th CENTURIES ON THE FORMATION OF THE URBAN ENVIRONMENT. PROBLEMS OF

MODERN SYNTHESIS OF ARTS IN THE ORGANIZATION OF THE SPATIAL ENVIRONMENT AND THEIR SOLUTION

The analysis of the historical role of prototypes of monuments and their significance in world culture is carried out. The study of compositional and stylistic requirements for their solution is carried out. Monumental monuments dedicated to the great Russian poet A. S. Pushkin are considered. Their functions in the formation of the urban environment, their emotional impact on the patriotic feelings of society are identified and listed. Examples of phased production and installation of monuments to the poet in the period from 1870 to 1960, requirements for the quality of materials from which they are performed and to the places of their installation are considered. The problem of global reduction, creation and installation of monumental monuments in our time is revealed. Keywords: monumental sculpture, monuments to A. S. Pushkin, art, heritage

UDC 687.01, 7.05 A. P. Neoronova*, O. V. Kovaleva

Russian State University A. N. Kosygin (Technology. Design. Art), Moscow, Russia

RETROSPECTIVE ANALYSIS OF THE FOLK RUSSIAN COSTUME

The work investigates the folk costume of various regions of Russia and analyzes the stylistic characteristics of the costume, reflecting the specifics of the region. The method of retrospective analysis of the historical costume has been developed. Collections of historical costumes from different time periods have been developed. Keywords: folk costume, retrospective, design, art, style, historical reconstruction

UDC 539.434: 677.494 S. V. Kiselev, A. A. Kozlov, L. V. Titova, N. V. Pereborova*

Saint Petersburg State University of Industrial Technologies and Design, Saint Petersburg, Russia

METHODS FOR MODELING THE ELASTIC PROPERTIES OF POLYESTER TWISTED THREADS

The article studies the issues of modeling the elastic properties of polyester twisted yarns. Reducing the degree of twist of the threads within the permissible limits affects the reduction in time spent on the technological process of production and brings economic benefits. Keywords: mathematical modeling, polyester threads, elastic properties, deformation, degree of twist

UDC 539.434:677.494 A. V. Demidov, A. G. Makarov*, N. S. Klimova, A. M. Litvinov

Saint-Petersburg State University of Industrial Technologies and Design, Saint Petersburg, Russia

DEVELOPMENT OF METHODS FOR FORECASTING FORECASTING DEFORMATION PROCESSES OF POLYMER TEXTILE MATERIALS

Among the various deformation characteristics of polymer materials, an important place is occupied by the relaxation modulus and compliance with their asymptotic values and relaxation and delay times. Mathematical modeling of these characteristics based on the data of a short-term experiment makes it possible to predict deformation processes of any complexity. The accuracy of such forecasting significantly depends on the choice of a mathematical model, due to which the problem of choosing the most optimal model from among the proposed ones is urgent. Keywords: mathematical modeling, polymer textile materials, deformation properties, relaxation processes, optimization