Cumulus Working Papers

Ekaterinburg

30/13

A? **Aalto University
School of Arts, Design
and Architecture**

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OPENING WORD Sergey S. Gavrilovich

Greeting from the Sverdlovsk Regional Government

Today the Ural State Academy of Architecture and Arts together with CUMULUS, the International Association of Universities and Colleges of Art, Design and Media, are holding the international conference **"Design, Business and the Society. Dimensions of Interaction"**. On behalf of the Ministry of Industry and Science of Sverdlovsk region I would like to greet the organizers of the conference: CUMULUS, the Ural State Academy of Architecture and Arts and its rector Sergey P. Postnikov, and the Russian Association of Designers and all participants of the conference on this occasion.

It is very pleasant that such authoritative international forum is taking place in Sverdlovsk region. This event is a recognition of the achievements of Ural educational institutions and researchers in the area of interaction between business, manufacturing and education.

Design is one of the key factors of economic growth for companies along with such factors as accessible loans, stability, national currency, and high consumer purchasing power. Developments and growing scales of business entail increasing competition in all sectors. Today 50% of the growing companies define the role of design in their business as "appreciable". Struggle for the buyer is unfolding just in the area of design – more convenient, more attractive and more reliable products for the consumer.

Business is interested in design as a commercial tool for managing marketing strategies and sales, which requires higher professionalism and better quality of services provided by design consultancies. The system of design education is to change as well. Graduates should be fairly well trained in economics and marketing. Professional managers should know design economics and design management.

Higher schools in Sverdlovsk region understand this and direct increasing attention to this area. Design studies and design thinking are present in the programmes delivered by the Ural State Academy of Architecture and Arts, the leading higher school training professionals for the innovative and industrial complex of the Urals and Sverdlovsk. In this connection, I would like to thank the Academy for organizing and holding the international forum of industrial design at INNOPROM' 2012, the Ural forum of industry and innovation.

Today the special and unique identity of each company and each enterprise is formed through the perception of graphics, colours, forms and other attributes of design by the consumer.

Are companies using design effectively as a key factor in competition and growth?

How could design be made the driver of business education?

How could Russia be integrated into the European system of vocational secondary and higher education?

I hope the conference will provide answers to these questions.

I wish you all successful and productive work, interesting discussions, illuminating ideas, and good luck.

Sergey S. Gavrilovich
Department of Science and Innovations,
Ministry of Industry and
Science of Sverdlovsk Region,
Ekaterinburg, Russia

OPENING WORD Kirsi Popova

From the Embassy of Finland in Moscow

Ladies and Gentlemen,

I would like to sincerely greet all of you in Ekaterinburg at this three-day "Cumulus" conference.

I am pleased to represent the Embassy of Finland at this event, which takes place twice a year gathering a considerable number of experts and professionals from art, design and media from universities and higher schools from around the world. Last spring, the city of Helsinki, the world capital of design, was honoured to host a "Cumulus" conference. It was held at the Aalto University School of Arts, Design and Architecture, paying tribute to the spirit of the year *World Design Capital 2012*, as well as to the spirit to its individual theme *Open Helsinki – Embedding Design in Life*.

During this year, hundreds of various projects have been implemented, demonstrating vividly how by means of design the Finnish capital could be transformed into a more comfortable, functional and well-organised city, in which the growing number of its citizens would like to collectively improve their habitat. Today here in Ekaterinburg we build on this theme, discussing the characteristics of the dialogue between design, business and society.

The theme of Capital of Design attracted the attention of the Embassy of Finland in Moscow as well. Within the framework of the design event *Newly Drawn* organised in March in collaboration with "Project Baltia", the Moscow public was able to meet young Finnish architects. In May, during the Moscow Architectural Biennale the public had an opportunity to admire the Finnish section designed by Tuomas Toivonen for the *Nordic ID* exhibition.

However, the biggest event was the *Finnish Design Days* held at Strelka Institute in Moscow. The event was co-ordinated by the Finnish design company "Martela", where front-line professionals acquainted visitors with contemporary Finnish design, ranging from ergonomic workplace designs to school environments taking into account stimulation of the learning process. Finnish design is really popular in Russia – the event was attended by more than a thousand people despite rainy autumn weather.

Finnish design has long-established traditions which provide a firm basis for work today as well. Finnish design has been enjoying world-wide acclaim for decades now. The conclusive classic of Finnish architecture and design is Alvar Aalto, whose name continues living in the name of the ambitious innovative university. We, Finns, are, of course, very pleased that Aalto University School of Arts, Design and Architecture will continue acting as co-ordinator of Cumulus conferences till 2016, and Eija Salmi, the School's head of international relations, will be acting as Secretary General. The professor of industrial design Raimo Nikkanen, whose presentation you'll hear later today has been active in Cumulus since its foundation in 1990.

The decision to hold the Cumulus conference in Ekaterinburg was not accidental – this year the capital of Sverdlovsk region is the Russian Design Capital. The Sverdlovsk regional branch of the Union of Designers together with the Ural State Academy of Architecture and Arts do important work maintaining local design traditions and training young talented architects and designers. The Embassy has been increasingly more active in cultural cooperation with Russian regions, and the city of Ekaterinburg has for several years been one of the most important partners in this area.

I would like to thank sincerely the organizers of this event and all those who have contributed to the holding of this conference in Ekaterinburg. I wish all of you a very interesting and fruitful conference!

Kirsi Popova Attaché
The Embassy of Finland in Moscow

Design Management vs Scientific Management

Corporate competitiveness dots the economic landscape. Politicians and economists are perpetually setting up ministries, commissions, and committees to deal with "economic recovery plans." All this is a futile attempt to pull Western countries out of a never-ending series of crises and to get back on track with industrial growth models. Which makes me wonder, how farfetched is it, really, to sit down with all concerned parties and talk about "manual labor?" Could it be an answer, albeit a modest one? Could it be a modest remedy to the very slippery slope down which Western businesses are sliding?

Students spend an enormous amount time drawing, working with paper, cardboard, and other materials as well as devoting energy to cerebral nourishment bred

Christian Guellerin. Courtesy Christian Guellerin
© Jean-Charles Queffelec

from "playing" with Legos or Meccano which enable them, eventually, to design models or even their own rooms. With this immersion, is it therefore, surprising that when they're in college, kids devote significantly less time to this type of "intellectual" activity?

It seems that the mere idea of "working with one's hands" may have been a pointless and degrading exercise. In France, for instance, leading engineering schools no longer produce engineers; their graduates opt to take positions on the floors of stock exchanges, from London to Frankfurt. Life in the factory has become unappealing, observed the head of Schneider recently. How surprised should we really be at this turn of events?

Since the Industrial Revolution, scientific management consistently drew a clear divide between the intellectual work entrusted to the "elites" and manual labor allotted to the working classes. In the late 19th century Frederick Taylor created his very own model of scientific management, fueled by the necessity to draw a clear distinction between the side that thinks, models, sets down the procedures, and dictates the rules of "work well done" and a growing number of less qualified workers whose sole purpose was to apply the rules and not their minds. In response to this segregated and mechanized system, design arose from the shadows to restore a bit of humanity to this warped sense of mind and body divivision.

But this approach of an enlightened, qualified, and competent workforce quickly came to a screeching halt, extinguishing any glimmer of cerebral activity or any notion connecting the thought process with the hand. The end result was a skill-thirsty workforce. To fully grasp the belief that "using one's head" was a waste, take a look at Charlie Chaplin's struggles in *Modern Times*. He's a victim of his own society. He gets "sucked into and spit out" by the very same machine that his automated gestures nourish day-in and day-out. Or look at Roger Vailland's *325,000 francs*. His hero, Busard, has his arm mercilessly crushed by the plastic toy machinery he operates every day on the assembly line; yet an-

other testament to human collateral damage induced by the perils of automation.

Scientific management does have an economic upside: lower pay for less qualified workers.

But this comes with a hefty price tag. Emerging countries have caught on to the trend as they're giving the competition a run for its money with even lower salaries, defying the rules for healthy competition, and eliminating human value altogether.

In the end, businesses no longer have skilled workers at their disposal. Those who reflect the very essence of creation and innovation, bridge theory (strategy) and practice (implementation) on industry's front lines are absent. And so I must ask, how much longer before we wake up to the reality that industry in the western world is shooting itself in the foot?

Recent research done on quality by these same businesses may be on to something with regard to solving this dilemma. Putting procedures in place, with the obligation of applying them, lowers the chances of those applying them of having to think. More to the point, these systems also inhibit business's creative ability. In the eyes of quality fanatics, creating and innovating are ultimately synonymous with breach of corporate purpose and interest.

The "productive recovery plan" for industry in the West may just come about by "taking matters into our own hands." This means re-training teams and instilling in them the notion of responsibility and recognition, and breathing new life into the age-old value of compatibility between the mind and our ability to build, design, assemble, put up and take down. This would mean investing in the power and talent of one to design something from nothing. It would mean revealing the multiple facets of innovation and the meaning(s) innovation communicates; this is precisely why business needs designers. Designers don't just think. They do!

To merge "thinking" with "doing," the Compagnons French Trade Guild teaches us that "the hand is the mind." No "Design-thinking" conference has ever devel-

oped an activity or business, nor has it generated the slightest added value. Only those who take "matters into their own hands" move things forward.

Designers are catalysts. They set in motion the ideas generated during "design thinking" sessions or other creativity-oriented conferences.

If I were a politician in charge of industrial development, I would do what I could to bring the technology and manual labor classes out of the closet in schools. I'd freshen them up and call the courses "Design and Innovation." I would shine a long-overdue spotlight on those devoted to the matter and its transmission.

I'd ask that design schools take ownership of finding ways to accommodate both the "having done" and "doing," keys to an efficient and effective partnership, and an industrial reawakening of our territories and of our resources.

So what do you say? Isn't it time that we had a heart to heart, head to head discussion about "manual labor?"

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OPENING WORD David Balkwill

Industry and Education and Designers

Look how beautiful Sputnik was – an inspiration for designers everywhere.

I bring you greetings from Nantes, right over on the far West of France. I think I'm the delegate who has travelled furthest to come to this conference. Everything feels very different, here's a photo of the trams in Marseille for example.

The official title of the conference is **Design, Business and Society: Dimensions of Interaction**. In addition to the title, there is this quotation that has set the scene for what I want to talk about. "Many topics are there also still to be explored as well as how in this context the partnership of business, industry and design education can be seen positively through Ural for the whole Russia."

So since yesterday I've been listening to your rich and interesting talks on different subjects, looking at many new things in the buildings and streets around me, tasting some new food, (lovely borscht), and thinking about what Russia is going to do with her future, and how education and design will play a part.

We need to be clear about the aims of the people involved

Industry wants to make profit
Education wants to share knowledge
Designers want to change the World
But none of us can get anywhere without working together

We also need to consider the people we are working for and with: end users, with their capacity to select the products that fit their needs and aspirations, government and other institutions, setting the limits and framework within we have to work, and finally the Cumulus network, opening doors to rich partnerships in other countries.

Firstly, **Industry**

Wants to use design for commercial success
Wants to develop new markets and products
Wants to be profitable
May have limited resources
Many levels of understanding and maturity

Then, **Education**

Design education is now well established
Many different models (more on Nantes later)
All work on how the designer can make surprising changes
Most don't prepare the designer for the real world because they don't work in teams with all the other actors (I am working on a project for a new school where all the professions involved in making new products would work together)

Finally, **Designers**

Curious
Trained to think differently
Often have egos!
Don't like to be told what to do
Capable of making a major difference

We are all aware of how much variety there is in the depth of understanding of the design professions within industry. At the Ecole de design in Nantes, we have a structured approach in order to adapt our communication, and to build relationships with many different companies. Our diagram shows a pyramid, with a wide lower level of companies who do not currently work with designers. We aim to inform and educate at this level, through exhibitions, the media, visits and mail

drops and invitations to our assessment of projects. We work through the network of our partners at the Chamber of Commerce. At the second level, we work with companies that have decided to use designers but don't know how. Here we propose to organise one project with our students before giving information and training to help them work with professionals. Then at the level of companies who make regular use of the design professions, we build prospective projects with our students, manage design competitions, and work together on a regular basis for our project assessments. Finally, with "Expert" companies, we offer a wide ranging technical watch service, participate in collaborative workshops, and invite the design managers to preside over our diploma juries.

Our school has two parallel structures. One "classic" route leading to a Masters Degree after five years, and our unique and innovative route through an apprenticeship scheme leading to a BTS diploma after two years, then a Licence Professionnelle after one extra year, and then a Masters after two further years.

This approach to teaching led to the creation of the Centre de Formation d'Apprentis in 2006. The CFA is unique in France and is managed by the Ecole de design. We train Product and Space designers. We have joint programs with several other schools in the fields of Design, Materials and Modelling, timber construction, and cabinet making for contemporary furniture. We work as a small administrative team together with visiting lecturers in all the subjects involved in each program.

The apprentices are employed by a company, with a salary established as a percentage of the French minimum wage depending on their age and other qualifications. They also have the same rights to paid vacations as all workers in France. Their time is shared between three weeks at the company and three weeks the school through the whole of the course. They work for 35 hours per week both in the company and in classes at school in addition to the homework they have in all subjects,

so this is a dense and demanding educative system, but we observe a very quick growth of maturity and professional ability with the apprentices.

The CFA currently has 170 apprentices, with the majority in the West of France around Nantes, but with a second group in the Paris area, and others spread as far as the Belgian border and the Mediterranean coast. Our course leaders visit each apprentice twice each year, and in addition we run training courses and days for their managers.

I will be happy to provide any more information to anyone who is interested.

Thank you.

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P.S. A personal message to Russian designers.

I believe you have incredible potential to build your own place in this competitive world.

Russia will work as a "Brand" in foreign markets

We love many things from your **history**

You can **build new products that celebrate** some of them

You can take them to **London** and **Paris** and **Milan** and **New York** and **Sydney** and **Tokyo** and **Beijing…**

So don't forget the Samovar, the Ural motorbike, your Russian dolls or the Yak aircraft

And of course don't forget Sputnik

OPENING WORD Marjo Mäenpää

Industrial Projects and Societal Impact in Education

Societal Impact – the 3rd task of universities

After education and research, the societal impact is the core duty of the Finnish universities. The societal impact is also part of the Finnish University Act that is differently operated in other countries, universities in Finland are govermental. Aalto University has highlighted societal impact as one of the core areas that guide all activities. Nurturing societal interaction and impact requires the support and involvement of the university community as a whole and the active student body in fact often initiates social debate.

From the viewpoint of working culture it is obvious that understanding and knowledge in a research network is created only if the members of the team are willing to collaborate and share knowledge. Collaboration and sharing take place in a network that requires openness, mutual trust, willingness and commitment to share. A network identifies for each community of practice. The overall atmosphere of courage and a certain level of informality are seen as enablers of knowledge creation as well creative interdisciplinary collaboration.

The different cultures of practice create both barriers and opportunities to mutual sharing of knowledge. Therefore the projects that aim to increase societal impact are very closely linked to the questions of managing creative multidisciplinary processes and education of experts for creative industries.

In this article I'm presenting recent cases in building a study programs and research projects for future managers of creative economy.

For example **The City Innovations** was a joint project of Aalto University and different public and private stakeholders. The operating model was a common program of the cities in the Helsinki Metropolitan Area and the State (Ministry of Environment, Ministry of Transport and Communications and Ministry of Employment and the Economy). The aim was to find and study new sustainable innovations for city environment.

The university's in-depth, explorative expertise and commitment to long-term cooperation promote favorable development of existing companies and provide op-
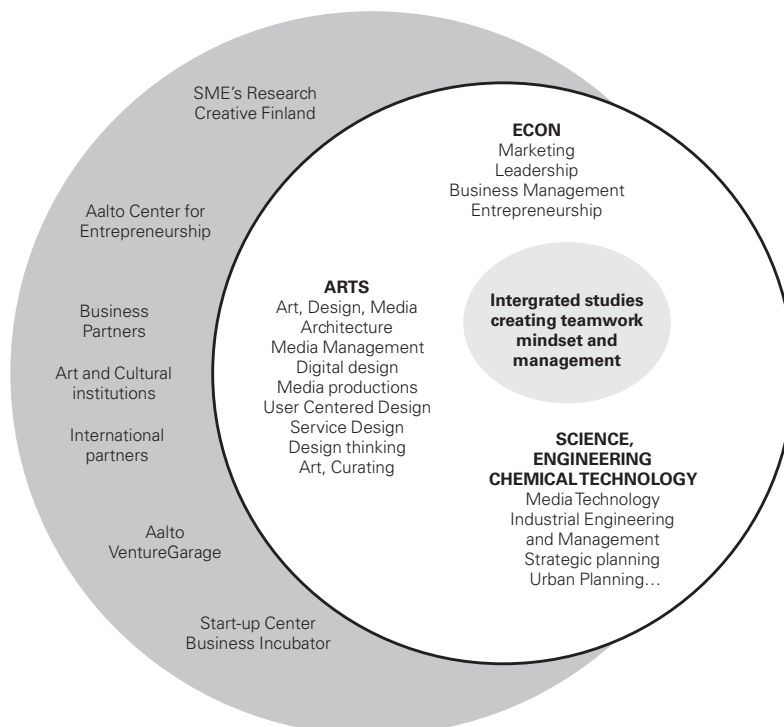
Societal impact grows from collaborative projects and studies in Aalto University and with industrial and societal partners

portunities for the creation of new businesses. In return, a close collaboration with businesses enriches the operations of the university. The expertise generated by an internationally competitive university also attracts foreign investors, serving to diversify domestic business life.

Educating the Creative Class

Human beings and actors in creative economy and cultural industry are in key role. The machines and apparatus are more often immaterial or even hidden into the memory and experience of the employee. The organizational and productive features of machines are moved to the human body.

The one and only human creature is at the same time a machine with all the knowledge of work done and a build and well invested apparatus.

People are the living force who uses that machine and creates value and property. The maintaining of this human creature is complex. Creative agent needs to be more efficient, docile, in better physical condition, multitalented, healthier and more innovative. There is necessity to produce better knowledge and processes in shorter time. How do we educate these people?

In the background of education of "creative class" is the idea that the models and patterns of creative processes are used to improve product and services of any kind of industry. Creative processes and design will bring added value for industry. The economic added value and surplus comes from new business models and innovative processes.

In "Digital Capitalism" and immaterial value, creation means that the surplus in business comes more often from immaterial and creative, innovative productions. For example service design, digital platforms and social media call for use of multiple channels, cross media – connections to all classical media. The relationship between consumer and producer is more often like between public and publisher, prosumers, co-creators etc.

Methods in work and study in the field of creative industry arise out of will to collaborate – despite the many cultural, economic, geographic, and in many case technological obstacles. Management studies for designers stress the importance of collaboration. Design work urges different kind of communities, like motivation and innovation communities.

Social welfare for freelancers and handicraft workers as well as artists and designers is not at the same level as for majority of labor in Finland. There is a growing need to teach management skills, marketing and other business oriented skills along side of the designers profession and skills. The management studies are usually integrated into the design education. The outcomes of the management studies are the understanding also of questions of social welfare of creative class. Social welfare for creative class needs incubator investments and corporate social welfare.

Design students often present new innovations and business ideas in their final thesis or while doing various project work during their studies. Aalto University helps the students develop their innovations into the business model in incubators and start up models.

Business Incubator Aalto Start-Up Center has a three-phase process

Pre-incubator services Pre-incubator is for people who have an idea for business and want to become an entrepreneur.
Incubator services Incubator is for young companies in creative art and technology sector with growth potential.
Post-incubator services Post-incubator is for companies which have gone the incubator process.

MIND (Managing industry-changing innovations) is a national venture that builds a prototype of a world-class innovation mechanism around the core of Aalto University. MIND brings together the 'movers and shakers' of the public and private sector with researchers and students to generate strategic innovations – industry changing innovations.

Interdisciplinary methods feed creativity

What do interdisciplinary groups need to become innovative? A shared intent and joint learning help research and study group to bring up their creative potential The most difficult task in most cases might be to find common culture for work and study. No matter how creative and innovative the teams and groups are if the organizations leading their work don't give opportunities for flexible and self-reliant work.

Interdisciplinary programs may fail if they are not given sufficient autonomy. If the traditional discipline makes the tenure decisions, new interdisciplinary faculty will be hesitant to commit themselves fully to interdisciplinary work.

MIND as an innovation process

0. Inputs	1. New Value Decoder	2. New Value Prototype	3. Value capturing prototype	4. Value Capturing & Value Protection
	MINDstep	Experimentation	Design of experiments	Scaling up the value offering

TANGIBLES

1.1. REVEALING
Demand & supply fundamentals, bottlenecks, restrictions, assumptions with "lenses" from various disciplines

Design Factory, Demola, Protomo

Pilot Factories (e.g. RDnet, KCL)

Value Suppliers

INTANGIBLES

INPUTS FROM
Academics
Students
Firms
Society

1.2. CHALLENGING
The fundamentals innovatively in cross-disciplinary sessions

Service & Media Factories, Demola, Protomo

Living Labs (e.g. Active Life Village)

Value Suppliers

ORGANIZATIONALS

1.1. PROPOSING
Innovative concept of new customer value containing industry-changing potential

Mgmt Innovation Lab, Demola Protomo

Real life testing organizations

Value Suppliers

New value offering

MINDustry start ups

In our faculty in the School of Arts, Design and Architecture in Aalto University, for example the matters of methods, language and meaning have to go through a translation process to be understood and used in the common interdisciplinary field.

Lets take for example in a project with Turku School of Economics – how different is the word 'value' and it's meaning to designers, art students and economists. In a design process value comes form ecological, esthetical, ergonomic and accessibility factors. Economical matters are exchange value or trade-in value.

Master's degree program **Creative Business Management CBM** was a joint 120 credits MA-program, coordinated by Aalto University Department of Art and Design in Pori city in Western Finland and Turku School of Economics in Pori 2009–2013.

In the CBM program students from different disciplines studied and worked together in two years time. The idea of CBM program came from the fact that business innovations are born in between the different branches of industry and knowledge.

The CBM program brought together students from different fields to study in multidisciplinary teams that increases understanding of management in creative productions and processes, the role of marketing and leadership, role of immaterial productions, strategic planning in cultural institutions etc. The pedagogy was based on integrating teaching and research, problem-based learning, blended learning and strong connection to partners from cultural and art institutions and business partners from the field of creative industry with the various partners from Creative Finland network, Small Business Center from Aalto University, Art University, city of Pori and other public and private cultural institutions and companies.

The objectives of the CBM program were to get an understanding of multidisciplinary learning platforms in management, leadership and strategic planning as well as Creative processes in media and art productions, creative leadership in various kind of SME's. Students graduated with degrees of Master of Arts or Master of Economics. Their job opportunities were at Managers

in creative industry like media industry, game indus-
try, cultural industry – entrepreneurs, creative leaders.
   The multidisciplinary curricula included topics like:
• Creative leadership and philosophies on leader-
ship and creativity
• Alternative, sustainable and hybrid economical
models and practices
• Management of immaterial production
• Building concepts around the arts and design
• Arts & business, corporate communication
• Funding and sponsorship in the cultural field
• Arts, business & corporate co-operation
• Cultural entrepreneurship
• Business models for creative industries

The lessons learned from CBM program were many. Ba-
sis of multidisciplinary education for Creative Indus-
tries: There are needs for education that could focus
on disciplines like:
• managing innovative media process and projects
• managing fuzzy, creative, agile projects
• knowledge management
• managing immaterial productions
• managing immaterial recourses & rights
• master and lead creativity

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Architecture during 2006–2012.

Keynote Speakers

KEYNOTE Sergey P. Postnikov

A Creative Breakthrough

Towards the 45th Anniversary of the Ural State Academy of Architecture and Arts

The Ural State Academy of Architecture and Arts (US-AAA) is highly pleased to host a CUMULUS conference in Ekaterinburg, Russia, and to welcome colleagues from other countries. This is a significant event for both the city and the school as it is an indication that Russian schools of art and design are getting integrated into the international educational community. We are grateful to the President, Secretariat and all of the association for making it happen. And this is a good opportunity to introduce our school to the international audience.

In 2012 the Ural school of architecture, art and design celebrates a number of events related to its history. In 1947, the Ural Polytechnical Institute set up a department of architecture, the first in the region, led by professor K.T. Babykin, an already well-known architect at that time. In 1967, the Department provided a basis for setting up a Ural branch of the Moscow Architectural Institute, which was transformed in 1972 into an independent higher school, Sverdlovsk Architectural Institute. Its first rector was professor N.A. Alferov, corresponding member of the Russia Academy of Arts. In 1995, Sverdlovsk Architectural Institute was given the status of academy.

Today the Ural State Academy of Architecture and Arts is one of the leading higher schools in architecture, art and design, enjoying firm reputation in Russia and internationally. The Academy trains architects, planners, designers, artists, manages and IT professionals. To date, years USAAA has produced around 15,000 professionals, many of whom work as lead architects in

regional capital cities of the Russian Federation and as lead designers in major Russian and international companies and design consultancies. A number of our graduates have been awarded state awards, decorations, and national academic and honorary titles.

The Ural State Academy of Architecture and Arts is Russia's largest higher school in the areas of architecture, art and design, the only one in the Ural Federal District. It has around three thousand undergraduate, post-graduate and doctoral students. Every year, USAAA enrolls 480 new students. Teaching and research activities are performed by 380 qualified staff, including 65 Doctors of Science and Full Professors, and 120 Candidates of Science (equivalent to PhD) and senior lecturers, 4 members of state academies, one People's Artist, 100 members of the national unions of architects, designers, artists, 15 awarded the titles of Honoured Architect, Honoured Artist, Honoured Scientist or Honoured Worker of Culture.

USAAA has five divisions: Architecture, Design, Part-Time Studies, Professional Training and Development, Pre-Admission Training; Institute of Urban Studies, Institute of Fine Arts, and Institute of Design and Applied Arts in Khanty-Mansyisk (Academy's branch). The Academy awards doctoral degrees through its academic dissertation boards. Professional Training and Development provides express degree courses, as well as professional development and retraining courses for professionals with higher, unfinished higher and secondary vocational education.

The educational process is oriented towards international trends and advances in education. USAAA was the first higher school in the country to switch to the multilevel system (Bachelor, Master and doctoral degrees). The Academy's course programmes won awards in the project "Innovative Russia's Best Programs" (2011).

USAAA has a Museum of Ural History of Architecture and Industrial Technology, a contemporary sports centre, 2 student dormitories, and 28,000 sq.m. of teaching space.

The Academy has its own publishing unit, which publishes a quarterly academic e-journal "Architecton" included into the list of leading reviewed journals of the Russian National Degree Attestation Committee, and the student newspaper "Archipelago".

In 2009, the Government of the Russian Federation and the Sverdlovsk regional government issued a joint decree authorizing the establishment of a Ural Design Development Centre based at the USAAA. It is Russia's first public regional centre aimed at promoting an innovative economy, enhancing competitiveness on the domestic and international markets, and creating a harmonious environment in the cities and towns of Russia for improving the quality of life by design means.

The Academy is involved in real-life projects such as development of master plans for cities and towns, designs for residential and public buildings, interiors and exteriors, landscaping, and heritage conservation and expert evaluation.

Undergraduates and postgraduate students of the Academy regularly win prizes in international and national shows of graduate degree projects and architecture, design, and art competitions.

The Academy is proud of its alumni, among which there 3 Academicians and 8 Corresponding Members of various State Academies of Sciences, Chief Architects of such cities as Ekaterinburg, Kiev, Odessa, Sochi, Novosibirsk, Perm, Chelyabinsk, Norilsk, Khanty-Mansiysk, etc.

The staff of the Academy includes winners of awards in such high-profile competitions as "Diamonds-International Award", "Palme d'Or" at the Cannes Film Festival, and national competition for the best textbook on architecture, international festival "Architecture" in Russia, and international festival "Master's Hand", etc.

USAAA is getting internationalized academically. Collaboration agreements have been concluded with a number of schools in European countries and in China. Close contacts are maintained with such automobile companies as "Nissan", "Peugeot", "Volkswagen".

In 2012, USAAA won the award of "Top 100 Higher Schools of Russia" competition.

In 2012, the Russian Higher School of Economics carried out a survey "Quality of Enrolled Students in Russia in 2012", in which the Ural State Academy of Architecture and Arts ranked 33rd in the country (among 491 state higher schools) and first in Sverdlovsk region.

Among the recent major projects completed by the Academy are a contribution to the Strategic Plan and the Master Plan for Ekaterinburg till 2025; a landscaping project for the new housing development "Academic"; a general layout for the new campus of the Ural Federal University; district plans for Kurgan and Sverdlovsk regions; conceptual designs for the "Volkswagen'2030" project; first prize in the international competition "The Future Skyscraper" (Chicago), etc.

The team of the Academy is optimistic about its future. A lot has been achieved, but a lot more needs to be done to further improve the educational process, research and design work, infrastructure, and innovation in all its activities.

This is where we are expecting contributions from the participants of this international conference.

Once again I would like to thank CUMULUS for choosing Ekaterinburg and our school as a venue for this conference.

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KEYNOTE Maxim M. Kryukov

Over One Hundred Years of Art in the Urals

Department of Design, the Ivan Shadr Art School in Ekaterinburg

This year, the Ivan Shadr Art School in Ekaterinburg celebrates its one hundred and tenth anniversary. It was as far back as in 1887 that the idea of an art school of this kind was first envisaged, emerging from the shadows of the landmark Ural-Siberian Science and Technology Exhibition which was held in that year. Working together, local industrialists and civil servants managed to establish Sunday painting and drawing classes at Ekaterinburg's Industrial College. That newly created centre of education contributed greatly to the development of the arts in the Urals. Today the Ekaterinburg School of Arts is named after the sculptor, Ivan Shadr, one of its well known graduates, and it offers professional training in a whole range of disciplines, building upon the academic painting traditions of the Russian school of realistic art. For more than half a century, the Ivan Shadr Art School has been preserving and developing this great Russian artistic tradition.

With the passage of time, several new departments have been added to the School's core art courses of painting and sculpture including such new disciplines as animation, painting restoration, and theatre stage and scenery design (the latter was launched in 1960 and will celebrate its first graduate students in 2014.)

Since the 1960s, the program and the teaching methods have, unsurprisingly, changed, absorbing the impact of modern art and market trends whilst developing the artistic sensibilities in various artistic fields among would-be specialists.

Today, the Department of Design of the Ivan Shadr Art School pursues two main artistic directions: graphic design and environmental design; both lasting three years and ten months. In addition to basic science and humanities, students study pencil drawing, painting, theory of colours, anatomy, history of fine arts, as well as fonts, graphics, basic art design, engineering design graphics and page layout, and modern computer technologies.

The students refine their skills during the pre-graduation placement with various businesses in Ekaterinburg. Second year students gain open-air practical work experience at the School's own training base in Chusovoye, near Ekaterinburg.

Third year students visit churches and museums and art galleries in St. Petersburg to study masterpieces in painting and architecture at the Hermitage, the Russian Museum, at Pavlovsk, Tsarskoye Selo, Saint Isaac's Cathedral, Kazan Cathedral, Church of Our Savior on the Blood, and other architectural and cultural heritage.

Year one is devoted to the development of basic skills in composition and stylized graphic thinking. Second year students focus on page layout and do projects which develop their sense of stylistic unity. Third year students are expected to do projects which are true to life and reflect as much as possible the nature of the topics chosen. Fourth year students prepare their final diploma work, which is often commissioned by business for use in the real world. Currently, the school is strengthening its relationships with businesses in order to give students an opportunity to get in touch with customers directly so that they could understand what is needed to find a good job, and to develop motivation and responsibility. The school has developed strong ties with regional museums. Last year, the students and staff established links with the regional film archive and took part in a competition for the best social poster, which provoked great interest among the public. Students at the Department of Design regularly take part in city art events and competitions and educational projects.

Encouraged by the city's administration, they develop design projects to decorate administration rooms and offices.

Each year, students become better acquainted with the mysteries of graphic software, essential not only for their studies but also for getting a good job. Teachers are active on behalf of their students, organizing master classes, visits to exhibitions, and to biennials.

Despite the fact that many of our students pursue professional careers as soon as they graduate, our principal mission, as we see it, is to prepare our students for university. Our graduates have no difficulty in coping with the basic university courses (composition, colors, graphic software, etc.) and are able to successfully rapidly progress not just technically but also creatively.

Our school is always open to creative cooperation; it has large potential thanks to its excellent teachers but above all to its students, young, gifted and ambitious people setting out on their creative and professional careers, confident and ready to assert themselves.

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KEYNOTE Tim Moscovitch

Design and the Creative Economy

'The creative economy in OECD (Organisation for Economic Cooperation & Development) countries grew at an annual rate that was more than twice that of the service industries and more than four times manufacturing. Estimates are that the creative economy is growing annually at 5% per annum and is likely to triple in size globally by 2020' [1]

Whilst the world has seen the impact of the recession everywhere the above quotation still has relevance today and it is remarkable how an increasing number of countries are pursuing or adopting national strategies which embrace the creative industries generally and/or Design specifically.

Russia is now beginning to address this issue which is one of the reasons we are all here at this conference and whilst there is not as yet a National Policy in this country, St.Petersburg has taken the initiative of developing its own regional creative industries strategy. [2] Hopefully our debate and discussion during the conference will move these issues forward and identify some realistic ideas and proposals for the development of the creative economy in Russia.

If I can begin by just pointing out that it was some of the smaller countries of the world such as the UK, Singapore, Hong Kong, South Korea & Finland who quickly realised that because of their limitations in size and manufacturing output had to explore other capabilities in order to maintain and develop their economy.

All of these countries identified their own knowledge based activities which made an intense use of creativity to add value to intellectual assets.[3]

The Design community worldwide is well placed to use creativity to add value to intellectual assets and this is clearly evident across all of its disciplines. The rapidly changing world that we inhabit now expects ever increasing choice, more and more frequently and at attractive prices at all market levels.

Many Design consultancies in Europe and North America are not just literally providing aesthetic and profitable design solutions but they are also providing business advice and services concerned with strategic

decision making. Interestingly Tom Peters the American business guru has said that '**D** Schools are the new **B** Schools' (Design Schools are the new **B**usiness Schools).

Bearing in mind that the Creative industries include not just Design but also music, publishing, film & new media the impact on global national economies is quite remarkable:

- In Europe the creative economy is growing 12% faster than the overall economy and employs about 5 million people
- In the USA despite no formal National Creative industries policy the creative industries contributes over 11% of GDP to the economy
- In Canada the contribution is 7.4% to GDP
- In South Korea the contribution is 6.4% to GDP
- In the UK the contribution is 7% to GDP
- In Russia even without a creative industry policy the contribution is 5% to GDP.

In South East Asia Singapore & Hong Kong have very well developed Creative Industries policies and they are both competing with each other to become the creative hub of this part of the world. China has recently spent 862 million dollars on a Creative Industries park in the North East City of Dalian and only this year the Chinese Government has just produced its Cultural Development plan for 2012.

So how did this all happen and where did it all begin? Well the term 'Creative Industries ' was coined by the then Culture Secretary of the British Government at the time Chris Smith. Well before this however there were numerous Govt white papers during Margaret Thatcher's time based upon Innovation, Competition & Profitability. Also two key publications occurred in 1998 & 2001: Creative Mapping documents profiling the state of the Creative Industries in the UK.[4]. As a result of all of these activities the UK Design Council was dramatically transformed so that it occupied a more central role in the future of the UK economy.

Subsequently numerous countries used the UK as a benchmark for developing their own creative industries strategies but it is interesting to note that the USA has resisted this approach because it clearly has its own in built approach to nurturing innovation & creativity when its own creative industries makes such a large contribution to their national GDP.

So returning to Design what examples are there of the direct impact of Design to the bottom line of prof-

itability within successful companies?

In the UK there is an organisation called the Design Business Association [5] and each year they have Design Effectiveness Awards where success is based solely upon the financial impact of Design.

In the Product Design Awards last year 2011 Dulux a huge UK paint company won an award for the design of its new Dulux Perfect Accessories range of products. The key factors were:

- In the UK 50 pence of every £1 on paint is for Dulux paints
- Given the huge DIY market in the UK it made sense for Dulux to enter this market
- The Design Consultancy Webb de Vlam held 'Discovery' sessions with DIY users plus ethnographic observation plus discussions with professionals
- A range of Dulux brushes/rollers/trays were designed which included a paint tin opener integrated into the brush handle plus a triangular brush for easier painting
- The results were a 5% share of a £160 million market (£8 million). Annual sales since 2009 have increased by 36.49% and distribution has more than doubled

In complete contrast Elmwood Design Consultancy won a Packaging award for the redesign of the Anchor brand of butter.

The key factors were:
- The volume of sales increased by 39%
- After 30 years as the UK's favourite butter it slipped to 3rd place
- Anchor butter sales were declining at a rate of 6.4% per annum
- The new branding Design generated sales in excess of 9.2% in the first year
- Within 12 weeks the volume of sales increased by 39%
- Anchor subsequently regained its top spot as the UK's best selling butter and it is now a £98 million brand rather than the previous £87 million brand

Both of these examples are clear indications of the power of Design and its impact on profitability and completion.

In addition to these DBA award winners listed below are a few examples of other successful UK Design led companies which have 'added value to intellectual assets' through the intensive use of creativity in their businesses:

- Dyson company (vacuum cleaners) founded in 1992; Sales 2011 £1 billion; Profit 2006 £115 million; Employees 3,100
- Designers Guild (furnishing textiles) founded in 1970; Sales 2011 £50 million; Profit 2011 £4 million; Employees 2,500

- Mamas & Papas (nursery products) founded in 2003; Sales 2011 £91 million; Profit over £1 million; Employees 3,400
- Burberrys founded in 1856; Sales 2011 £3.5 billion; Profit £206 million; Employees 6,700; 500 stores in 50 countries
- Paul Smith (Fashion); Sales 2011 £196 million; Profit £34 million; 347 stores worldwide (250 stores in Japan

The companies I've just mentioned are just a small sample from one country, the UK, but it is interesting to note the common denominators which these businesses share as shown in the 'Winning Report'. The UK Govt Department of Trade & Industry published the Winning Report [6] a number of years ago and it is now used as a benchmark for companies worldwide to identify the key success factors in profitable companies. There are 5 key features:

1. Is your business led by visionary enthusiastic champions of change?
2. Does your business unlock the true potential of its people?
3. Does your business fully understand the current and future needs of its customers?
4. Do you deliver products & services that exceed your customer expectations?
5. Are you constantly innovating by introducing new differentiated products & services?

Conclusion

Clearly the Creative Industries are going to become a more and more important component of the national economies of the world. But my question is… given the rapidly changing market place and the insatiable appetite from the consumer wanting newer products on a regular basis, with innovative characteristics, does our existing Design education system satisfy this requirement… or is it still rooted in the Bauhaus system of 90 years ago… and/or is it too influenced by Fine Art practice?

Globally the worlds Design Schools in Universities are predominantly driven by the Bauhaus approach to creativity, underpinned by a strong Fine Art tradition. Only a relatively small number of Design Schools have acknowledged this changing consumer market and adopted a more radical approach to Design Education, despite many companies throughout the world using Design methodologies which have progressed a long way beyond the original Bauhaus principles.

Interestingly there is a growing number of Schools & Faculties throughout the world which have rebranded themselves using Creative Industries in their title and quite a few of these have adopted a more enlight-

ened approach to creative problem solving within business, but very few have made radical changes to their Design Education approach.

The Cox Report [7] commissioned by the last Socialist Prime Minister George Brown reviewed the role of Design & Design Education and its relationship with Business. The key finding after looking at innovative models in the USA, SE Asia and Europe was that the multidisciplinary approach at Master's level was the most appropriate and of course in reality this is how successful companies operate.

The three key areas of multidisciplinarity were Design, Engineering & Business with graduates being accepted onto the multidisciplinary Masters from each of these individual disciplines. During the programme they would each learn more about each other's disciplines and then during the course they would work as part of a team to generate design solutions. The range of awards were from MA to MSc to MBA.

At undergraduate level there are far fewer Design Schools addressing the issues of a user-centred and/or co-designing methodology. Both of these have now been used in industry in the West for the last 30–40 years. Companies such as Proctor & Gamble, Muji and most Automotive companies use these techniques as do many successful Design consultancies such as IDEO and Elmwood.

All of these businesses place the consumer and user in a far more central pro-active role rather than the passive recipient of design solutions created by designers who assume or speculate what the user/consumer requirements are.

The range of techniques used are from the Social Sciences domain of ethnography and psychology. In the UK we now have a Design & Emotion Society incorporating researchers from all over the world together with an Academic Journal called Co-Design.

So finally in the context of our conference 'Design Business & Society' there are a lot of innovative and thought provoking developments that have occurred globally during the last two decades which clearly impact upon Russia and its cultural traditions and also its national economy such as:

- The nature and economic role of the Creative Industries regionally in the Urals as well as nationally?
- The relationship of Design to Business, Engineering and manufacture in Russia?

- The new developments in Design methodology in the West have been predicated by an increasingly demanding consumer driven society… how does Russia relate to this?
- If new and essential components of Design methodology are introduced into the Design curricula in Russia such as user-centred design and co-designing methods then what happens to the role of pure Fine Art?

All of these are huge issues that cannot be answered instantly but undoubtedly during the conference we will be able to explore and discuss these aspects which hopefully will provide valuable food for thought in developing the Creative industries in Russia and give us all the opportunity to consider what our contribution can be to this great nation.

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Reports

Victor A. Bragin

The Distinguishing Features of the Industrial Designer Training Methodology at the Department of Industrial Design, Ural State Academy of Architecture and Arts

Methodologically, the Department of Industrial Design views design as:
- firstly, a creative design activity as a phased, methodologically streamlined process,
- secondly, design activity outputs, i.e. design project materials,
- thirdly, design products or goods oriented towards consumer and ready for sale on the global (national) market.

The above three components of design are interdependent and interrelated. This vision of design is key to our design education methodology.

Our specialized industrial design courses (Industrial Design, Product Design or 3D Design) are universal in terms of content and form. Any 3D object in a residential, public or industrial environment can become an object of design. The environmental approach to design is fundamental. The Department's specialization, formulated as "design of industrial equipment and transport vehicles" requires fundamental engineering training of would-be industrial designers. So, the curriculum includes a whole range of engineering disciplines.

The final output of design is considered to be a product that requires corresponding information, graphic and advertising support.

Design Project as a discipline provided by the Department of Industrial Design spans the entire field of design education diagonally, consolidating profes-

sional theoretical knowledge and craftsmanship into a competence based on design thinking and intuition.

Object-oriented and systems-approach based design methodologies are regarded to be the different sides of the same coin. When practicing designers from the Ural branch of VNIITE were transferred to the Department of Industrial Design at USAAA, they contributed a design methodology based on a systems approach. Whenever possible, we use every opportunity to get involved in strategic and innovative design projects. The examples are our participation in SAMSUNG 2005 Global Design Project and development of concept cars for Volkswagen AG in 2012.

The educational theories of 'total design' are doubtful. Fortunately, it is impossible to train an industrial designer with the help of IT, automation and outsourcing. This applies, first of all, to the most important component of design education, namely art.

In some countries, this problem has been unimaginatively addressed, by awarding three types of degree to graduates: MSc (Master of Science) and MD (Master of Design) in industrial design for design consultancies, where MSc is a graduate trained to do research in design, while MD is a graduate having more intimate knowledge of industrial technologies. These professionals are not supposed to create added value; they normally work in a team with an MA (Master of Art) who creates end products (not always tangible).

In the UK, for example, design schools typically have a strong infrastructure, ensuring close contacts between universities and manufacturing companies.

Regrettably, the USAAA's school of design is isolated from the domestic (global) industries due to the lack of relevant management of this issue. As a result, the school has nobody to deal with relationships between the educational process and manufacturing industries.

About a decade ago, some universities abroad launched degree courses in design management. Thus, for example, the University of Huddersfield in the UK offers degree course in International Fashion Management and International Design Marketing and Communication. A number of other UK universities offer an MA Design Management course, which makes it unnecessary for professionals to earn two degrees, MBA and MA in design, as evidenced by international educational practice.

The T-shaped model of a professional is now a standard in the British design education. Owing to close collaboration with the University of Huddersfield School of Art, Design and Architecture, this model has been implemented in the Bachelor and Master Degree courses at the Department of Industrial Design at USAAA in the recent five years.

Year 1 and 2 Master's degree students at the Product Design Studio of the Department are trained using all the variety of teaching and learning techniques, including lectures (very brief), seminars, group sessions, and tutorials. Special emphasis is made on tutorials as a specific type of personal training of top class industrial designers.

It should be noted that the most successful design schools are the "old" ones with art orientation, for example, the British RCA and Saint-Martin's, or the Italian Domus Academy. New curricula should be developed at the "old" schools with preservation of cultural traditions (as the most valuable component) and engagement of relevant professionals from "advanced" technological universities.

Currently, our Department uses the educational standards developed at Stroganov School of Art in Moscow. It is impossible to train modern-day industrial designers on their basis; however, nothing stops from interpreting them in a way we need it. I doubt that "correct" pre- and post-graduate standards will lead to total success in domestic design education.

At the Department of Industrial Design, we adhere to the axiom that "the main thing in design is 'how to do' rather than 'what to do'!"

Successful schools should be involved in the development of promising Bachelor and Master degree standards, as well as "favourites" and Moscow educational institutions.

Many Russian schools of design (private ones in particular) suggest a single-sided (whereas the coin is always two-sided) approach to identifying new competencies in design education for MSc and MD. If obtaining a Master's degree is to be regarded as doing one more higher education course, these degree courses may enroll holders of a Bachelor's degree in areas both related and non-related to design. In this case, these may prove to be different (variously directed) vectors of education.

For doing a higher MA/Master of Art (Product Design) degree course, one would need to have already obtained a Bachelor's degree. In this context, the Master's level would be a continuation of the BA level, respecting its modules and credits structure and competences. The vector of education would general and invariably T-shaped.

In terms of continuing education in industrial design, it is essential to set up professional development centres consolidated into a uniform network. Professional development of designers in arts may only be based on the cultural basis of the "old" design schools because this valuable cultural background cannot be created overnight from scratch.

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Academic Education as a Basis for Training Graphic Designers

Graphic design is a relatively young discipline. There have been two main schools of design: the Russian "Vkhutemas" and the German "Bauhaus". Design schools throughout the world base their training and courses on one or other of these schools. In the 20th century propaedeutics was considered the basis of design: this involved elementary courses to teach a student to see the simple in the complicated, to deconstruct complex forms into basic elements. However, the march of science has changed everything, and modern design has been superseded by postmodern design, in which computer technology is the driver, opening up a new cultural epoch. The computer can take the place of human beings in some fields, but not in design. To date, we have still not been able to invent a computer with that uniquely human gift: imagination. Nonetheless the computer helps the designer in many ways to do his/her work and to do it faster, creating new opportunities for the user. However, there are also disadvantages to using a computer. Today anybody who has mastered graphic software packages can claim to be a designer and may even delude themselves that they can compete with professional designers; this is not the case. The market is saturated with low quality would-be professionals producing sub-standard products.

The main reason for this is that many of today's designers do not have an academic education, which means they are lacking the proper academic background in art, literature, and the Classics, which is a pre-requisite if a designer is to leave a lasting impact on his era.

Design is not just about communicating information; it is a way of presenting things and can have a far reaching impact on people and environments. A designer, intentionally or unintentionally, endows the environment he/she has created with his/her own individual philosophy. The choice of design/objects reflects his/her cultural values and art. In the process of designing a specific and planned environment, the designer not only meets the demands of his/her client, but is also expressing his/her way of thinking, and emotional state. Paradoxically, the same customer who thinks of design as an infinite number of ornamental elements, "creative" steps and complex forms, wants to be intimately involved in the whole design project and tries to become, if not the author, then the co-author of the projects. The non-academic designer indulges this, filling his/her projects with the unnecessary and ornamental elements which have no function or sense. This non-academic designer is ignorant of the concept that "anything is useless unless it is analogous to something beyond itself". The customer pays for the design and gets a collection of fashionable clichés and ready-made algorithms. This is the best a designer can do who simply mastered a graphic software package but knows nothing of the values and meaning of his/her own culture. Hence the relevance of the principle "the form follows the function", the form being not static but changing with society. Nowadays, design is becoming ever more functional. Part of the reason for this is that we have left the Stone Age far behind and want to be surrounded by nice and useful things. Design is now a contemporary practical art form which has long ago proved to be necessary for the society and become a part of culture.

On the one hand, contemporary education is directed towards innovation, feasibility, and unification; on the other hand it follows a certain cultural tradition which it maintains and develops. Each science is based on profound knowledge, created long ago and kept up to date. Design is based on the traditions of painting and architecture. Holding to these traditions, design becomes a strong separate development which is able not only to create a specific environment, but also to analyze a whole previous culture, even change existing culture, create a new world, a technologic, functional, and practical world. In receiving an education in art, the designer does not lose his/her freedom in terms of creativity and imagination, and does not start thinking in classical clichés. On the contrary, art education is a strong basis for his/her whole future career. Traditional arts such as painting and architecture do not compromise the capacity for self-renovation within a given culture However, in order to bring this self-renovation to the environment in which we live, it is important for a new generation of designers to absorb the knowledge of their predecessors. The graphic which is concise in style and form, as well as in colour, the development of the aesthetics and creativity – all these, put together,

can have a profoundly creative impact on a person, and help him to become more flexible and original in his/her thinking. The designer may work in a mass production line or develop exclusive up-market products. In any case, he/she produces creative concepts using his/her integrated knowledge of colours and their influence on the humans, of the combination of the linear and tonal compositions, of the structure and materials, of the technical and ergonomic details. If a person does not rely on the knowledge of his/her predecessors, does not use their experience and achievements, then he/she is wasting his/her potential on problems which have become theorems and do not need more specific proofs.

Professional education, in its turn, contributes to the formation of the designer as an all-round specialist who is able to accumulate knowledge and use it efficiently in higher education. This stage of professional education helps the designer to adapt to new conditions in a top educational institute, without the constant repetition of information and skills. And what is most important, in the course of this higher education it is possible to look around and make the right choice about further study. The traditional academic school which has learning as its primary purpose produces the specialist who has not only mastered the hand-made graphics, but has also learnt academic traditions which he/she can then apply to contemporary design.

Today, design is evolving as a discipline with its own history, theory, and methodology. Since it is a relatively new discipline, design is still rooted in the traditions of painting and architecture and can be considered as part of these traditions. In the future, these connections will either strengthen, or not, and if not then it is possible to see design moving towards marketing in order to serve mass consumption. Or, perhaps, design will synthesize the whole bulk of knowledge accumulated by the mankind not only in painting and architecture, but also in physics, mathematics, engineering, and other sciences, and come into its own as universal glue with a completely new, unique nature.

Whatever the further course of design development, every good art school will not only endeavor to prepare its students for the changing environment in which they live, but also teach them to trace the new trends, follow them, and create the new ones.

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The Peculiarities of Industrial Design Development in the Post-Soviet Period

My today's thoughts are devoted to analysis of Russian industrial design challenges in the past twenty years or the "post-Soviet" period. According to statistics, in the 1980's, it was one of the most popular fields in Russian design: about 25% of the entire creative potential of the USSR Association of Designers worked in it. An integrated structure of state design emerged under this category, including the All-Russian Scientific Research Institute of Technical Aesthetics (VNIITE) and its ten branches, a numerous group of special art and design bureaus and, finally, a network of art and design departments in the enterprises with their main work focused on design of future commercial products. Today it's no secret that most of the industrial products at that time were produced by enterprises of the military industrial sector. The so-called consumer goods plans, approved for each of the hundreds of "nine" enterprises, included thousands of different products: from cooking things and utensils to bicycles and cars. Of course, such bulk orders required serious engineering and design study. Designers, who were a part of the above mentioned subdivisions, did it. Such operating skills passed on from the first pre-war generations of designers to artists and designers of the 1950's, 60's, 70's and 80's. Gradually, a group of professionals specializing in design emerged in the country.

In the early 1990's, this system was spontaneously ruined, and many experts in product design were almost thrown out of work. The crisis of the domestic industry, lay-off in government contracts for special equipment and, as a result, lack of design developments on civil projects made them quit their professional field. Moreover, we should take into account the heavy influx to the Russian market of comparatively inexpensive and relatively high-quality foreign goods, forcing Russian producers out of the market. A long period of stagnation in Russian industrial production set in.

It seemed that life in the sphere of product design stopped, but it was an illusion. First of all, despite strong pressure from the outside, in the 1990s all domestic automobile plants kept working. The famous AutoVAZ was stretched to the limit, producing annually more than 700 thousand cars. It was in the 'bad' 1990's that new 'Series 10' cars and its various modifications began to roll off its assembly line. This should be credited to the company's design team, which during that period turned, together with technical services, into Russia's largest creative team with over 200 employees. Even the resignation of AutoVAZ design department's head Mark Demidovtsev, on the threshold of his 70th birthday, didn't affect the well-coordinated work of the design team. The new management of the AutoVAZ car design department represented a different generation, who were thinking in terms of different, now market-oriented categories, were full of creative ambitions and tried to stay ahead of all domestic competitors.

The business of the largest national automobile plant AutoGAZ was more successful in the late 1990s, despite predictions. Corporate management chose the direction of development of small-tonnage trucks. The popular "Gazel" became the necessary attribute of Russian trade life and domestic roads. The popular production line "Volga" was not far behind in those years. A group of young designers directed by Igor Bezrodnykh developed the representative GAZ-3105 "Volga" model. Its appearance on Russian roads created a furor and raised questions about priorities of domestic design. Then the plant turned out another popular model, GAZ-3102, which is still manufactured by them. And soon it was replaced by the "Volga" model GAZ-3110, modified by the group of I. Bezrodnyh. It was already an application for the revival of AutoGAZ stylistic traditions, implemented earlier the in internationally recognized cars GAZ-13 – "Chayka", and GAZ-21 – "Volga". As a result, the factory started producing the already in-demand "Volga" in three shifts, and its production by the turn of the century reached a record of 170,000 cars a year.

Increasing current assets and improving reputation allowed the company to obtain a millions-worth loan from the European Bank for Reconstruction and Development, and it began to develop a fundamentally new car, GAZ-3111. Again it was created by the group of I. Bezrodnyh. The mathematical model of the car body made by the designers was handed over to the U.S. firm "Venture", where the working model of the new GAZ-

3111 was produced based on it. It was the first attempt in Russia to create such a working prototype, which paved the way for the next model of natives in Nizhny Novgorod – a four-wheel drive vehicle GAZ-3106 "Ataman-2." That automobile miracle was first exhibited at Nizhny Novgorod Trade Fair in 1999, and was awarded the Grand Diploma of the Association of Designers of Russia.

Regarding the position of industrial design in other areas, for example, in the aircraft industry, long stagnation occurred in it in the 1990s. The design departments of Ilyushin, Tupolev, Yakovlev quietly phased down their developments due to lack of investments. The design offices of Sukhoy and Mikoyan only gained momentum in the 1990s due to demand for the products of these Russian firms abroad. Chinese and Indian orders fed the domestic design departments and allowed designers to develop a line of combat aircrafts on the basis of "su-27" and "MiG-29", adding to them all new promising modifications.

In Russia, there are seven specialized departments training auto designers (six in all of Europe). Because of low wages, graduates of technical universities prefer to join enterprises' staff. It makes a specific impact on design qualities of vehicles.

About ten optical engineering plants successfully operate in this sector. There are companies producing lighting fixtures, which use their own developments ("Svetoservis" group of companies illus. 50). According to the statistics of the Russian Association of Designers, today there are about 1,500–2,000 employees in the sphere of industrial design, most of them (90%) work in-house at various companies, and no more than 10% are freelance. It is very difficult to determine the budget of this market, as payment for design services is usually included into production costs or is spread over time in case of using the "royalty" system.

There is virtually no professional communication. Any and all forms of professional communication deserve a positive assessment, including our unique conference. Already 100% of the professional audience have access to the Internet. The only professional magazines in the 1990's were "Technical Aesthetics", "Union of Designers", "Design Review" and "World of Design" (illus. 51–54).

Private design and innovation consultancies, such as "Smirnov Design" (illus. 55), "Artemiy Lebedev Studio" (illus. 56) and other creative groups, are making good progress.

The advances of Russian design school should be noted. They have been achieved thanks to the efforts of a number of leading universities, such as Stroganov Moscow State Arts and Industry University, Shtieglits Saint-Petersburg State Arts and Industry Academy, and especially the Ural State Academy of Architecture and Arts, which celebrates the 40th anniversary of the Ural design school this year (illus. 55–57).

Conclusions:

1. In general, the past twenty years may be considered as a transition stage in the life of Russian industrial design. The profession has not been completely destroyed; the experienced and qualified professionals have survived in the auto industry, but in other industries the basic design potential has been lost, which sets an additional task of training and ensuring professional development of creative personnel in this area for the needs of the future domestic market economy.

2. The nature of design work in the design industry has completely changed. Whereas earlier success or failure were evaluated by the expert opinion, now the market criteria are in the first place. Design that makes profit has come to be valued.

3. The innovative component of Russian design has survived. But invention has become valued not on its own, but as a tool in the battle for superiority over competitors in the market.

4. Generally, unevenness and asynchrony may be noted in the development of various design fields. During the period reviewed, some of them (industrial and textile design) were in the process of stagnation. Others (environmental, advertising and graphic design) were in most demand among customers, which led to a certain deformation of the current structure of professional design activity.

5. Due to the visible processes of asynchronization, an uneven inflow of young talented personnel into the previously prestigious design fields has become noticeable. Young people have been exploring more actively the areas that are more in demand, ignoring industrial design. Specialists with engineering background started filling in the niche that appeared, affecting the aesthetic quality of serial design products.

6. Russian design education related to industry has lost touch with production, leaving graduates without skills in realistic modern product development.

7. In the coming period, Russian design needs to develop a different market-oriented model, corresponding to the highly competitive situation in the global system of production and supply of foreign-made industrial products to the domestic market.

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Design on the Edge…

Dear Colleagues and Friends,

Being here, in the capital of Russian design, I am pleased to greet all the participants of this conference on behalf of the designers of Russia's northern capital and wish you successful and fruitful work.

The reason I have entitled my presentation "Design on the Edge…" is a certain linguistic inaccuracy or ambiguity of the conference title in English *"**Dimensions of Cooperation"***. The core meaning of the word *"**dimension"*** in Russian is ***measure, size, volume,*** i.e. a measure of something that exists in reality. On the other hand, the Russian word *"**gran'"*** (edge) used in the Russian title means a modality of a relationship, a limit, or unpredictability of a state of things.

The Edges of the Theme.

With regard to the actual context of the theme "Design, Business, Society. Dimensions of Interaction", we could discuss the status of this interaction in Russian practice as being at a stage of early, unpredictable development. It is extremely difficult to measure such "interaction" using some kind of a unit. In this respect, we should be puzzled, trying to identify causes why this interaction is insufficient and ways how to close the gap between design, business and society.

That is why the translation of the English title of my presentation contains the word "edge", which, in my opinion, reflects the state of things more adequately. In the Russian translation, this is "sharpness", "critical situation", whereas as a verb it can even mean *"**to move unnoticed"*** and *"**to edge into"***, which is, perhaps, the most accurate description – design is edging into our realities.

Given the title of my presentation "Design on the Edge…" we can also talk about the present state of design globally, because the profession has changed a lot since its origin. It has progressed from its first definition as "e*sthetisation of the material environment"* to today's formula *"organisation of human activity processes".* Staying true to its initial purpose, design is going over to a new edge; it claims to be becoming a suprapolitical ideology of thinking, a system of global management.

Its interests go beyond the limits of industrial production or improvement of the living environment. Considering the extent of the problems that the humankind is facing, the emergence of such a systemic and complex force may only be welcomed, unless it results from designers' megalomania. It is essential to be aware, however, that the scope of problems facing design in Russia and in the West is different.

The Edges of the Profession

Since its origin, design has been developing as a type of activity with multiple 'edges', implying its active interaction with related activities: research, engineering, processes technologies, and materials. This being at the junction of various components was enriching design, developing its qualities, and expanding the range of requirements as to its outcomes. At the same time, this was stimulating the development of technologies, creation of new materials, and adoption of stricter requirements concerning quality. Any drift towards one particular 'edge' or prevalence of one of the edges would lead to misbalance between qualities, to conflicts but, ultimately, resulted in progress of design, in a new step in its evolution, and the 'polishing' of a new edge. The many-sided nature of design and its potential to influence economic and social processes make designers regular participants of the dialogue, discussion, and contacts with society, business and the State.

The Edges of the History.

It is common knowledge that the history of Russian design is strikingly different from that in the rest of the world.

In western society, design is one of the sustainable socio-economic and socio-cultural components of development. This is the outcome of a fairly long-term process. Design undergoes transformations brought about by changes in fashion and market requirements or by changes in the semiotic features of culture and societal priorities. The goals and objectives of design may also change, but its basic principles would remain unaffected. Nobody needs to prove that design is essential for sound development of society.

In Russia, considered from the beginning of its recent history, design tried to get born at the junction between avant-garde art and the social euphoria caused by the 1917 revolution. Formally it could have found itself at the front edge of leadership. However, both the

economic condition of the country at that moment and the entire subsequent history of the USSR contradicted the essence of design and were unable to ensure its organic existence and evolution. Attempts to introduce design into the structure of the socialist state were mandatorily rejected by that same structure.

As a result, Soviet design (it did exist!) became a self-contained theoretical research laboratory, the results of which (fairly successful) our state failed to take advantage of. Actually, back in the late 1970s our practical design was on the edge of inactivity and uselessness. The lack of interaction with the State, which did not regard design as a tool of its economic and social policy, left it outside the scope of development and support. The outcome was failed interaction with society due to the lack of visible use from design activity.

The Edges of Development.
The processes of the last twenty five years in Russia have been very complex and ambiguous. Their consequences are still hard to predict. The confusing pathway of development and the desire to again skip certain stages in normal socio-economic evolution within a very short time cannot but be causing tension and instability in the society. However, these years have enabled our country to discover certain edges of design. These are as follows:

- Design as an object of desire and consumption: for the first time over many years we have got access to all possible goods - from clothes to cars. The character and scope of consumption is determined only by financial possibilities and personal taste (culture) of the consumer. It has highlighted one more **edge of design** – design as a sign of status or membership of a certain social group.
- Design as a retail object of every possible level and scale. The availability of choice encourages consumers to generate a set of criteria for assessing things before buying them. Design occupies one of the leading places in this set, a product being regarded as a set of consumer, functional and aesthetic qualities.
- Design as a design business in retailed-related areas such as advertising, communicative design and, probably, interior design. In the context of industrial stagnation, these areas of design have made best progress in our country.
- Design as a visible and obligatory part of actual culture and art and as an image-defining feature of contemporary life. There is a certain paradox in here – design has not become an integral part of constructive activities in business and society, but it has got formalized as a system of signs imitating them.

For many understandable reasons, attempts to make design a component of the production process have failed overwhelmingly. However, one more edge of design has become obvious to the emerging business community, i.e. that design (given that this word is understood differently by different people) is a notable component of product cost.

The negative result of this period, in my opinion, is that design has turned its servicing and glossy advertising edge towards us. This has led to its shallow perception in mass consciousness. I think, a lot of serious business people and government officials tend to associate design with adornment and glamour rather than with a systemic design activity. Unfortunately, this perception is what mass design education owes its success to, attracting a lot of young people by the seeming easiness of this profession. This defines both the level of applicants and the teaching level. There are not so many higher schools that train real designers who are ready to practice and do serious work. No doubt, the Ural State Academy of Architecture and Arts is among those few.

Nevertheless, the undoubted benefits of it all are that designers with different qualifications have invaded various walks of life; trust towards the profession is gradually gaining ground, and an understanding of the boundaries of designer's professional responsibility is emerging. Design is edging into our life. Eventually, the real character and complexity of the problems will place everything in its proper place.

The Edges of the Reality.
What are the issues that define the edges of cooperation between design and the State, and between society and business in Russia?

The State, experiencing considerable pressure and involvement from the design community, tried to indentify these edges in its "Design Development Concept till 2008". One of the few outcomes of it is the establishment of a Ural Design Development Centre, which, I hope, we will be able to see in some time. This, however, should be credited to the active position of the regional authorities and the professional community. Another indirect result is the creation of a position of Lead Designer and the setting up of Lead Designer Office within the administrations of some cities. More often than not these are just symbolical figures with a limited scope of influence, but still…. Otherwise the effect of that concept has been insignificant.

This provides evidence, on the one hand, that in the absence of any objective need it is not so easy to impose design administratively; on the other hand, that the State lacks political will, resources and reliable partners for achieving the targets. By way of comparing: South Korea set itself the target of making design one of its economy's integral components and set up de-

sign centres in virtually each village. Possibly, one of the ways the State could introduce modern design and architecture into our life might be construction of model objects, such as Olympic facilities in Sochi, a university campus in Vladivostok, or the Skolkovo innovative centre. Concentration of financial and other resources would allow us to create such 'oases', for kind of getting used to them and for emulation.

The Society, being largely a consumer, pursues consumer objectives in the first place. It is interested in diversity, novelty and price rather than patriotic preferences such "buy the Russian", given that the subconscious mistrust towards domestic products is being displaced slowly. The inflow of various goods allows our society to draw comparisons, makes us more selective and demanding with regard quality, meaning "design". It's true, though, that when buying western brands we often do not even suspect that they were made in Russia, not even in China. The intervention of well-known brands with their own design and technology into the Russian production system is already a hard fact. By the way, this is one of the edges of the future status of Russian design.

While the needs for goods in our daily life are being adequately satisfied, serious social and economic problems require a more profound and complex approach to their solution. Quite often our society acts as a social customer. Indirectly, it formulates tasks related, for instance, to problems **of accessibility** (for disabled people) or **environmental protection** (wastes). These problems are, however, tackled without fully engaging designers, often on a one-off basis, unsystematically, solutions not becoming a norm (documentary or moral). We should recall the experience of VNIITE (National R&D Institute of Technical Esthetics), which, appropriately for that time, had detailed and complex design programmes for both categories of problem.

The *business community* that has spurted into existence in contemporary Russia over the last two decades, bears the impress of all aspects of our country's history. Its story is an absolute scenario of an action film series. But, in fact, isn't it people with experience, energy, inclemency and thorny background who are capable of doing business in the difficult Russian context. It is from among these people and their peers that the business elite of Russia is emerging. Let the State be free to choose partners for building a private/public economy. The economy is a reflection of politics, which is a risk-fraught area to put one's neck into. It was impossible to build a new, productive economy based on the foundation remaining after 1992. It is quite obvious, therefore, that only commerce and raw materials remained and, largely, still remain the principal and virtually sole kinds of business. In this situation, design and business cannot interact comprehensively.

The Edges of the Future.

The understanding that it is hopeless and even dangerous to try and rely only on raw materials in the economy forces Russia to be looking for a place in the modern hi-tech production world. This is an extremely difficult thing to achieve. Nobody wants to see our country becoming an equal competitor. Everything has already been done, made and divided. We are not in the middle of the 20th century when in the post-war world design emerged as one of the major drivers of the economy. Russia should begin (or continue) developing from a very high starting position. Despite considerable changes experienced by it in the 21st century, design is still an obligatory component of progress. It is essential that society, business and the State understand this. Probably, this is what is happening right now. Probably, design in Russia is edging towards recognition.

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Main Approaches to the Designing of Modern Medical Facilities

Today, any innovative type of business method is defined by the possibility of design integration in business processes. Modern-day design is not confined only to a formal search for quality and is not reduced to the material side of the product. Rather, it widely embraces adjacent fields of knowledge: science and technology, psychology of consumption, anthropology and marketing, which give design new opportunities for realizing break-through concepts and going beyond the usual and uniting efficiently manufacture, market, culture and human factor. Global problems and challenges are the main reference points of design creativity. Knowledge-intensive industries, such as development and manufacture of medical products, are directly related to design, which plays a leading role in this process.

Medical products have become a new bridgehead from which to enhance the humanizing and social significance of design. By way of responding to the opportunities for and needs of industrial design being integrated into the process of innovations, our company uses these tools extensively for creating innovative products oriented to a wide range of professional health needs.

At the present day, design technology has become a tool to implement product functions but also an active shape and process perception generating factor. Medical products are not associated with something difficult and incomprehensible. They help the user escape from the dominating influence of equipment and provide maximum freedom of choice of instruments and ways of organizational management. Today the medical operator is not an "appendage" to equipment performing only maintenance or support functions; on the contrary, he/she actively influences and reorganizes the work process, uses technology as a flexible toolkit and high-tech assistant or intermediary between the clinician and the patient. The challenge is to make the form of equipment open to changes and modifiable.

Global computerization offers new opportunities for using information and permits one to build uniform patient data processing systems. State-of-the-art mate-

Anesthesia system Inspirex.
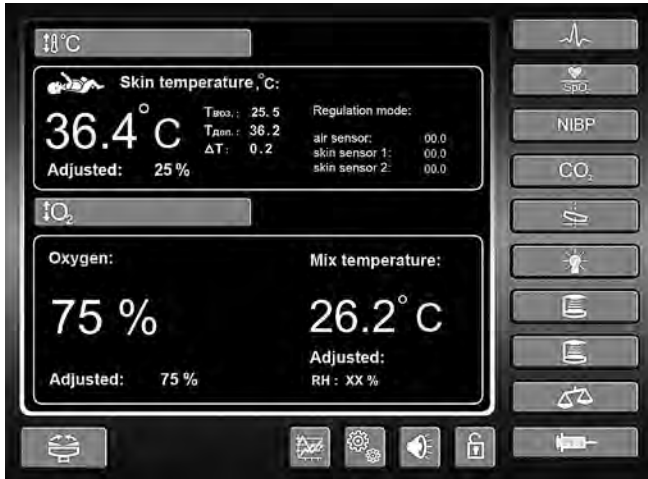
Bono interface.

Monitor.

Incubator-transformer Bono.

Anesthesia system Inspirex.

rials with new characteristics allow clinicians to achieve better quality in diagnosis. Innovative devices suggest new standards in treatment. Thereby innovations in science and technology have engendered new methods of cooperation between diagnosis and treatment.

The tendency towards simplification of medical product operating algorithms and delegation of the functions of interim decision-making to intellectual systems is becoming increasingly apparent. Today a clinician resembles an operator, and operational elements carry away the touch-screen user into a virtual interactive environment. The age of sensors forces designers to change the principles of working with form, high-tech objects of industrial design lose their materiality, and their form retreats to the background. Physical processes of interaction with a device are substituted by easy tactile ones, and the interface as an administration element becomes the main object of design. The result of this tendency towards simplification and accessibility is an active realization of a "home doctor" concept. Operating medical equipment for a lay person who is not competent in applied medicine bears resemblance to operating domestic appliances.

Intuitive equipment operation scripts have relieved us of the need to have additional special knowledge and skills and have integrated professional devices into living environments, setting a global trend for years ahead.

We regard an object of design as a collection of factors (market, manufacturability, environment) which determine restrictions and define the final form of the product. The main goal in this process is to ensure an integral vision of the object, acting as glue between production, market and end consumer.

Medical products should not only provide the user with a utilitarian function as a tool for meeting a certain need; increasingly often they ensure adaptation in the system 'human-thing-environment', being capable of adapting to specific user situations and individual features of user's work.

Taking the functional context of design into account means understanding the object designed as a process and a possibility to reproduce the essence and contents of the relationship between the clinician, the machine and the patient in the form of the object.

We can say that we design a concrete object as well as its situation. In this situation, the object of design is a material basis and implementer of the user's (clinician) and client's (patient) needs.

It could be a new way of diagnosis and treatment or revision of a traditional operating procedure for optimizing interactions between the clinician, the equipment and the patient.

The number of processes keeps increasing; patterns inside environments are becoming more sophisticated; and the adoption of new methods dictates new requirements for the environment in tote. No doubt, all of these factors are reflected in new technologies offered by medics. In this situation, design acts as a global regulating instrument in the system of medical communications, which are becoming more complex.

Creating high-tech and effective environments involving medical equipment capable of meeting clinician's and patient's challenges is one of the most important tasks.

Our aspiration is to implement these principles in our products, which we are developing to create new human-centred environments integrating people and their activities.

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Development of Project Culture and Russian Design

An objective view of design is not possible not only because it is determined by opposing interests. Professional self-awareness continues changing. In the times of Bauhaus, it was considered an instrument of social reconstruction. When Herbert Read concluded that design is more of an art, it was already used as an economic stimulus. In the 1950–60s, design was a way of self-expression and cultural reflexion for creative Italians. In those years, it was already becoming a tool of global reconstruction of the living environment and style. When in the 1970s design came to be considered as the modeling of ideal beautiful things, it was already discussed as a third culture, whose meaning lies not so much in the designing of items as in the modification of everything created by the humanity.

As a reminder, in 1979 RCA researchers described design as a third – project culture – or Design spelled with a capital letter, or "cumulative experience of material culture and cumulative scope of knowledge, skills and values embodied in the art of planning, inventing, form-creating and performing". In the UK, after 1966 Design has been part of the general and professional education, the basis for business, communications and all walks of life. Russian theoreticians claim that design education:

- develops the inner vision of things and phenomena;
- initiates analysis, criticism, and freedom from clichés;
- teaches one to understand cultural codes, write and read the world in the language of objects and processes;
- activates the inborn creative activity of people;
- develops constructive thinking;
- forms the sense of artistic taste and cultural tolerance;
- creates potential for communication – not only with the people around but also the most difficult one – with oneself, with one's 'inner personality'.

Project behaviour, specifically research, criticism, analysis, construction of systems, purification, innovations, modeling, and forecasting, have become part of the entire humanitarian culture, not only of Design itself.

The Russian understanding of design significantly differs from the European. It is different to the extent to which cultural genotypes are different: it is more traditionalistic and changes extremely slowly. The cultural genotype is epileptoidal (deep and axiological), kinesthetic, based on personal intuition rather than verbal behavior. The Russian researchers P.A. Kolesnikov and K. Kasyanova (V.F. Chesnokova) and others argue that the national character has changed little since the 15th century: the Russians despise authorities, parvenu, wealth; they value selflessness, simplicity, asceticism, 'truth', high goals, etc. Western research claims that the past is more important for the Russian mentality than the present and future. K. Kasyanova, on the contrary, maintains that for Russia there is neither past nor future – it lives in the present. The same was stated in 1830 by P. Ya. Chaadayev when he wrote that we live only in the present, within its very narrow limits, without past or future.

European design matured amidst the ideas of art theorists, such as A. Riegl and W. Worringer, on "abstraction-empathy". They laid the basis for abstract art and, as a consequence, design as a cumulative product of arts, technologies, business, and public demands. The non-pictorial design form is a text that sways civilization.

Russian design of the "first wave" – A. Rodchenko, V. Tatline, L. Lisitskiy, K. Melnikov and others – strove to modify the citizens' consciousness and culture and nurture a new personality: a healthy, thinking and creative doer. The pioneers of Russian design had a well-defined objective – to teach their fellow citizens to understand the language of form and shape. A new culture of the book, poster and other items was created, though it did not have a strong presence in the people's life. The circle of the initiators then was quite broad – ranging from painters, critics and writers to outstanding missionaries such as A. Bogdanov – the author of the theory of self-organizing societies, analogous to the contemporary internet networks, the author of scientific organization of labor as well as an institute for blood transfusion where he died while experimenting on himself.

Given the fact that design failed to establish itself twice, in the 1920s and at its second birth in the 1960s (in spite of the fact that by the end of the 1970s the

world's largest national service of design was founded in the USSR – with over 10,000 employees), the question arises: what is the reason for its rejection?

Recently it seems to have become clear what the pioneers of Russian design did not take into account: the cultural genotype. Russian culture is oriented towards tradition, prototypes and precedents, towards images and motifs borrowed from the nature, ornamentation and decorativity. Out of all these, only formal expression is in demand in the world architecture and design of articles today. The "Russian spirit" and the mass national taste are, in many respects, opposed to design with its innovations. Paradoxically, the favorite categories of design – "clarity", "simplicity" and "beauty" – are very important in Russian traditional aesthetics, but not in art or design.

In the 1990s, Russia experienced an unexpected upsurge in demand for interior and graphic design. The social structure of the society changed drastically. New social classes appeared; who needed to establish their new identity. They required symbolical design conveying their social status. The interiors flourished with abominable pseudo-classicism embodying history and prosperity. On the contrary, graphic design needed global identity and it attained the cosmopolitan language of the newest style sooner.

At the beginning of the 1990s, the aviation engineer Igor Safronov founded a firm, "Bioinjector", producing safe boxes whose designers Vlad Savinkin and Vladimir Kuzmin created a line of safekeeping objects/metaphors: "Cube", "Aviator", "Diana", "Danae", "Cheese", "KGB", etc. Those were rare variants of design in which metaphorical images contained multi-layer semantics: admiration for technology and urbanism, and irony for mass clichés and the power of money. From the engineering point of view, the safe boxes rested upon modern technologies. However, today I. Safronov lost interest in this business.

Since the 1990s there have appeared about 200 schools of design in Russia, instead of the 5 that existed in Russia earlier, and around 10 that existed in the USSR. Naturally, this brings up the question: who are the teachers given the fact that the former Russian schools of higher education did not offer such qualification? They are mostly architects who failed as practicing designers.

Russian business is in a hurry to catch up with the famous brands and industries. It is, therefore, generally oriented towards the well-known design consultancies such as "Wolff Olins" and the world's best practices, especially Northern American. Entrepreneurs purchase ready-made manufacturing lines complete with design and technologies. They are not interested in local design education. In the 1970s, there was a similar situation in computer technologies – focus on the world trends killed Russian software engineering, which was quite well-developed in the country then. Chasing means losing.

Russian design education needs to be aware of its own cultural realities and learn how to cooperate with business. Strange as it may seem, European partners, too, encourage us to move in this direction: they understand that products for regional markets must be created by the local designers of the consumer country. Russian schools, unlike, for example, Finnish ones, lack the skill of negotiating and compromising with business. Design remains to be left to chance, though currently there are a lot of experts committed to the values and methods of design.

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Sign Form Semantics in Terms of Territorial Branding

Modern politically correct societies are placing greater emphasis on territorial localization of a culture. National culture and traditions represent both the basis for communication and the essence of 'distinction' within the information flow. Identification of cultural specifics as territorial markers and distinctive features is a project technology of current concern.

Historically, formation of a society led to differentiation between social strata, properties and territorial identities. Signs used to be markers of differentiation systems, e.g. of individual statuses, social groups and territories. The most evident visual identification form of the remote past is the heraldry.

V. I. Lavrenov, heraldry researcher, is convinced that emblems and blazonry "either represent a national idea or define a legal status of a territory (settlement) or locate a person (family) within the system of social ranking." [1, p.11] Identification of territories has always been present in city names, emblems, flags and state hymns. "The heraldry subject is determined by the content rather than by the form," [2, p.15] believes G.V. Vilinbakhov, senior heraldry specialist of the Russian Federation, emphasizing that historically heraldry signs were used subject to their distinctive function.

Alina Willer, branding expert, insists that "Competition for recognizability is almost as old as heraldic banners at medieval battlefields… Same as feudatories transformed into commercial enterprises, what once used to be heraldry is now known as branding. Battles for physical ownership of territories are now represented by competition to win people's minds." [3; p.9].

Since its origin in the depths of commodity production at the beginning of the 20th century, branding technology has considerably expanded its influence by now. Territorial branding is a relatively young direction which has been recently demonstrative of a rampant development.

British marketing specialists Wally Olins and Simon Ahnolt are considered to pioneer territorial branding. Specifically, it was Simon Anholt who in 1998 introduced the notion 'city branding' meaning a 'systematic process of aligning actions, behavior, investments, innovations and communications within the territory to implement the competitive identity strategy." [4; p.286].

Territory stands for a multidimensional and complex aggregate comprising multiple objects, including a series of goods and services. A territorial society should form a common, collective image manifested through signs and emphasize major advantages by using such signs. In order to make cultural and historical value of the territory competitive, 'orchestration' of promotion programs is required, and an integral, emotionally colored image should be attached to present territorial offerings.

A sign form is an expression of the territorial individuality, strategy and advantages. City brand expresses, maintains and creates individuality through making it visual. Signs, originating from city names and tones, develop and shape the matrix of communication tools.

Sign form designing begins with identification of the communication tone. It may be strict, business-like or friendly, intimate or confidential. In this respect, representative is the example of Prague rebranding. In 2002, when creating a new city brand, a logo was invented composed of versions of the word 'Prague' written in various European languages. The developed graphic sign helped to create a friendly image of Prague open for people of various nationalities and cultures.

The rebranded style of Finnish Pori became more dynamic and attractive. The new approach to sign differentiation of the city was presented by Underware designers group. The city's branded sign includes a bear, formerly a cruel animal. Designers allure us in a game where the main character is not an aggressive but, vice versa, lovely and friendly bear, which changes the tone of communication.

The cited sign form examples resort to international expertise in strategic planning of city brands and their subsequent visual identification. Russian expertise in this respect faces lots of challenges. Besides historical events or legends, the sign form basis for visual identification may include crafts and centuries-long traditions. Russia of the 19th century knew 250 crafts. Handicraft workhouses provided the locals with working places and earnings. Crafts underlay formation of schools

where cultural traditions were developed and standardized. Names of such settlements as Gzhel, Khohloma, Fedoskino, Rostov relegate us to traditional crafts and their standard sign forms.

Gus-Khrustalny was founded together with the glassworks in 1756 by peasant Akim Maltsov. By the 19th century, Gus's crystal had become famous, gaining world appreciation. The product range included eminent artistic articles and soviet epoch compositions for cultural centers, cinemas and embassies, astounding in their delicate glazing and multi-ton weight. However, craft is not able to subsist solely on historical patterns and traditions. Market demanded higher mobility and fresher aesthetics of the output. Production failed to meet the performance targets and, lacking a sound manager, practically ceased to exist.

Thus far, the works' fate is still up in the air. Once the works are shutdown, the town may perish as its infrastructure and majority of workplaces are tightly bound with glass production. Absence of development strategy and financing has virtually destroyed the city-forming enterprise.

Totally, about 70 folk crafts have survived until present, each having anything but simple fortune. Pavlovsky Posad's, which has gained fame for its kerchief since founded in 1975, is now a private enterprise. Kerchiefs by Pavlovsk's manufactory have recognizable stylistic features. Flower wreaths and bouquets on topical backgrounds attract attention and are a calling card of the town and, sometimes, of the country. However, renewed approach and modern vision are essential for every sign form, making communication acute and arousing interest not only in admirers but also in a new broader audience.

It is necessary to move on a new level of understanding and stylistic designation where prevailing craft properties and features would be perceived from other generalized perspective matching modern language and new technologies, both in production and communication.

Sign forms having qualified through the history and survived among modern cultural heritage may undertake a role of territorial signs. In terms of modern brand-ing, the above listed crafts (Pavlovsk's kerchiefs, Gus-Khrustalny's glassworks, etc.) represent fully formed brands. Local authorities ought to realize historical and artistic significance of these phenomena and, to even greater degree, perceive them as a reserve for internal and external branding and means to develop and promote cities.

Communicative technologies of territorial branding are rapidly developing, integrating cities into regions, countries and communities. Yu.M. Lotman believes that culture is a generator of structural properties as it creates a social environment, similar to the biosphere wherein man exists [5, p.487]. Cultural traditions that underlain formation of the territory and habitat should find their expression in sign forms of communication, thus reflecting distinctive and inimitable peculiarities of a given territory.

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Short Papers and Abstracts

Oksana A. Bakerkina

Design Education in the Ural Region: a Modern Outlook

Not so long ago the term "design" meant no more than aesthetic design activities. Nowadays it applies to any human activity involving transformation – be it a girl making up a bouquet (i.e. a florist designer), a hairdresser (a stylist designer), or a dresser (a decoration-designer) – all of them seem to belong to the field of "design". Sometimes freedom in the interpretation of this term reaches absurdity. Thus, in Russian schools one can come across, for example, the term "painter/designer" in the list of courses offered.

This situation demonstrates the dependence of our educational system on the current status of the Russian market, where the trendy word "designer" is often used just for recruiting a better cohort of students. At present, design education is offered, for instance, by the Metallurgical College in the city of Pervouralsk, or by the Oil-and-Gas State University in Tyumen, where they offer a course leading to the qualification of "architect/designer" (?!).

The professional competence of the teaching staff in the area of design does not always correspond to the profile indicated. In Ekaterinburg, there are higher schools which have little to do with creative design but which turn out graduates in design. Moreover, there are various standards, making it difficult to not only correctly identify the cardinal points for the matriculating students but also train professionals who could be competitive in various fields of design.

Another feature of the Russian reality is that it has departed from the education system of the USSR, where the State regulated the training of professionals through a system of State Order and where all students were guaranteed a placement in real production conditions and graduates were guaranteed employment. That system enabled graduates to adapt their theoretical knowledge to real production practice and ensured professional growth outside of their universities. The market has almost entirely destroyed that interaction between theory and practice.

On the one hand, academic placement is not a compulsory element of the learning process; on the other hand, it has become rather difficult to find placements for acquiring practical experience. The reasons are simple. Companies might be interested in recruiting young professionals but they are not prepared to provide academic placements without any financial support from the government. Besides, Russian industries cannot offer graduates a good pay or career opportunities, and therefore the new generation of Russian designers do not regard them as a place for application of their knowledge and skills. Moreover, advanced industries mostly require professionals with previous practical experience; and graduates typically cannot compete with experienced specialists. This forces students to start working during their undergraduate studies thus impairing their academic performance due to the lack of time (in the USSR, full-time students were not allowed to have a full-time job). Alternatively, they may try and set up their own business, which often leads to loss of qualification by even potentially good designers. The tax system, high housing rents, etc. compel them to do business in some other field or to cater to customers' demands, usually to the detriment of the idea, thus slowing down their professional growth in the chosen sphere of design.

That is why design education needs to go away from competition and debates as to whose professional level is higher towards a constructive dialogue. Admittedly, it is difficult to compete with the Ural State Academy of Architecture and Arts in the spheres of industrial or conceptual design. Not everybody can be "God Almighty" in design – there is also a place for those who make pots. For this reason, other schools could train professionals in specific technologies for the Russian industry. This means, design schools need to take into consideration the specifics of a particular place. This principle only would ensure graduate adaptation to real life and ability to consider consumer mentality in developing the final design product.

Concerning teaching staff for design education, it is the Russian State Vocational Pedagogical University (RGPPU) that stands above competition, just because it can offer to systemize the experiences of the Ural design schools in the region's traditional or emerging industries (in consequence of the reasonable redistribution of the society's activities) in the form of educational programmes.

Thus, the RGPPU Institute of Arts possesses not only a good set of creativity courses and professional teaching staff (mostly graduates of the Ural State Academy of Architecture and Arts) but also potential to share professional knowledge in teaching pedagogy and psychology. Design professionals are trained not only by the pedagogues but also by advertising professionals, image makers, interior decorators, etc. Besides, it is obvious that not everyone among good practicing designers is able to pass his or her experiences and knowledge to the next generation. Thus, it goes without saying that it is essential to train design education pedagogues who should be able to help students develop their abilities to the full rather than realizing their own design talent.

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The New in Contemporary Design Products

The agenda of the new gets born out of the contradiction between one of the main reference points of design as a "form-generating activity" and the inability of the mass market to positively perceive novelty in any walk of life.

What today is called new, particularly in fashion, jewellery, or furniture design, is of two main kinds. Either it is created by introducing a visual art component, generally perfectly well recognized by the customer and, thus, not new (a chair in the form of a flower, etc.) or is stylized "to look like something" where recognition occurs by identifying already known elements (fragments) of the style familiar to the consumer. Both approaches to the design form are archaic, turning it to the past, although they can lead to the emergence of pseudo-futuristic objects. Both have a decorative character and do not promote the aesthetics that would also carry production functionality, practicality and usability. In terms of designer thinking which is mainly rational, we could note that there is very little chance of producing a new form, a new image, since analytical work with analogues, market studies and other pre-design procedures link the designer strongly to current realities. Foresight, fantasy, imagination, i.e. abilities engaged by the emotional sphere and leading to departure from reality, are not necessary in this case, or are used but little.

What happens if a designer creates something absolutely new, a form that, probably, would not prompt the user how to handle it? Most likely, the majority of people would just pass by, thinking up pretexts for explaining their indifference or caution. For promoting such a product on the market one would need to name it, provide explanatory texts, engage opinion leaders, etc., i.e. undertake PR actions making the project more expensive.

What could more conveniently be called "new" so that it would cause a response in as many people as possible? This is an average neutral form causing a short-term positive reaction in the average person. All extremes, everything that may fail to correspond to local tastes and values and cause irritation or emotional rejection should be removed. The result would be in the spirit of Apple, whose sales confirm the consistency of these reasonings.

If it is impossible to create an absolutely new form and, most likely, it is not necessary, what characteristics of a design product could lead to it being new? These are:
- novelty of materials and manufacturing technologies,
- novelty of presentation (packaging, shape),
- novelty of arrangement, combinability of this product or function with others, etc.

In other words, the novelty of modern design products – where we speak about design rather than art – is always associated with only minor changes in the external and internal form. This is normal, as it respects the psychology of the target audiences of design.

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Design Traditions and Innovation in Multicultural Space

The universal characteristic of design culture is unity between tradition and innovation. Renovation and innovation make up the basic value of modern society. Any novation – whether scientific, artistic, or technological – has an individual author. A true designer or artist is invariably a creator or searcher for something new.

In any analysis of the evolution of a design culture it is important to pay attention to the specific context for traditional and professional design activities in a particular country or region. Every activity should be considered from stylistic, ethnic, urban, semiotic, aesthetic, and moral positions that have contributed to a region's design culture. Correlation between these components depends on national policies aimed at self-determination, image-making and self-identification in the economic, political and cultural space. These policies may only be achieved through thoughtful and careful consideration of traditions existing in provincial culture and ethnic groups.

Contemporary design is an activity and social institute that influences human attitude towards the material world. Ideas concerning this influence are not new: historical traditions of material art have had the same functions since the earliest times. They have resulted in a rich experience of proto-design, which presents in its concentrated form a culturally important basis for individual design schools. In both cases, the more productive ideas, actions and relationships in the "man – environment" system get crystallized and are supported by the natural course of life.

The bulk of our country's population presents a mosaic of ethnic groups that tend to maintain their traditions. According to the law of nation's self-preservation, the smaller the ethnic group, the more active it is in this process of preserving its customs and lifestyle. Therefore any design idea aimed at development and production on an industrial scale should target a specific group of customers. The designer should under-

stand that his/her designs play an important role in the formation of intellectual and material culture.

A review of urban environments in different countries (Warsaw, Berlin, Calgary, Amsterdam) shows that cities tend to protect and preserve their historical parts. Contemporary architectural creations are of a universal character devoid of national identity. Their internal contents (offices, shops, educational, entertaining, and public catering facilities) allow any changes of lessees and functions. Exclusions are highly specialized buildings and chinatowns, which feature lavish decoration with a strongly ethnic character. The main rationale underlying architectural projects is the creation of a comfortable environment using modern innovative technologies. The mission of creating the artistry and imagery that should reflect the unique image of the country and ethnic and national features is shifted into the interior and exterior of the built environment. Interior and landscape designers and decorators often face such challenges.

Furniture and home appliances offered by the market today and living interior walls provide only a basis for the functional treatment of an environment. The main burden of filling a space with artistry and imagery is placed on product design and decorative and applied arts. Contemporary product designs including features of traditional crafts help meet customer preferences, tastes, and customs in all social groups and create more effective environments. Differences are striking if we compare the artifacts filling the living environments of the Tatars, Bashkirs, Kazakhs, Chuvashs with those in the Baltic, or Caucasian or Arctic regions. However, shopping centres in all of these regions offer virtually uniform goods. Some difference could be seen in fashion shops, which have to take into account local preferences.

There are almost no analytical works devoted to specific design processes in multicultural and cross-border regions. In these conditions, a certain cohort of designers could be involved in design challenges specific to such regions and thus give an impetus to ethno-cultural traditions and historical contexts, build up creative potential and contribute to the emergence of a new-generation design culture that allows for the interests of all social groups. At the same time, cross-border regions with their multicultural populations should play the role of a "laboratory" experimenting with the cultivation of poly-ethnic environments integrating interstate and interregional standards, values, opinions, etc.

Today it can be stated that the cross-border phenomenon in design should be based on the implementation of creative design ideas that include traditional and innovative methods of form-generation in a kind of synthesis with knowledge generated in philosophy, psychology, sociology and other disciplines that deal with various human activities and societies in general. The main quality that should be present in cross-border contexts is the designer's ability to take advantage of innovative processes that occur in the cultural, political, social, and scientific spheres and to introduce them into design solutions. The most important outcome of interactions in the design process is its participation in the development of tolerant relationships between all structures of society. In a cross-border space, design should play a role in shaping a policy that promotes a new design culture combining innovative and traditional design methods and aiming to develop design principles and models contributing to the emergence of a common ethno-cultural tolerant space on the basis of the eco-cultural imperative.

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Using Interactive Technology in Design Education

Today the issue of training a competent professional is becoming increasingly important in the context of society's developing aesthetic tastes. It is thus essential to develop independence, design thinking, aesthetic taste and creative abilities in students in contemporary design education. Modern technological and intellectual achievements in computer science and information technology are having a significant impact on the effectiveness of student's learning.

There are different approaches to the definition of teaching methods that are based on the degree of perception and awareness of education material: passive, active, interactive and others in the practice of learning.

The modern-day teacher must be able to transform the teaching process, introduce new forms, methods and technologies of education, and create technically advanced and comfortable conditions. Introduction of interactive learning methods helps succeed in this. Interactive techniques can be considered as the most advanced form among the active methods. Interactive methods render the teacher's work creative and fascinating, enhancing the student's learning effectiveness and productivity.

Interactive learning is based on cooperation between student and teacher. These methods are best suited for an individual-oriented approach as they assume collective and cooperative learning, in which both the student and the teacher are the subjects of the teaching and learning process. The teacher is the organizer of the learning process or a creator of conditions for the student's initiative.

The core of interactive technology in 3D design is an interactive dialogue between the user and the software system, with immersion into the essence of the problem and being in one the same creative virtual space. Joint activity means that each person makes his/her contribution, shares knowledge, ideas and methods.

Essentially, in 3D-design interactive learning the teacher creates a visual image of the object studied on the screen, then demonstrates how a 3D model is developed online with comments and explanations. During the video, the teacher presents the text, answers the students' questions, cautions against possible design mistakes, monitors the results, etc. At this time, students show a higher degree of involvement, concentration and attention. This method is productive, allowing students to achieve good learning results within a short period of time. New concepts are acquired quickly. The most impressive examples are observed in cases where a new concept is initially learnt through the use of 3D-technology. From the psychological point of view, this helps create a comfortable learning environment and make the process of learning more effective, unlike the traditional model of education where students must do a practical exercise based on instructions without multimedia.

Another example of using 3D-design interactive learning involves development of a design project in a group. In this case, the process of model development is divided into separate stages, each participant having an opportunity to create their piece of work. If we take as an example the development of an armchair, each student must do his/her part of the construction: the armchair side, the armrest, the seat, the back, etc. The following functions are used in the process of creating an armchair: drawing techniques, spline editing, use of Extrude and Bend modifiers, creation of a three-dimensional object; copying techniques, object grouping; and visualization. The result of this work is displayed on the screen, this makes a student to take responsibility and build a better model. In this case, the student focuses on group work, as s/he is a part of the process; teamwork skills are thus developed, which can help better communicate and adapt in a future job. Interaction with other students develops an ability to share experiences and work together in a group, and learn from the mistakes of other team members; at the same time, students are involved into the learning process more effectively.

The use of interactive 3D-design teaching and learning methods improves learner's motivation, ensures self-fulfilment; creates situations of success and satisfaction with the design project; promotes teamwork and creative joint projects; and encourages one to make reflexive summaries. It forms not only occupationally important skills and skills in the construction of 3D-objects but also activates the intellectual, spatial and cre-

ative thinking, gives determination to achieve the goal and develops individual culture.

Thus the use of interactive teaching and learning methods in design education has a positive effect on the effectiveness of group activities involving both the teacher and the students because they create conditions and help immerse in a virtual atmosphere of creativity and cooperation to solve a design problem.

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The Visual Component in the Training of Vocational Education Teachers in the Field of Design

Training vocational education teachers in the field of design requires a well-balanced 'marriage' between psycho-educational and art and design activities, the latter being of particular importance in this combination.

Art and design activities of a teacher of professional education in the field of design (interior design in particular) are focused on forming a structured and aesthetically expressive material and spatial environment and are aimed at completing a design project based on analysis of key patterns of design development considering theoretical, historical, cultural, engineering and artistic aspects.

While performing art and design activities one must possess practical skills in different kinds of visual arts, methods of design-product development by means of computer graphics and computer simulation, ability to use state-of-art design methods and information processing technology.

Compositional, structural, planning, colour and other object-of-design solutions must not only be technically well performed but also visually presented in aesthetic way even at the concept search level. Therefore, it appears that the importance of a visual component in teacher's art and design activities is one of the priority objects in designer's creative work.

The visual component is formed while learning a range of Curriculum subjects, the Curriculum being devised on the cross-curricular integration basis (drawing, painting, history and theory of design, art history, work of art analysis and interpretation, chemistry and physics of colour, compositional shaping, computer simulation, special graphics etc.), as a result the following is provided:

- basic theoretical knowledge of applied art and design; the laws and principles of compositional shaping while solving stylistic tasks during art and design activities; innovation approaches and techniques to solution of art and design tasks; algorithms, means and methods of composition structures forming based on art and design project; principles of operation and practical application methods of graphics software;
- the ability to employ methods of graphic, painting, and plastic manual shaping of interior design objects; to perform art and design solutions by means of computer graphics using search engines; to work with up-to-date computer graphics and computer simulation packages;
- possession of technical means, equipment and auxiliary devices for visualization and further art and design project implementation.

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Comparative Analysis of Elements of Psychodesign for the Elderly Taking into Account Their Place of Residence

The topic of this study has become important in the last decades for the developed countries due to the steady and fast aging of their populations.

Elderly people are a diverse group of individuals from various social classes from relatively healthy and firm individuals to very frail people with a burden of disease.

According to the World Health Organization classification, the old age is from 60 onwards, and one of its prominent features is low mobility.

Low-mobility groups of the population are physically challenged people experiencing difficulties in moving around, obtaining services or essential information, or orienting in space, for example, disabled people, people with temporary disability, pregnant women, old-age people, people with prams, etc.

Contemporary gerontology requires that maximum support should be provided to the elderly, including both their physiological processes and social functioning. This can be made possible through comprehensive prophylaxis, including physical exercise, psychological regulation, hydro-procedures, occupational therapies, participation in social life, etc. This also requires a special architectural environment.

Currently, the basic building types for the elderly and disabled are purpose-built nursing homes where they can stay, live and receive support services. However, the interiors of such premises are not always adapted to the psychological characteristics and needs of their residents. Certain housing design principles should make it possible to create a suitable environment that would ensure inner balance and peace. Living in a psychologically comfortable and "friendly" environment could increase life expectancy by 5–10 years. One of the original

scientific approaches to studying the human being and his habitat as an integral whole is psycho-design. The goal of this study is construction of a hierarchy of elements of psycho-design for the elderly depending on their place of residence.

We sought to confirm the hypothesis that the following elements of psycho-design are more important for the elderly residing in nursing homes: the character of the space, the colour gamut and the preferred material used in its interior.

The first part of our survey helped identify specific elements of psycho-design that are important to the elderly residing in families or independently. Our analysis has shown that the elderly attach importance to optimal living environment. Comfort occupies one of the first places in their hierarchy of values. All elderly people living alone named the calming effect of the interior enabling them to relax as the most desirable psychological impact.

The elderly gave priority to such elements of psycho-design as simplicity of forms and poly-functionality of items in the interior.

The gender differences manifested themselves in the choice of materials for the interior finish. Whereas men were inclined to prefer comfort, convenience and practicality, women were more concerned about health. Women tend to be more cautious about the use of new technologies in the interior.

In spite of gender differences, the preferred colour gamut includes warm hues (pastel, brown, yellow).

In the second part of the survey, we identified the importance of elements of psycho-design for the elderly residing in nursing homes. Analysis has shown that they attach greater importance in the design of premises to comfort and convenient architectural planning, which should ensure unobstructed movement around the premises and spaces.

All the elderly living in the nursing homes pointed to the calming effect of the interior as the most desirable psychological effect.

One of the main values for people living in the nursing homes was health; thus, in terms of the choice of finishing materials, emphasis was made on natural materials.

It should be noted that the elderly people at the nursing homes gave special importance to leisure time opportunities, both passive and active, and to possibility of applying their personal talents in creative work, which in turn is essential for maintaining their health.

In both the first and the second cohort, the most important elements of psycho- design prove to be:

- characteristics of the space (zoning, availability of special devices for convenience of movement, lighting in various zones);
- colour gamut used in the interior;
- elements of creativity in the interior.

Comparative analysis revealed specific features in the perception of elements of psycho-design by the elderly depending on their place of residence.

The availability of special devices for convenience of movement (handrails, special seats, ramps) plays the most important role for the elderly people living in the nursing homes. Thus, out of the respondents living independently or in a family only 19% pointed to the need to have special devices, whereas in the nursing home 78% of the elderly said they were essential.

In 100% of cases, the preferred colour gamut in the nursing homes includes warm pastel colours, which is, probably, due to the need to feel a comforting effect from the interior. In comparison, a third of the respondents (35%) living in families or alone were inclined to use cold colours in the interior. The elderly in the nursing homes (100%) chose simple, natural materials for the interior, which may be due to the sensitivity of the elderly to environmental impacts. Another reason for this choice is likely to be the fact that they grew up under the Soviet regime when everything was in short supply. Most of them did not want to decorate their interior in accordance with contemporary trends in design; the main criterion for them was simplicity and comfort. In the other cohort, 54% of the respondents were prepared to consider application of artificial finishing materials and fashionable tendencies.

Concerning furniture arrangement and microclimate, the elderly in the nursing homes admitted that furniture and services corresponded to standards and provided comfortable living conditions (100% of respondents). The elderly living in families or independently were not satisfied with these factors. The proportion of such people was 85%, due, probably, to their low income.

Thus, analysis of perception of elements of psycho-design suggests the following conclusions:

1. The most important elements of psycho-design for the elderly living in nursing homes are: the character of the space, the colour gamut of the interior, and the preferred material in the interior finish.
2. The above factors could be realized using elements of the Russian style in the interiors of nursing homes and in the interiors of facilities where elderly people live. The implementation of this style means the use of warm natural materials and elements of vernacular design.
3. Psycho-design elements have an effect on the physical and emotional health, contributing to the achievement of the following objectives: reduction of morbidity, prophylaxis among the elderly, increased life expectancy, satisfaction of the needs of elderly people.

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Design and Society (Design and Authorities)

Fashion design is part of the fashion industry. It is the designer who determines what clothes people would wear. And it is the designer who initiates every two-year fashion cycle. Any subsequent stages should ensure that clothing becomes fashion. One part of the fashion system, a design product, is exposed to the influence of mass media and PR whilst communicating with the consumer. The designer creates clothing models, which the fashion industry (or the fashion system) makes trendy. Clothing production differs from fashion production. Clothing production creates a tangible thing whereas fashion creates a symbolic one. To be competitive, clothes should not be just new – they should be in fashion – this is the specific feature and function of the fashion industry. It is a well-known fact that every country producing mass market clothes has a fashion system (or industry).

Today, in the globalized world, there is also an international fashion industry without borders. We are exposed to competition in fashion both in our country and abroad. The Soviet Union had a well-developed and well-organized consumer goods industry that produced clothes, but there was no fashion industry as such. Fashion was inferior in the period of shortage of consumer goods. Now we are having to compete with long established brands that have history, quality, use high technologies and are therefore considered fashionable.

For two decades after the collapse of the Soviet Union we have been working in the context of an open market economy, and now is the time to review some of its results. During that period of time, a department of fashion design was established at the Ural State Academy of Architecture and Arts, where we train professionals capable of designing unique garments. Our graduates work both in Russia and abroad. So everything seems to be all right with design.

Production rates have gone down greatly in Russia, but orders can now be placed in other countries where production costs are much lower.

It can be stated, however, that there is still no fashion industry in Russia, which is having an impact on the country's economy and design. The consumer goods industry is virtually non-existent: there are very few large garment manufacturers and textile factories. A designer may do with imported fabrics and manufacturers, but the country is losing jobs and the living standards are deteriorating.

A fashionable garment is much more expensive in comparison with ordinary clothes. So, fashion needs a consumer. Essentially, Russian products are not fashionable, prestigious or competitive. Production facilities are generally small, the economy is not transparent, and incomes are low. Paradoxically, Russia is considered to be one of the most promising markets for fashion consumption, with sales of imported goods amounting to millions and billions of rubles. Russia ranks 9th among the top 10 rapidly developing garment sales markets. However, the share of the domestic retail networks is only 3–3.2% of total sales.

There are lots of good brands in the world that can produce clothes for the whole world including Russia. All of them are competing for the vast Russian market where there is no competition with local goods. But is it economically good for Russia? The country has to pay for imports, including design and production, losing its own designer and manufacturer jobs and impairing the quality of life for its professionals. Who is getting the money? Not us. We are working for the benefit of those who sell us their goods.

This situation has affected not only Russia. Some decades ago it was typical for France, Italy, and England. And it lasted till their governments realized that it was necessary to make money for their countries by developing a domestic fashion industry.

As a result, they now have:
• a fashion system (industry)
• culture and history (essential for the national idea)
• designers (having high professional skills)
• state support.

Today these countries have a system of government support for the fashion industry aimed at keeping up its competitiveness and intellectual potential through different organizations based on public-private partnerships between agencies, chambers and departments. These institutions provide statutory and regulatory support to the fashion industry. The state initiates tax holi-

days and foreign trade benefits, support 'fashion weeks' and bring together manufacturers and state agencies.

Any designer, even a very talented one, is nothing without a system of promotion and sales, represented by the fashion industry. Today professionals are very well aware of the fashion industry's function and what economic benefits it may have for the country given the fact that the fashion industry on the world market is comparable to the oil and automotive design industries.

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Modelling the Visual Interface of the Website for the "Information Technologies in Design"

Session of the "Regional Informatics" International Conference

The conference "Regional Informatics" is an international research conference held regularly since 1992 in St. Petersburg under the aegis of UNESCO with the support of St. Petersburg Government and its founders and cofounders. The purpose of the conference is to discuss priorities in the development of information-based society and review practical and theoretical issues in informatization and implementation of infocommunication technologies (ICT). In 2010, the "Information Technologies in Design" session [1] was organized within the conference framework.

For supporting this area of expertise, an Internet resource was created, which is being continually improved following one of the principal features of the global Internet network, i.e. continuing development of network technologies, enhancement of operating systems and development of programming languages. This process sets new international standards in content development and web-site design. The web-site should be up to date in terms of both technology and interface perception.

The objectives of the information resource "Information Technologies in Design" are consideration of practical and theoretical issues in design education, implementation of infocommunication technologies in design, and exchange of IT application experiences in design.

The material of any web-site becomes outdated over time, and re-design was needed to considerably increase the audience and attract new participants to the conference.

Web-site redesign involves up-dating or changing completely the existing design. The notion of re-design also includes interface updating according to new needs and corporate marketing tasks [2].

Experts believe that the web-site design should be updated once every 2 years [2]. Based on this, decision was made to develop a new design for the conference web-site, update information, implement new interactive possibilities, modify the web-site structure, etc.

The goals and objectives of a web-site should define the style in the first place. Given the status of the event, a classical style was chosen with a standard quantity of graphics and a simple two-column structure [3].

The secret of an elegant appearance consists in the use of two or three well-matching colours. This technique combined with restraint in design gives the web-site a refined appearance [4]. The new design of the "Information Technologies in Design" web-site uses a three-colour gamut with the following primary colors: black (#000000), cyan blue (#0166FE), and white (for the main background). The complementary color is a shade of cyan blue (#0166FE).

The selected colors have the following psychological and semantic characteristics. The fundamental property of the black color selected as a background for the static banner in the centre of the main page's interface is that it unites compositionally in a single space all graphic elements with a large number of various color spots. At the level of emotional perception, the black color conveys constructive activity, ability towards prediction and foresight, and reasoned and justified use of force. The light blue color in the background of the animated banner and individual navigation elements sets a balance between the dark and light graphic elements of the design, creates a mood of calm and harmony, and brings about a feeling of well-being. It is associated with permanence and thoughtfulness, with loyalty, reliability and dignity. The blue color is perceived as positive by both men and women.

We chose Verdana as the font of the design. This font presents a strong visual contrast and was specially developed to show text on the screen [5]. The elements on the web page help visitors move visually from one place to another thanks to correct layout of the text. The alignment of each fragment of the text should be accurate and visually correspond to other text units on the page. The text was formatted according to these requirements.

Readers evaluate a resource from the standpoint of the contents of its texts, the visual appeal and intelligent graphic design strengthening the impact of the contents and enhancing its artistic attractiveness. The design of the web-site on the basis of a three-color gamut has a stylish modern look and makes an esthetically deep impression. Therefore the colorful animated flash banner of the web-site was made more reserved in terms of style and color and graphic elements used. The primary colors of the start-up screen are blue and black, and it is rendered in two languages and contains detailed information about the conference venue and dates. Note that the animated banner in the upper part of the interface on the main page of the web-site stylistically matches the static banner reflecting the theme of information technologies in design.

The combination of all web-site's elements presents a harmonious, eye-catching design. The uniform size of the elements makes their combining and reorganizing easier. The web-site's design has an F-layout of elements [6, 7], which is supported by different studies on the movement of the user's eye. These scientific studies show that web surfers read the screen in an "F" plan as follows: from the top to the upper left corner and left side of the screen, only occasionally looking at the right-hand side of the screen. The main elements are located according to the "F" layout: the heading of the web-site is read from left to right at the upper edge of the page, and the main menu is located along the left edge of the page. Contrast is used for guiding the user's eyes through the page. Such visual design could be called user-centered.

Upon completion, the re-designed web-site was usability-tested. For assessing the web-site we used the "think aloud" method: users answered questions and provided their estimates of convenience and clarity, i.e. testing was carried out in the form of an interview. All responses and comments were entered into a special form. Before testing the users had been familiarized with the rules. The revealed shortcomings were summarized in a report. Also, the web-site was evaluated using the IOGraph program to identify the web-site's zones that attracted the highest attention of the users. Evaluation revealed a number of problems and faults, which are now being dealt with.

The information resource "Information Technologies in Design" reports the outcomes of this session of the conference and the results of interactions between lead scientists and experts in the area of information technologies in design, regional policy makers, executives, academics, lead universities, R&D institutions, manufacturers and non-governmental organizations from Russia and other countries.

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Website Design Based on a Systems Design Information Model

To date, a number of models and methods have been developed for designing artworks and technologically complex objects. Our review of the most significant design models suggests that all of them possess individual features and are characterised by a set of common properties. The main disadvantage of the majority of design models is that they do not cover the full life cycle of the object designed.

For generalizing existing knowledge, a universal model has been created, called "Information model of design (systems design)". According to this model, design as a process and technology of creativity could be modelled based on the principle of a system with feedback. The advantages of this model is that it allows one to algorithmize the technology of creating objects in their full life cycle and separate phases of creation, existence and dematerialisation.

Consider the description formalisation stage in more detail.

Objectives formulated at the second phase of website design define its image, which for its implementation as an end-product should be clear to all participants of the design process, i.e. it should go through description formalisation. Description formalisation includes development of requirements for the web-site, which then make up a brief, and then the layout of the web-site design is developed.

At the stage of development of requirements for the web-site it is necessary to formulate requirements for the stylistic and graphic design of the web-site (colour treatment, fonts, layout width, and scalability), arrangement of basic elements (visual location of elements, information contents of the design layout), hardware parameters (display resolution and colour palette), functional elements of the web-site, navigation elements, etc. The requirements for the web-site thus formulat-

ed make up the brief. The web-site design layout phase includes several stages: development of the web-site structure, development of the design layout image, creation of an HTML-prototype, usability testing, and corrective actions based on comments on the design layout.

We reviewed web-site structure development technologies and tools (MSVisio, Gliff y.com, MindjetMindManager), web-site prototype (Pidoco, MockupBuilder, AxureRPPro, BalsamiqMockups), design layout visualisation (AdobePhotoshop, GIMP), and usability testing methods and tools.

Usability and convenience of web-sites are studied using a great number of special methods, including MouseTracking, EyeTracking, expert reviews (including card sorting, contextual inquiry, surveys, questionnaires, expert walkthroughs, think-aloud protocols), remote moderated testing instruments, online usability inspection instruments (UsabilityHub, Feng-GUI, WebVisor, Loop11, YouEye).

Our review of various usability testing methods, technologies and tools suggests the conclusion that the use of any one instrument would not be effective enough for revealing of deficiencies in the web-site design because these techniques have various orientations and solve different problems.

Web-site design analysis at the stage of description formalisation allows one to identify and prevent certain errors and flaws. The output of design without usability testing could be a web-site that is not effective or convenient in use.

This may lead to the need to redesign the web site and incur additional financial, time and other expenses.

The study and analysis suggested recommendations concerning the contents of the brief for web-site design, and recommendations concerning the development cycles of web-site design. This model has been tested in the project "Information Resource for the Session "Information Technologies in Design" of international conference "Regional informatics" (itd-ri.ru).

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Alla B. Kosterina and Kseniya S. Kosterina

'Art-isation' of Modern Design

One of the features of modern culture is its 'art-*isation*', which is understood as intrusion of art practices into social life, transformation of its realities into art forms; and finally, elimination of borders between art and life. Art loses its autonomy, its traditional functions change, and it is turning into design and design is turning into art, resulting in art-design as a specific kind of design activity. Many modern art phenomena have been triggered by design, advertising, mass-media, serving objectively as laboratories for them.

The space of everyday life undergoes stylisation and decoration: accommodation, shops with their windows, petrol stations, hairdressers', pharmacies, different kiosks, car parks, recreational and pedestrian areas, billboards and other kinds of advertising.

'Art-*isation*' of the natural human body has given rise to a new kind of design – body art, body modelling, surgical reshaping, pseudo-aesthetical fashion for piercing, etc. Tattooing seems to be a post-modern effort to aesthetically identify one's individuality using such easiness and flexibility. It's difficult to even imagine what kinds of design genetic engineering can bring.

Although topical, extremely popular and even somewhat "trendy", the phenomenon of 'art-*isation*' has not been properly researched in the scientific literature. In this regard, studies carried out by Russian philosophers and artists may provide a valuable insight into this issue.

The phenomenon of 'art-*isation*' was first highlighted by eminent Russian cultural figures of the so-called 'Silver Age'. It was the aestheticism that became a universal ontological base of the Silver Age culture, with '*art-isation*', theatralisation and carnivalization being different manifestations of it.

The theatralisation principle could be regarded as a manifestation of 'art-*isation*'. This principle was first established in the early 20th century by N.N. Evreinov, a Russian theatre theoretician and director, and thereafter it spread all over the world. According to his concept, theatricality is subconscious. It accompanies a person all the time and manifests itself in everything.

The concept of "life theatralisation" suggested by N.N. Evreinov had a strong influence on the 20th century world literature. It is easy to correlate Evreinov's aesthetic proclamations with the western avant-garde tendencies in the second half of the 20th century, such as happening, performance art and the Total Theatre.

'Art-*isation*' in contemporary culture is of a total character, comprising a whole range of innovations and repetitions. New forms of design keep emerging and old ones are disintegrating in parallel, experiencing a substantial transformation of stereotypes from the past and manifestation of the pluralism of modern-day mentality.

In summary, art-design is not a completely new phenomenon in culture (only the terminology is new); its origins can be found in the depths of archaic cultures; but at every turn of world history, 'art-*isation*' manifests itself in a new way. In our opinion, modern art-design gives new unexpected opportunities to combine conventional forms of art activities and technology advances – from television to computerised interactive technologies, which indicates aesthetic peacefulness of modern culture.

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Design in the Context of the Two-Level System of Education

A Russian and a European Experience

In accordance with the Bologna declaration, on 1 September 2011 the Russian higher education institutions switched to the two-level system. The habitual "Specialists" are being replaced by "Bachelors" and "Masters". The teaching staff met this innovation with hostility. In areas where there were influential lobbyists, the well-established "Specialist" degree has been kept.

From the outset it was assumed that transition to the Bologna system would give Russian graduates an opportunity to compete on the international labour market. To what extent is the Russian education system ready to achieve the targets of comprehensive learner personality development, preparation for continuing education, self-education, development of educational strategies, etc.?

It should be noted that previously the Russian education system had several levels: besides schools giving general secondary education to all, there were primary vocational schools training workers in various trades; secondary vocational schools, including art and design; 'institutes', and universities. Typically, universities developed in students self-education and self-development skills, whereas 'institutes' focused on the development of professional skills in a specific area. The difference between universities and 'institutes' was in the name of the educational institution only rather than in professional qualifications or degrees awarded.

Higher engineering schools seem to be coping with the task of comprehensive personality development and development of self-education skills better, as higher schools in creative industries are facing a lot of problems associated with the transition to the two-level education system.

I received my degrees in design in both Russia and the UK, and I am teaching at a Russian higher school, so I will try to compare and estimate the possibilities of and prospects for the two-level system of design education.

In UK universities, the Bachelor degree teaching process in relation to the professional disciplines is interactive, lively and intensive. My impression is that assignments there are not repeated from year to year but are regularly updated depending on economic, political, cultural and other factors.

To move on to the next year, you have to do a huge number of projects, which keep 'falling' on you literally every day; it may be a project for one hour: "Development of a Set of Fonts Based on the Form of the Object", "Wallpaper for a Spacecraft", "Camouflage for Urban Animals", etc.; a visual mini-research work on proposals how to resolve a particular situation (political or economic) by design means. The project could be long (for a year) and related to the theme of the research initiated by the student, for example: "The Effect of Colour on Urban Environment". Some projects would be unusual for Russian students and teaching staff: "Translate by means of design the five senses: touch, smell, hearing, sight, taste", "Plastic surgery without surgical intervention", "Packaging for a part of your body that you are ready to bequeath to an anatomic museum after your death", etc. Many of the projects shocked me first due to differences in mentality, but then turned into a fascinating, informative process.

From day one, the instructors recommend that students should keep daily work books in which they should reflect on not only their work on current projects but also enter thoughts, describe interests – a kind of designer's diary. Strange as it may seem, when being interviewed for a job or for admission to a post-graduate degree course, you may be asked to show just your work book. To some extent, it is an analogue of our explanatory notes, but in a more liberal and creative form. Basically, the work book for a British student is a "bank of ideas"!

Also, during the academic year students are offered participation in numerous projects integrated with other specialities, and in competitions and exhibitions. These may be, for example, joint projects with students from related specialisms, such as fashion design or industrial design, which gives an opportunity to have an insight into those specialisms.

At any one time, students are working on several projects; in this way, they get adapted to professional practice. The teaching staff should always be up to date, immersing students in a flow of latest information. The primary challenge is to teach students to think; the fa-

vourite phrase of my teachers was: "Even a monkey can be taught to press the buttons", meaning that ideas are primary, and you can then find a way to implement them. We learnt using computer programs, print technologies and various equipment in the context of a project in which certain specifications were set.

In the British education system, there is just one set of professional disciplines, or, actually, one subject, for example, industrial design, graphic design, unlike Russian universities where the principal subject is Design Project, which should compete with academic drawing, academic painting, etc. And it does not take a long time to see the result: some Russian undergraduate students of design are not able to do a final bachelor degree project although s/he can paint a naked model or a portrait. The two-level system is a more flexible model, and it is not easy for the Russian education system to get adapted to it due to some stereotypes. Today, the instructor has to change the contents of his lectures and assignments, modify the teaching and learning guides, annually develop new work programmes, whereas previously he used to employ the same methodological materials year on year. To stimulate interest in students, the instructor himself should, first of all, be well informed about contemporary trends, events, which is not difficult with the Internet. The western education system forces one to self-educate, experiment, not to be afraid of mistakes, get adapted to the changing world; otherwise you can become uncompetitive.

In the Russian system of design education, the prevailing approach is teaching rather than developmental – students acquire good technical skills, can operate many computer programs or paint a classical still-life, but they have problems with ideas because analogue thinking prevails among them. If a student has not seen a sufficient range of pictures on the assignment, they are virtually unable to create, which does not apply to UK students – as well as Karim Rashid, their principle

is to live and create today and for today. It is not interesting to design what was topical yesterday; as for tomorrow, it is not yet clear.

To enroll for the next educational tier (Master's degree course), a British student has to pass an interview with a portfolio and write an essay on the theme of their future research. A master's degree course is more advanced and more specific activity involving research. Most of the Russian higher schools of art and design are not ready to provide education at this level as they do not have sufficiently qualified teaching staff but also they are actually still training "specialists" at this level, although a master's degree should meet more stringent requirements.

One of the basic principles is self-motivation in the course of self-education. Few students are prepared for self-development without external motivators. Master's degree course teachers only fine-tune and direct students, as Master's degree is a conscious choice. At the moment, my impression is that Russian students enroll for a master's degree without any idea why; it seems to them that a bachelor's degree would make them look like a half-educated person in the opinion of their parents and peers. Some time ago people thought the same about graduates of secondary vocational schools.

Probably, some time should pass before we see any positive effects and before our society gets used to the idea that a bachelor of design is a fully-fledged professional in his/her sphere, and that a master is a qualified designer and theorist in this profession.

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Industrial Design of the 21st Century as a Means of Humanization of Environment and Aesthetic Education of Society

What is industrial design today? Whose requirements does it satisfy? In his book "Problems of Design" published in 1957, the American designer and theorist George Nelson described the situation in industrial design in the USA at that time as purposeful creation of "a civilization of super-comfort", a new way of life imposed by design and advertizing. The main characteristic of that way of life was redundancy of falsely looking goods that quickly got outdated. Design in that system was in the service of corporations. All humanistic concepts of the early 20th century were displaced by economic performance indicators. Is this criticism correct? Is design still a tool for the creation of "a civilization of super-comfort"?

Commercial concepts in industrial design were developed in the USA in the 1930s when the American society of super-consumption was born. For this reason American theorists and practitioners of design were the first to pay attention to negative tendencies in design activity. Among them, George Nelson was the first designer to describe in detail the interaction between design and business. This obvious interaction generates many difficulties in design practice. Thus, for example, another famous theorist of design F.-Ch. Ashford wrote that before selling goods to the consumer, it is necessary to first sell them to wholesale dealers and distributors. It means that the preferences of wholesale dealers and distributors can become more important than the tastes of direct consumers. G. Nelson in his book "Problems of Design" consciously removes the exaggeration of the humanistic role of design [1, p. 46]

and calls it a serving profession. G. Nelson considered the main difficulty to be pressure upon the designer from corporations. Intentional use of materials and technologies leading to the product quickly losing its marketable state or to its failure, frequent changes of product lines, decorativism and other practical design realities obviously contradicted the humanistic concepts of Europe. One of the most popular concepts, the "BRAUN-style" created by graduates of the Ulm School of Design demonstrates an idealistic approach to design and detachment from real life. BRAUN itself, whilst promoting accuracy, purity and durability of design, regularly updated dozens of electric razor models although they appeared to already have been given an ideal durable design.

The modern consumer society continues traditions of the 1930s American society in its aspiration towards "a civilization of super-comfort". The problems of design that emerged in the USA in the early 20th century have not lost relevance today. Moreover, they have become more acute with the strengthening of the role of design in the international economic system. But has design actually become an effective way of selling products? By way of answering this question, G. Nelson draws an analogy between the "wastefulness" of the design industry and the wastefulness of the nature.

Fast rotation of models and quick obsolescence of industrial products, according to Nelson, is a natural phenomenon caused by human requirement for updating and development. According to the Italian designer Gio Ponti, standardization is only a primitive stage of production, and style is not at the top of the language of forms; it is paralysis of the language of form, sometimes grandiose paralysis [1, p. 41]. Another 'plus' of the existing system of "superconsumption" and "superproduction" is the fact that products become more available and cheaper. In the 20th century, the growth of the automotive industry in the USA allowed the country to fill the domestic market with inexpensive second-hand cars, thus satisfying the needs of the low-income segments of the population. A similar situation was observed in the market of mobile phones in the late 20th century. If "superproduction" and "superconsumption" are integral to societal development, what does the designer do in this process? G. Nelson writes about honesty and responsibility in design and identifies two types of designers: "captive" and "independent". A really "independent" designer has to choose an object of design

himself and decide on its design. The "captive" designer is, first of all, an employee [1, p. 46]. The European critic of design John Gloag wrote in his book "Industrial Art Explained" that this type of designer could be flexible and resourceful but he would unavoidably get 'solidified' being related to just one industry [1, p. 32]. Indeed, independent consultants have more freedom in choosing projects, applying design toolkits and managing finance. The existence of in-house designer at large manufacturing companies may be explained by the need to maintain confidentiality. This leads to a paradox, whereby social and human-friendly design is produced by small companies whereas international corporations create rather monotonous standardized products. "Captive" designers continue creating "the civilization of supercomfort". Thus, the role of environment humanization and esthetic education has passed to "independent" designers.

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Irina I. Kurakina

Ethnic and Cultural Traditions in Undergraduate and Graduate Fashion Design Courses

Currently, fashion collections created by designers in Russia and other countries tend to use national cultural and ethnic traditions, including the Russian heritage as a source of inspiration. This is not accidental. Our world is not stable, and people are trying to find comfort in their cultural heritage. Perceiving yourself as part of a great culture helps survive and feel confident in the future. Turning to one's roots, history and culture provides a psychological basis in this unstable world which is full of negative events. Dmitry S. Likhachev noted that for the individual it is important to live in an environment created by the culture of his/her ancestors and by the individual him/herself.

The designer's role in the shaping of social changes in society is significant, with fashion designers focusing on person's image because our clothes combine two human aspects: cultural and material.

There is no need to prove the importance of Russian ethnic and cultural traditions in Russian fashion designer education and personality development and consistent introduction of corresponding themes into the curriculum.

The Fashion Design course at the Ural State Academy of Architecture and Arts provides for familiarization, study and use of themes related to the Russian cultural heritage within the framework of such related disciplines as museum field practice, academic design projects, and graduate project.

Museum field practice, for example, gives an opportunity to get acquainted with genuine examples of Russian art by visiting museums and exhibitions, sketching and studying artistic decoration techniques. Getting acquainted with the cultural wealth accumulated over centuries is particularly important in fashion design. This is true of folk art as well. Clothes and foot-wear created over many centuries are an integral part of our material culture. An innovative artist comes into contact with national art traditions. Field practice in St. Petersburg's museums with their numerous exhibits of Russian folk art and costume, in the museums of Yekaterinburg and other Ural cities and towns such as Nizhny Tagil, Nevyansk, etc. (which is very important in terms of regional ethnic and cultural traditions) gives an opportunity to gather information that can be used in designing modern garments.

The curriculum of the Fashion Design course at US-AAA allocates an important place to the design of children's clothes for different age groups, given the fact that clothing plays an important role in developing artistic taste and aesthetic principles. It can help cultivate love and respect for national cultural heritage. Young children are particularly susceptible to, and quickly absorb information about their external environment, making it very important for developing moral qualities, adequate aesthetic perception of reality, and world view.

Traditions of using folk costume elements in modern-day fashion are rooted in the distant past. The 1870s saw growing interest in folk art, which had not been used before. Nations were becoming aware of their unique individuality, and ethnography became a source of inspiration for creating both children and adult costumes. It became fashionable in Europe to dress up children in foreign national costumes, the Russian *kosovorotka* (a skewed-collared shirt) with wide-legged trousers and high boots being the most popular type. A hundred years later we can see lively interest in the cultural heritage of different nations – Indian, Russian, English, etc.

Folklore has occupied a firm place among fashionable trends. Within the framework of Design Project, it is recommended that students use references to Russian folk art and costume within the theme "Styles in Children Clothes" when designing garments in folk or ethnic style for schoolchildren. Style is an important feature of both adult and children's costume. The folklore style uses national costume motifs, while the ethnic one combines elements of folk clothes and applied art.

They are characterized by complex cutting, decorativeness, and usage of different kinds of artwork. In creating modern clothes, folk costume elements and decorations should be combined with modern shape. The students are supposed to learn fashion trends and analogues, identify certain typical formal and artistic

characteristics of a style that are the basis of each style (silhouette and structure lines, details, and decorative and color treatment). When sketching modern clothes and using folk costume as a source of creativity, a student can use the cutting characteristic of folk clothing, some elements of its décor and color combinations.

It is recommended that the students use traditional Russian techniques of decoration in designing textile croquis made in material and sketches of men's and women's models using those croquis. The ornament type characteristic of Russian costume and decoration technique has been attracting designers from the beginnings of the fashion industry. Studying how the Russian cultural heritage was used by Paul Poiree, Yves Saint-Laurent and other famous couturiers gives an insight into their excellent interpretations.

It is worth exploring the experiences of Russian designers in the use of folk art traditions.

Thus, for example, Nadezhda Lamanova, who was the first Russian designer to use Russian folk costume elements took fancy in its practicability, beauty and usability in modern clothes for working people. Vyacheslav Zaitsev's interest in folk costume became the basis of his creative style. He designed a lot of models under the influence of Russian art or Russian folk costume. The sources are various – peasant clothes, Vologda laces, Russian wooden architecture, etc. Talented Russian designers, such as G. Gagarina, E. Ivanova, T. Osmerki-

na, E. Sterligova, L. Telegina, L. Razumikhina and others – all have used Russian folk traditions in their designs. Studying different examples of how Russian cultural heritage was and is used by Russian and international designers may become a starting point for finding new original solutions to using Russian traditions in modern clothes.

Topics connected with Russian ethnic cultural traditions are also present in the designs of final collections created by our undergraduate and graduate students. Knowledge of the Russian cultural heritage and practical skills of using them as a creative source are successfully used by graduates in their subsequent professional practice.

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The Role of the Ural Museum of Design for Shaping the Aesthetic and Ecological Outlook of the Regional Community

Many countries in the world have design museums. The Helsinki Museum of Design was founded in 1873 as an educational collection of the school of applied art. It was the first museum of design in the Nordic countries and one of the oldest museums of this kind in the world. The Vitra Design Museum is already more than twenty years old, and it has contributed substantially to the development and dissemination of design [1]. Such museums keep improving and expanding their collections and activities. New museums keep emerging. Thus, in spite of the fact that London has had a design museum since long, a new one is going to be set up in the former Commonwealth Institute in the West End of the city [2]. The concept of a new museum of design in Moscow provides for its location in a bombproof shelter, and the founders suggest that it should spread the light of progressive ideas to the broad masses by means of bus-mounted mobile miniexhibitions. [3]

The idea of creating the Ural Museum of Design is dictated by the need for Russia to take advanced positions among world leaders not only at the expense of raw material production and exports but also by enhancing its science and technology potential and developing high technologies and promoting unique innovative design. The Ural region does have all it needs to achieve this: high quality intellectual potential, a well established Ural school of design, an extensive education and research infrastructure, and a wealth of traditions in the tackling of large-scale research and design problems. And it is going to be the first specialised museum of design in Russia.

The museum will comprehensively display the past, the present and the future of design based on contemporary art and design principles and methods, and on the latest scientific achievements in knowledge production, dissemination and implementation.

Rather than being just storage and collection of artefacts, the museum is seen to be a multipurpose cultural, scientific and educational institution not only conducting research, restoration, and exhibition activities but also acting increasingly more as a research methodology resource and a knowledge promotion and awareness raising centre. Moreover, the museum should be a free time centre where any visitor could have possibilities for relaxation, entertainment, and development of his/her intellectual and creative potential.

The social mission of this museum is to primarily raise the cultural awareness of the public, develop ownership of the social and aesthetic aspects of the environment among the young people, provide vocational orientation to the younger generation, and, ultimately, create an awareness that design should be used in domestic industrial production and in the living environment of the regional community.

The Ural Design Museum will demonstrate the history and the current state of design in the region. And, thus, it is essential to identify the characteristic features of the region in this area of human activity.

Firstly, the region has a distinctive historical industrial heritage: industrial architecture, machinery, tools, and drawings. This rich heritage and the existing industrial urban formations (Uralmash, Khimmash, Elmash, etc.) have partly determined the leading direction of design in the region, which is industry.

Secondly, the Ural branch of the National Research and Design Institute of Technical Aesthetics (VNIITE) was based here, oriented largely towards heavy machine engineering. The branch was one of the leaders within the structure of that Institute.

Thirdly, there is a Ural school of design represented by the department of Industrial Design (it was first called "Industrial Art") at the Ural State Academy of Architecture and Arts. Whereas its first educational activities were directed at heavy machine engineering and special vehicles (walking excavators, tractors, machine tools, and industrial robots), it has now been reoriented to innovative creative design [4].

Fourthly, the Ural region is rich in constructivist architecture, which is represented in Ekaterinburg by

unique architectural monuments which draw the attention of domestic and international theorists and practicing architects and designers.

The artistic concept of the Museum's exposition may be based on a combination of constructivist and suprematist stylistic techniques with industrial hi-tech features. 3D installations, art objects, prompts to video presentations, corporate identity elements and graphic navigation may be treated in a uniform style, imparting integrity and unity to the entire exposition. Also, whereas in the initial historical part of the exposition forms and colors can be brutal and laconic, 'The Future of Design' should have new modern materials, lighting effects, more sophisticated composition, and new high-tech, op-art and even biomorphic motifs. Futuristic imagery and compositional dominants would lend emotionality and expressiveness to the Museum's exposition.

One of the possible techniques that may be used for zoning the Museum's exposition is colour coding. The motif of a colour circle unfolding along the perimeter of the exhibition hall would allow the exposition to accurately mark zones and would facilitate orientation in the complex structure of the space. Alternatively, the interior of the museum could be treated achromatically, using one accented colour. In this case, the variability of the image in each zone could be achieved by re-proportioning the color treatment, the plasticity and the silhouette of the colour arrangement, composition and graphic techniques (dynamics, rhythm, raster, etc.), colouring method (for example, coloured illumination), etc.

"The Future of Design" section of the Museum would show prospects for and tendencies in the evolution of design and various conceptual projects, innovative materials and processes, energy saving technologies, environmental principles and other developments.

Children and their parents, manufacturers and consumers, intellectuals and workers will have an opportunity to learn about achievements in science and technology and design, and environmental issues.

The emotion-evoking contents and images of the Museum's exposition should create a unique environment for raising social, aesthetic and ecological awareness in the regional community.

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Social Responsibility of Business and a New A. Maslow Hierarchy of Needs

Each culture is a way of creative self-realization of man. Therefore, insights into other cultures enrich us not only with new knowledge but also with a new creative experience. Being a product of human activity, culture cannot exist outside of the community of people. The culture of a community is not a simple sum of individuals' cultures; it is supra-individual, representing values, creative achievements and behavior standards of community people. Culture is the only force that can shape a person as a member of a community.

Values are social indicators of quality of life and the system of values forms the inner core of a culture, the spiritual quintessence of the needs and interests of individuals and social communities. The system of values, in turn, has an reciprocal effect on social interests and needs, addressing one of the most important incentives for social action and behavior of individuals. The culture of each community has adopted some set of values and a corresponding hierarchy. According to A. Maslow, the hierarchy of basic human needs has five hierarchical levels: physiological needs, safety and security, love and belonging, esteem, self-actualization.

The needs and goals are also human, i.e. they are dynamic. A. Maslow considered self-actualization to be the top need – desire to express oneself, realize one's potential abilities and improve them continually. This is a need for creativity and beauty. "It's not just the final state, no, and the process of updating its capabilities." One of the moments of self-actualization is the highest experience – the joy of creativity, bringing together scientists, artists, inventors – "moments of ecstasy that you cannot buy…".

Japanese society puts team above the individual. Japanese companies willingly explore new knowledge coming from suppliers, customers, outside experts, or even competing firms. This sense of collective responsibility in Japan extends to relationships between people and between companies. Innovation in Japan is firmly based on personal loyalty to employers, their identity with the company and its operations. It is almost impossible to achieve the same level of loyalty and devotion in a western company [1].

A strong organizational culture has a well working mechanism of transformation of the company's goals into personal goals of managers and employees (the hierarchy of the organization's goals). Innovation requires a radical approach: collective rather than individual; generation rather than adaptation. In 1995, Ikujiro Nonaka and Hirotaka Takeuchi published the book "The Knowledge-Creating Company", which laid the beginning of a consistent theory of knowledge management for innovation. "Knowledge management is a means to an end, rather than a self-valuable product."

When organizations innovate, they do not just process information "from" and "to" to solve problems and adapt them to the environment. In fact, they create new knowledge and information from inside in order to redefine both problems and solutions during the process and re-create their environment. The authors emphasize that the two forms of knowledge – explicit and implicit – are working together, they interact interchangeably, and in the process of creative activity. Nonaka and Takeuchi combine four forms of knowledge conversion in the model of "organizational knowledge creation", which consists of five phases. These five phases are, in fact, an effective strategy to support innovation: transfer of tacit knowledge, creating concepts, confirmation of the concept, creation of archetype, cross spreading of knowledge.

Innovation is born in the interaction of explicit and implicit knowledge. A spiral of knowledge is a possible model of this process. It starts with the development of the individual level, moving it through the growing interaction between individuals, which crosses the boundaries between the sections and divisions, departments and organizations. And all this is done in the name of innovation [2].

The successes of Japanese design are often attributed to the centuries-old culture, arts and crafts and daily life. Indeed, in the formation of the objective world from ancient times the Japanese have held to the concept based on functionality, conciseness and purity of form. Artistic culture has permeated the entire life of the Japanese. These traditions, of course, could not but influence the formation of modern Japanese design. How-

ever, their age is measured in centuries, where design in Japan is no more than 60 years old (for example, the exhibition "Modern Japanese Design: 100 best things", Vladivostok, 2012) [3]. Number one goal for any innovation project should be a product in which the consumer sees the real advantages of use, quality, cost, innovation, merits or ability to solve problems [4].

The Japanese association of artistic environmental design in the age of industrial production, established in 1966 at the initiative of the leading Japanese designers, is probably still one of a kind. Designers do not want to limit their activities to purely pragmatic goals (increasing sales, intensifying production, etc.). Design as understood by the leading representatives of this domain is primarily a means of streamlining and harmonizing the modern environment created in the context of modern production. Using the "Benesse" corporation as an example:

csr (corporate social responsibility) = business activity is a means and not an end:

1. The goal is to make the current and next generation happy. "The economy is culture", "New Maslow's hierarchy of needs."
2. The transition time from "destroy in order to create something new" to "use to create something new."
3. Global warming and sustainable development: "What business can do for a brighter future."
4. From capitalism to financial capitalism, the public interest [5].

It seems that in this design concept, which places emphasis on the humanisation of the environment itself rather than technology that creates that environment, on designing that is directed from man to technology rather than from technology to man, has a lot in common with the characteristics of the material and artistic culture that is traditional for the Japanese.

This culture has never had any division into material and spiritual arts, and the world for it is always something whole. The old (or the reproduced from old models) and the new coexist in a single living space seamlessly, forming a kind of spiritual environment supportive of searches in design and affecting the real lives of people. In our opinion, the future belongs to technologies combining the best features of both eastern and western approaches to innovation, and constructing a universal model for generation of organizational knowledge. The key to success lies in numerous transformations of business hierarchies towards social and cultural innovation in design.

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Marina V. Pankina

Socio-Cultural and Environmental Aspects in the Contents of Designer Education

In the last decade, the issue of human ecology and environmental culture has come to the fore. The restrictive measures are being supplemented by other forms of human interaction with the environment. Thus, ecological design ideas penetrate into the production and consumption systems across the board, offering solutions to economic, technological, social, artistic and aesthetic, philosophical, ethical, and psychological problems.

The influence of design on all aspects of society is increasing. New conditions and forms of human interaction and design culture are emerging.

In the professional sphere, we are observing an increasing awareness of designer's moral and ethical responsibility before society and nature and search for professional remedies to environmental problems.

Design is characterized by a variety of functions, including cognition, value orientation, communication, adaptation, education, etc. The socio-cultural nature of design manifests itself in the influence of the material and spatial environment on social behaviours, the communicative capacities of form and the signifier aspect of articles designed. The designer should be able to realize environmental principles in his/her design activities and anticipate the effects of his/her designs on people and their philosophical and aesthetic ideals and environmental consciousness.

The concept of ecodesign can ensure a more effective and harmonious interaction between individual and nature.

Contemporary design projects should rely on the results of environmental, social, economic and humanitarian studies. Programmes of transition to a higher level of environmental awareness are emerging in inhouse design departments of most companies under the influence of legislation and public opinion.

Modern-day environmental solutions involve not only a rethinking of functionalism and development of new materials for creating easier and more economical designs but also emergence of new, broader concepts of designer's activity and their social and cultural role in the preservation of the planet.

The terms "ecological design", "sustainable design" are widely used in design practice and research literature. Ecological design issues are related to various areas of production and scientific knowledge – from architecture, industrial design and applied ecology to advanced research in philosophy, healthcare, psychology, sociology, and pedagogy.

Along with obvious requirements of beauty, convenience and economy, ecodesign gives special attention to the following issues:
- consumption of resources in the design, manufacture, use and disposal;
- origin of the material;
- safety in the use of the product, harmless to health;
- minimization of noise, emissions, radiation, vibration, etc.;
- simple and safe disposal;
- recycling of materials with minimal damage to the environment.

The structure and role of, and prospects for the advancement of ecodesign may only be understood through consistent examination of this phenomenon. As well as the ecologist, the designer must think about the product in terms of how it is going to influence the environment, foresee the possible consequences, minimize possible damage not only to individuals and society but nature as a whole.

To change the mindset of designers it is essential to develop environmental awareness and competence in future professionals in the course of training. This should ensure that projects are nature-sensitive.

Currently, there is no higher education course that would be aimed at developing a worldview, culture and environmental consciousness and equipping future professionals with design toolkit, techniques and technologies. There is a course of "Ecology" in the design education standard that considers the contemporary status of the problem and rational nature use, as well as elimination of adverse effects on nature.

To close this gap, the author has developed a programme and a manual "Ecodesign", which is success-

fully used for teaching the students of the pedagogical universities in Yekaterinburg.

The course of "Ecodesign" may be included among other electives into the curriculum for Industrial Design, Environmental Design, Interior Design at Master and Bachelor levels, as well as into "Environmental Education" and "Environment Protection" programmes.

The methodology for teaching "Ecodesign" is based on the principles of informing, analysis, systems approach, activity and motivation. Being integrative and generalizing in character, this course has potential to become an important factor in shaping future professionals in many areas.

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Prospects for Engagement of Design Education in the Solution of Region's Social and Cultural Problems[1]

Russian design has been positioning itself as a socially oriented type of design activity throughout its entire history. A considerable place in its theory has been given to studies devoted to the humanization of various walks of life and potential of design for developing design culture in society. Despite being largely declarative, Soviet design provided a major impetus to social orientation of design in other countries and contributed to the emergence of projects that were not only for profit but also targeted at social and cultural problems.

However, the periods of 'perestroika' and after led to a dramatic change in priorities in domestic design. Commercial challenges came to the foreground of the profession due to the need to survive. This has had an effect on design education as well, with the majority of student projects being of an essentially utilitarian and demand-oriented character.

Today, any reform of design education in terms of its contents should involve a kind of "reset", which means inclusion of design education into the changed social and cultural context. The third-generation Russian education standard for design provides for development of such competencies in students as active citizenship and social responsibility. In this regard, design schools should address a number of related issues:

1. identification of challenging topical design trends in the development of the social and cultural environment in the new economic and IT context;
2. modeling of design education that should include innovative teaching and learning methods and practices related to social and cultural issues;
3. introduction of new issues into the academic activities;
4. development of new theories related to the changing position of design in the current social and cultural environment.

The scope of this publication does not allow all these issues to be explained in detail and, therefore, I will outline just some of the thematic areas related to the socio-cultural agenda of the Ural region that have been tested in the undergraduate and graduate teaching process at the Graphic Design Department of USAAA:

1. various branding developments (e.g. design of unusual promotional items, symbolic characters for Ural cities and towns, entertainment and cultural facilities that reveal historical traditions of the region, computer games and mobile phone services involving users into various city life activities, design projects aimed at supporting small and medium-sized business, etc.;
2. information communication projects (e.g. projects aimed at promotion of various areas of scientific knowledge, traditional and modern-day leisure activities and sports being developed in the Urals, cultural interactions and exchange projects);
3. projects aimed at promotion of significant social and cultural facilities, and scheduled and forthcoming events (e.g. EXPO-2020 initiative in Yekaterinburg or biathlon Junior World Cup in Biathlon in Khanty-Mansiysk);
4. social services projects (e.g. mobile phone options for emergency services, mobile phone options for physically challenged people, anti-stress applications to facilitate adaptation of first-year students);
5. eco-friendly projects (renewable energy projects for advertising communication).

Needless to say that this is not an exhaustive list of design possibilities. The diversity of social and cultural issues suggested by teachers and students for academic projects provide evidence of high social commitment.

However, solving the internal tasks of design education is only one side of the coin. Prospects for development of an innovative design education environment depends to a large extent on how well the federal and regional authorities understand design's potential for tackling social, cultural and economic problems and

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on relevant governmental support. This, in particular, means the need to set up an agency that would be similar to design councils that exist in the majority of the developed countries and stand behind the impact of design on the development of these countries.

Equally important is the task of stimulating interest amount local for-profit and non-profit-making organizations in the use of design as a social and cultural policy tool. It should be kept in mind that interest in student projects is a strong motivation for would-be designers in their educational activities. While such social and cultural partnerships remain to be a dream, prospects for design education are mainly associated with the energizing of the school's own initiatives. Most notably these are as follows:

1. getting proactively involved in challenging social and cultural projects that are implemented by local authorities, and for-profit and non-profit-making organizations;
2. participation in international, national and local social- and cultural-oriented projects and competitions, organization of exhibitions and workshops, etc.;
3. co-operation with business organizations for the purpose of promoting their social projects;
4. participation of design education representatives in expert roundtables and forums devoted to design issues, and implementation of projects initiated by the design profession;
5. promotion of design's possibilities through mass media.

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Poster Competition in the Graphic Designer Training Process

Within the framework of Design Project, students at our school should do a course project "Poster" based on the themes of the annual art exhibition organized by the Museum of Ural Writers: "Guys Who Shook the World" devoted to 20th century rock musicians, "Planet Nippon" on the influence of Japanese traditions on international development, "A Fir-Tree in an Old Home". Student works have been exhibited at various exhibitions, including those held by the Russian Association of Designers, and have won awards.

In addition to developing design skills, such course work and participation in similar events contributes to professional improvement and realisation, and enhances self-esteem, while awards and honorary mentions contribute to the portfolio, social activity and interest in the profession.

This type of project provides an opportunity to put into practice knowledge learnt in theoretical lectures on history of arts, composition, typography, chromatics, etc. It also presents a stimulus for independent work – search for and analysis of thematic material, its review and development of one's own position. Original themes, opportunities for self-expression, freedom in the choice of graphics make the poster creation process particularly interesting to students.

In a society with a well-developed infrastructure, with the advent of numerous new mass communications and computer technologies, the traditional poster as it emerged in the late 19th – first half of the 20th century is experiencing substantial changes –pragmatic features are becoming predominant. The majority of posters produced today on the market carry a practical function rather than aesthetic.

The principal role is played by advertising and social types of poster. Given this, work on an exhibition or competition poster is attractive, first of all, by a possibility to create an original design product taking into account all formal requirements for it. It has become more various and original in terms of artist's creative manner and individual style. It helps develop new plastic thinking and a new poster language. The modern-day poster shows a tendency towards abstraction, allowing one to not only analyze sensually perceived visual material but also discover properties, aspects, signs, and relationships making up their essence. A special sign system of visual information communication is created.

Compared with other types of poster (advertising, political, social), the competition or exhibition poster has its own features, first of all considerable differentiation of the target audience. The art, graphic and semantic components and their interactions come to the foreground. For example, it is essential to create a special functional visual system of mutually subordinated elements in the composition to ensure adequate perception of the meanings.

Studying the heritage of well-known masters of poster art is a source of inspiration for creating new forms. In contemporary poster art, authors often turn to the stylistic traditions of constructivism, filling it with new, up-to-date contents. Major attention is given to composition, which, if interactions between individual components are well thought out, becomes a powerful means of communication. Use is made of techniques characteristic of this style: original interactions between components, linear and rectangular rhythms, dynamics of simple geometric shapes, contrasting colours, photography elements, massive font elements, etc. Students have to address the issues of systemic design, subordination of functions and purpose. All of these allow one to create an absolutely new original product containing, at the same time, references to the heritage and drawing cultural parallels.

New images appearing as a result of synthesis of traditional forms and topical contents have a powerful emotional impact on the viewer. This effect is enhanced by the use of techniques, characteristic of advertising, for example, irony and humour. Metaphors acquire special value, considerably expanding the meaningfulness, persuasiveness and expressiveness of an image. It gives a uniform meaning to the two aspects of the poster – the graphics and the rational. A slogan based on the metaphor further enhances this effect, helping understand adequately the meaning and associations of proposed images.

Special attention is given to the specifics of the communicative component of the poster and to the search for innovative forms of dialogue. Work starts with the

formulation of the semantic and substantive parts of the message within the stated theme, and their relevance to the current context. Then the student has to select means for visualizing the message and ensuring its subsequent 'decoding'. This work is impossible without knowledge of psychology of perception in relation to graphic design objects.

It is essential to explore and review the specific features of conscious and subconscious visual impact posters make on the target audience. The message contained in the poster is typically intended to have a direct impact on the viewer over a rather short time, which sets special requirements as to the imagery of the poster and accuracy of perception of the message. It is necessary to exclude any ambiguity in its interpretation. A major role belongs to what is known in psychology as operations of perception. Each operation should have a corresponding certain degree of visual graphic concretisation. A number of questions would have to be answered, for example, which scenarios of perception are mainly supported in the poster? Where should meaningful zones be located? The influence of the dominating colour on emotional perception needs to be determined. Without considering these questions it is impossible to create a harmonious graphic design object with high art and functional qualities.

A special place among exhibition posters is occupied by font posters. It requires from the designer high professionalism and profound knowledge of the theory of fonts and typography.

The creative process of bringing the imagery and contents of the text into a single whole results in an original artwork. When working on a "Poster" project, students have to develop a variety of font compositions: 2D, contrasting, in outline, etc., which allows them to competently and effectively tackle the issue identifying the semantic hierarchy of components in the general composition and arrange the visual components making up the textual field of the object.

A competition poster offers experimental freedom in the search for art and graphic techniques for presenting a message. However, despite a broad range of opportunities for using digital technologies, manual graphics in this type of poster acquires special value. The emotional impact on the viewer is enhanced considerably, and more effective forms of social communication are learnt.

The practical character of the design projects does not provide for lectures on theoretical and methodological aspects, but short briefing presentations are essential. They should stimulate students towards independent work and provoke interest in the object to be designed.

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The Concept of a Teaching Aid for a Course of Composition in the Three-Level System of Art Education

Art education is a daring venture, as it is about developing a creative personality. Art needs a creative impulse to achieve a desired effect in the audience and to obtain an expressive image.

Artistic talents and original thinking must be developed in 10 to 14 year-olds (education level 1) who possess initial intuitive sense of composition. It is important to use means of expression that would give young students an opportunity to understand their personality and temperament whilst enriching them in their formative years.

According to the existing curriculum, it is recommended that the course of composition in the education process should be divided into two stages. At the first stage, half of the teaching time is devoted to easel composition. The student studies composition in practical activities by genre of fine art. The second stage is devoted to various kinds of decorative applied art, and this is where the programme should be in accordance with the specialization of the teacher. One could suggest a method for studying composition based on the semantic system of the visual image. There would be nothing wrong with it, but only where the teacher gives the student a semantically concrete visual assignment. The result would be the same – the student would do the assignment based on their intuition and the teacher's advice, guidance and experience, which should be of an indirect associative character. Non-figurative art sacrifices the iconic sign and develops the indexal and symbolic components. To say triangle, circle or square, would mean to contradict the centuries-long cultural experience. This conclusion comes to one's mind when reading the articles by V. A. Toporov ("Geometric symbols", "Square", "Cross", "Circle" in the encyclopedia "Myths of Peoples of the World" (Vol. I–II/ – V/1980–1982.)

The content of the course of composition proposed in our teaching aid consists of three parts: theoretical, practical (test), and analytical.

The purpose of the theoretical part is to demonstrate models from international fine arts: there is a close link with the history of arts here. The manual contains select prints of artworks, which are analysed in terms of composition proceeding from the general to the particular. Artworks are shown to consist of three main parts:

- the center of the composition and dynamics of movement towards it;
- the frame (its shape, proportion, size);
- the artistic idea of the author.

The latter part, i.e. the artistic idea, is the creative substance that belongs entirely to the author. Students are supposed to draw the conclusion that all compositions are absolutely individual, because every author finds his expression techniques for communicating the idea of the composition. The rules of the "game with the audience" are dictated by the artist, and not vice versa, no matter what language was chosen for the rules – realistic, abstract or formal.

The practical part of the manual consists of a series of exercises and tests for the foundations of the course of composition; it is called "the grammar of forms". Its main idea is a set of statements concerning the duality of the world, consisting of a countless number of oppositions in the environment in which we live: good – evil, black – white; large – small; multiple – single; principal – subordinate; hot – cold; "Yin-Yang"; solid – liquid; smooth – rough; etc. Students do exercises in a certain order (by degree of complexity) on the following mottoes:

- large – small;
- massive – delicate;
- symmetry – asymmetry;
- background – object;
- speed – rest;
- metric repetition – rhythmic repetition (beat – rhythm);
- flatness – dimensionality;
- movement – statics;
- appearance – disappearance, etc.

This series can be continued as the teacher may want it. In this regard, the method is an open system. The essence of the assignment is as follows: the student makes a composition on two topics of alternative character in a simple and an expressive form, based on his own visual experience. The main criterion of assessment is the integrity of the composition (the availability of the compositional centre, balance) and its expressiveness.

Our suggestion is that exercises should be made in the 150×150 mm format, but this is not critical. The teacher may choose a different format, as well as technique and material. As for the square shape, it is essential to ensure that the student may manipulate the sheet and rotate it to check the balance of the composition. Of course, this variant works better with abstract compositions, but as mentioned above, a metaphor, which is to be translated into the language of fine art, proves to be more expressive with the help of abstract forms.

Most importantly, when tackling contrasting tasks in terms of meaning, the student is forced to look for an original solution to the composition and new expressive means in order to emphasize the opposition and reveal the identity in the image and its metaphorical transformation. All this librates the young creator from canonical dependence on any certain genre of art and gives an opportunity to apply various techniques.

In the analytical part, after the exercise students are asked to arrange their compositions in the group by significance. The assessment criteria should take into account, first of all, adequacy to the assignment and only then the expressiveness of the work. As a rule, students carry out this task successfully. This is an important part of our concept, as it develops analytical and, subsequently, synthetic thinking in young artists. It is important to teach them how to control their own consciousness and to develop an ability to view results objectively. All this plays a major role in choosing creative specialization in the future. The teacher has a visual "picture" of each student, and, most importantly, they begin to better understand their preferences and their creative potential. There is thus more certainty in the relationships.

The series of tests is a kind of alphabet. We do not stop to think over each letter when we are writing. In the same way, authors of future artworks should have no difficulty in solving elementary composition problems.

The second stage of training may be practices for students aged 15 to 20 at secondary art schools. The Khan-

ty-Mansiysk College is a boarding school of arts with the following specializations: art ceramics, woodwork art, textile art, and spatial design. All these areas are of an applied decorative character, so in-depth study of formal composition is especially relevant to the secondary stage.

Compare the work of a designer on a spatial environment with the work of an artist or architect. We could state, with a certain degree of convention, that the architect "organizes the space", emphasizing its performance by architectonics, forms of door and window openings, light, and colour and texture of the surface finish. The artist "works with the plane" in this space, aesthetically processing it, introducing artistic images and signs, creating picturesque panels, bas-reliefs and sculptures, taking into account their perception in the environment. The designer, in turn, "arranges the space" to suit certain functional processes taking place in it, forming a technologically and psychologically comfortable environment. In this situation, an awareness of one one's own activities in the design process emerges.

According to Le Corbusier, composition is not only an expression of intuitive harmony but also a product of conscious choice. The "grammar of forms" is supplemented and made more complicated by the "construction" and depiction of action. What happens is transformation into a new structure, enrichment with figurative and semantic components. Each student develops individual means of creative work. Pair compositions in the form of exercises on opposition, particularly on expressiveness of these oppositions are aimed to prevent easy "design" by mechanical selection of forms; a question immediately arises therefore: "Why should it be depicted in this way?". Exploring by sketching is thus needed. What matters is personal interpretation assignments by students. In this way, students develop their own toolkit.

The purpose of teaching students composition at the third stage in the university course of "Industrial Design" should be development of independent analytical thinking and ability to synthetically process the design practice; the student should be able to draw the right conclusions from composition analysis of artworks and philosophical trends in industrial design, but also beyond it.

What does the system of test exercises give to the teacher? If we arrange the results of student exercises not by significance (or complexity) but by student

personality, we would see how the world outlook and perception of the student manifest themselves in his works, i.e. we would see his creative "portrait" and his potential. It would become clearer what recommendations would be more effective in performing propedeutic assignments or term projects. Having got acquainted with the system of oppositions, the student himself would pay attention to the difference that the formal structure is more important in the composition, where in life it is the meaningful component that is more significant. Is there really that much in common in these concepts from the philosophical and applied points of view?

To develop virtuoso composition skills in students means to give would-be designers an opportunity to be, according to Eugene Rozenblum, "an agent of unrest" in society, who keep going beyond stereotypes, break them, create new original forms, liberate the individual from the pressure of the fossilized material environment determined by natural, regional and ethnographic factors.

All the new ideas should be vested in a new art form, and it is essential to develop and co-ordinate in would-be designers their physical, sensory, intellectual and spiritual powers in harmony.

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Design as a Symptom of Non-Classical Culture

In non-classical culture, design originates from necessity and appears as an indicator of the new state of culture. This non-classical state is associated with the crisis of the ontology, which forms the conceptual basis of culture. Culture loses the metaphysical dimension of its concept and the great faith that forms the cultural entirety and that is its foundation.

The collapse of ontology entails the collapse of all the systems in culture: values, social relations, etc. Revolutions – scientific, social, and sexual – are a natural consequence of these processes. The decay of the classical art system occurs from necessity in this cultural situation, and results in the emergence of non-classical artistic practices of modernism, avant-garde, and postmodernism. The nonexistence of classical art in the non-classical case leads the new art towards active formal search. "Naturalization" of the form, its emancipation from the content is the distinguishing feature of the 20th century. This is understandable, because the content is just connected with the ontological value level of culture, where a gaping void has formed.

Design is the leader in form-generation amid large-scale formal experiments of non-classical artistic practices, because in design only the connection of form and content takes place.

Only the outcome of design originates from necessity, and only its form may lay claim on expediency. The great advantage of design in the world that has lost any meaningful basis is its practical orientation. Reliance on pragmatism makes this kind of creativity deeply sensible. In practice, and in the pragmatism of life, ontology is acquired.

Besides, the work of designer is in demand with non-classical culture, as the underclass individual has become the carrier of this new culture. He is devoid of any cultural background and exists in a state of radical uncertainty. His existence has no meaning, he has no ideal against which "high" art was once formed, and V. Veydle wrote that it's "dying". For the new subject of culture,

the horizon is restricted to daily life. But daily life does not provide the feeling of coziness and harmony.

The world has fallen apart at the level of daily life as well: things, houses have become anonymous soulless objects (see M. Tsvetaeva: "the house does not know that it is mine"). M. Heidegger's contraposition of thing and object as having a metaphysical dimension and not having it, respectively, is typical.

The mission of design in this context is high: to reassemble the crumbling reality. To create Peace in the world that is ready to turn into Chaos. To create harmony in the chaos of forms and meanings. To create an expedient form in the culture devoid of purposes. What is this: creation of a world out of nothing? No. Having no ontological grounds, modern culture appeals to traditional culture for the material.

Design becomes a compilation of fragments of the past ages, an eclectic mixture or stylized design and recycling of previous art forms that appeared from necessity or grew out organically from the spirit of the entire culture.

It is indicative that design is "omnivorous": Antiquity, China, India, European baroque and the Middle Ages – all forms are freely mixing and combining as a universal kit.

The universal motivation for such freedom with regard to the material is the play strategy, as claimed by modernist and postmodernist theorists. "While playing, we imitate the forces that were and are creating the world" – the expressionists say.

Being fitted into the whole creative strategies of non-classical culture, design is the hegemon here as well, because the game does not take it anywhere, does not separate itself from earth, from reality. The pragmatic point here should help again. As we see it, design that expresses advanced non-classical trends of culture retains, at the same time, the main property of classical European culture, i.e. humanism. It is the only artistic practice that does not lose orientation to person. Design is a work made for person.

But what does this work do with the person? Who is the individual whom any design products are addressed to? This is a Layman, a consumer, a person closed in the world of objects, but this Layman feels his implication to sublime due to the artistic component of the design products and to conciseness of its form.

Design creates a consumer who consumes the beauty. But the uniqueness of the beauty is in its useless-

ness, inutility. That is to say, design kills beauty by creating beautiful things.

On the one hand, design expresses the advanced trend of mixing the high and the low, the spiritual and the material, the elite and the mass in non-classical culture. But it also turns out to be an indicator of the diseased state of the consumer society, and, in the end, it rebels against the ubiquitous utilitarianism by creating redundant, non-functional, irrational forms.

So we can conclude that non-classical culture of the 20th century is the era of design. Design accumulates all the gains and losses of this new culture.

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What is Design and what is not Design?

We can often see such advertisements as "Wanted a design artist"; "We offer nail design"; "Looking for a landscape designer"; "We'll do interior décor design for you"; "The sofa is available in five various designs"; etc.

As we can see, the word "design" has become so trendy that it is used everywhere where we deal with beauty. Often when those who have finished secondary school or art studio and wishing to enroll for the Design course at our Academy believe sincerely that they would study art and are often surprised to find out that design is not art.

Let us consider the origins and define what design is. Design is a plan; a scheme; a deliberate project; a purpose; an intent; a drawing; a sketch; an arrangement of elements; a pattern; a composition; etc. / http://www.merriam-webster.com/dictionary/design/.

Design is a creative activity aiming to define formal qualities of manufactured products. These qualities include the external appearance of a product but mainly the structural and functional relationships which transform a product into a single whole both from the customer's and manufacturer's points of view. Design aspires to capture all aspects of the environment brought about by industrial production. /definition of design offered by Thomas Maldonado and adopted by the 6th Congress of ICSID. (http://ru.wikipedia.org/wiki/%D0%94%D0%B8%D0%B7%D0%B0%D0%B9%D0%BD#cite_note-1/.)

There are also alternative definitions of this type of creative activity:

Design is a creative method, process and result of artistic and engineering treatment of manufactured products, complexes and systems oriented towards achievement of maximum conformity of designed objects and environments with human needs, both utilitarian and aesthetic. Design is an indissoluble inter-dependent relationship between aesthetics and technologies in which aesthetics sets the content (essence) of a thing or process, and technology defines their form.

Today, design as an engineering and aesthetic activity has "spun out" into a number of directions – graphic (printing products, web design, advertising, and visual communications); environmental (interiors, urban design, fest design); fashion design (closely connected with industrial design – unlike "couturier" projects); and industrial design proper (all sorts of engineered products operated by human user).

From the above it follows that the definition "Design Product" covers objects of design with the following characteristics:
1. Utilitarian ("use", not decoration) function;
2. Industrially reproduced, engineered (not made manually);
3. Mass produced;
4. Operated by a human user (not robots or machines);
5. Possessing aesthetic qualities.

Thus, we can suggest the following definition of design:

"An engineering and aesthetic activity aimed at developing aesthetically expressive utilitarian objects mass-produced by machines for a human user", or simply "Design is a useful beauty mass-produced by machines for human individuals".

Based on this definition, we can filter out activities and products which are not design (with reference to the examples cited at the beginning of this article).

"Nail design" is not design because its "objects" do not carry a utilitarian function (only aesthetic);

"Art designer" is either tautology (designer is artist/engineer) or just incompetence – an artist depicts or decorates but does not design or engineer;

"Landscape design" does not exist because this product, a landscape image, is not mass produced industrially;

"…design of interior decor" is a confusion of concepts: décor is decoration, aesthetic function; interior design is about improvement of functionality (i.e. utility) of premises. By the way, if an interior designer restricts himself to choosing finishing materials, furniture or lighting without improving the functionalities, he becomes a decorator rather than designer;

"The sofa in five designs …" – a sofa has one image developed by a designer but may have several interpretations. If a modular piece was meant, or its possible transformations, this is to be credited to the designer; if it is related to finishing materials, these are proposals from decorators;

By way of concluding, let us consider differences between design and art.

Concerning objectives: an artist expresses his personal impressions and moods; he is interested in being different, original. The main purpose is self-expression. A designer expresses the interests of a social group of consumers; his purpose is to meet the functional and aesthetic needs of product users. In design, there is no "Ego"…

Concerning methods: an artist processes images in his mind, transforms them through his vision of the world and reflects the result in his artworks. A designer studies the laws of technical aesthetics, ergonomics, design and engineering basics, and uses them for creating the image of a product, i.e. he works with objective reality.

Concerning function: an artwork has no utilitarian value; its purpose is to produce a certain impression, to create a mood, or to decorate something. A design product always has a certain use, a physical function (operation for which the object is intended).

In the relationship "author-product", it is extremely important to the artist to produce an impression on the viewer ("user" of the artwork) so that the latter remembers the author; a designer is not interested in this — the main thing is that the customer should get a convenient and beautiful object for use.

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Interaction and Collaboration between the Orenburg State University Courses of Freehand Drawing / Painting and Design and Orenburg Regional Museum of Fine Arts

The two-level system of education calls for special consideration of graduate adaptation to future professional practice. The federal higher professional education standard for Design sets a range of requirements with regard to professional activity, including ability to use creative design methods, to understand principles underlying the development and implementation of design projects; and to have knowledge of and skills for industrial design and art. These requirements imply the availability of professional competences supported by field practice and art experiences in both students and teaching staff.

 Orenburg State University has gained some experience with regard to such interaction. In 2009, the Departments of Freehand Drawing/Painting and Design and the Museum of Fine Arts signed an agreement providing for a number of collaboration opportunities in art, design, and IT. All of these activities meet the requirements of higher education in the new format.

The agreement states "…readiness for collaboration to address current problems in the theory, methodology and practice of fine arts and design and folk crafts in Orenburg region, to improve human resources development through organization of workshops, conferences, exhibitions and master classes for students and realization of the Museum's extensive potentialities for advanced training and internships of University's teaching staff".

Collaboration has proved to be comprehensive. In addition to the opportunity to attend exhibitions and studios of artists and members of the Russian Union of Artists, the agreement has enabled the students and staff to hold meetings with fine art experts, master classes, workshops, etc. on various topics including issues in fine arts and design technology, practice and methodology. The Museum of Fine Art has established a tradition of organizing a New Year exhibition, which gives a lot of attention to historical exhibits and rarities relating to graphic design. Exhibition idea, exhibit selection, its partial arrangement, reconstruction and realization are placed on the students of the Design Department led by Associate Professor G. A. Naydanov, bearer of the title of Honorary Worker of Culture.

In 2010–2011, The Department of Freehand Drawing/Painting carried out a research project "Analysis of Creative Trends in Painting, Graphics, Sculpture and Decorative and Applied Arts Represented at the Orenburg Branch of the Russian Union of Artists (1960–2010)". Within the framework of that project, the Museum of Fine Arts held in March 2011 the exhibition "A Reconstruction of the Suprematist Mural Painting in the First Soviet Theater of Orenburg (1919–1921)". The exhibits were prepared by the design students led by Professor I.V. Smekalov, who created a synthesis of research and learning in the teaching process. The students studied the historical material relating to the origin and development of the first higher art education school in Orenburg (a branch of UNOVIS). The results of the study and 1920s artwork reconstruction provided a basis for I.V. Smekalov's research work and gave an impetus to further student creative work. The students of Group 06GD A. Tantsev and E. Alpatova reconstructed I. Kudryashev's curtain sketch, and the student D. Komarov designed a virtual model of the auditorium in the first Soviet theater of Orenburg. In June 2011, I.V. Smekalov published his monograph "UNOVIS in Orenburg. On the History of Artistic Life in the Russian Province (1919–1921)". The book was presented at the Regional Museum of Fine Arts. In 2012, it received an award at the VIII International Book Fair (St. Petersburg) in the nomination "Books on Art".

Such collaboration helps students develop creative design methods, perform sketching based on historical materials and achieve balanced compositions in design projects; focuses efforts on the creation of a meaningful contextualised image; develops various fine arts

and graphic skills. Moreover, the students' interest in art and research resulted in an exhibition, "Young Artists of Orenburg", which has now become annual.

In 2010, the museum renovated its halls, which gave an opportunity to involve students in supervised design work, including:

- museum hall composition, structure and color design;
- structural engineering of the exhibition equipment;
- curtain design;
- 3D sketching;
- development of graphic elements and printed products;
- architecture and art supervision, etc.

In the course of the project, the students developed an ability to understand the principles of design-project development and realization with reference to a specific case given customer needs and wants; orientation to creating an original project including a set of objects of different functions and purposes; determine individual work formats and adapt to different activities within environmental design. They had to take into account practically all customer requirements, apply knowledge of contemporary exposition arrangement in a fine arts museum, allow for the regional conditions and natural context. It should be noted that the customer was satisfied with the final result and project cost despite risks involved in the commissioning of us as contractor. The project proved to be mutually beneficial for both parties, given the fact that the University and the Museum considered as their main objective the professional development of both staff and students of architecture, architectural environment design, and design in order to meet the needs of the region for high quality professionals.

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The Innermost as the Basis of Living Space

Human perception of the world is changing in terms of planeterisation and globalization: the inner balance is lost because of chaos sensation, rhythm of life and ongoing changes. Under the circumstances, there's a tendency of living environment dehumanization, life space impersonification, desacralization of accommodation; thus, having a home, a person is homeless in the world around him.

Everything mentioned above indicates the urgency of the "innermost" category, which is opposed to the absolutisation of the rational, pragmatic and utilitarian in the modern culture. In its conventional understanding, the "innermost" category correlates with such notions as "spirit", "spiritual", "sacred", "divine", "harmonious", etc.

In this regard, the experiences of the East and the West, which illustrate two ways of development, are of primary importance: the first is linked to individualisation and the second to planeterisation, that is where the different value focus of cultures on spirituality (uniqueness, irrationality) and civilisationality (unilaterality, rationality) stem from. Regardless of technological advances, which encourage borrowing features of the modern way of life, the East cherishes its inner world and its spiritual culture. A logical question arises here: what is important – traditions, original way of life, background, making up the essence of spirit, of soul. Or is it craving for civilization – comfort and welfare?

This is not a new issue for Russia: it was brought up by the Slavophiles and the Westernizers. In the con-temporary circumstances, the Slavophilic concept is reflected in attempts of a person who is tired of the city bustle and chaos to be back to his roots, in his attempts to build a family home based on return to the values of the past. The Westernizers' theory is reflected in building majestically towering blocks of flats and mansions, lacking individuality and not affecting anybody's feelings.

A modern person does not regard his home as an extension to his body. A home is a place to sleep and to satisfy one's needs. Living space is losing its valuable component of immobility and stability; of saving it as a gift or tradition; of its saturation with innermost (sacred) meanings. Its emotional component, saturated with atmosphere, energy, harmony, which cannot be touched or measured but can only be sensed and felt is disappearing too.

In the post-modern age, the boundaries and oppositions are fading. The new, neoclassical, understanding of the innermost does not deny conventional interpretations of this notion but it equalizes (substitutes) notions formerly being two poles apart (soul – body, sacred – mundane, etc.). The pursuit of the innermost is transferred from the "sacred", "celestial", "spiritual" categories to the territory of the ordinary, mundane and profane.

Therefore, the innermost of living space appears to be something that requires protection as a treasure (material and spiritual); something that keeps eternal values and something that is vital for a human soul in the completeness of being.

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A Course of "Organisation of Design Activity" at Novosibirsk State Academy of Architecture and Arts, Russia

At Novosibirsk State Academy of Architecture and Arts (NSAAA), a lot of attention is given from year one to acquainting design students with design process management. In addition to the principal discipline of "Designing", this aim is pursued by "Introduction to the Speciality", "Foundations of Creativity", etc. The ultimate course acquainting would-be professionals with professional designing methods is "Organization of Design Activity". This discipline is taught in the autumn term of Year Six before the final project term. The objective of this course is to help students summarize all knowledge of design methodology they received during the previous five years and prepare them for independent work after graduation. The teaching staff of the Department of Design believe such training is essential in the current market of design services. It provides graduates with a feeling of independence and confidence in the context of tense competition and constant pressure from customers.

This course includes lectures, student consultations, and final work. The lectures acquaint students with the basic stages of the design process in professional work. These stages begin with a meeting with the customer. Students are demonstrated how to interest the customer in one's creative potential, outline benefits from collaboration, and demonstrate the feasibility of implementation of the design product. Then students get acquainted with the list of essential documents and initial data which present a regulatory framework for a well-grounded and productive project. This framework includes, particularly for environmental design, permits

confirming the customer's title to or long-term lease of the property, surveys, photographs, inventory plans and other documents. Special attention in the lectures is given to the pre-design stage, including the drawing up of a brief. This is followed by description of the basic stages of the project: study of alternatives or conceptual design, choice of the basic variant and its development to a conceptual design, approval of the conceptual design by relevant agencies and distribution of tasks to related subcontractors on the basis of the conceptual design, coordination of all parts of the project with subcontractors and development of construction documentation. The next stage is furnishing of components for all parts of the project, except those handled by subcontractors, including engineering, architectural interiors and architectural solutions for environmental design, layouts for graphic designs, and drawings of patterns for clothing.

From the lecture course, students find out that the ultimate goal of designing is not creation and release of documentation, and even not its realisation. The ultimate goal of a design project is the opinion of the consumer (not always it will be the customer as in the case of public space interior or a domestic appliance) about the product during its consumption. If this opinion is positive, the designer chose the right vector for the conceptual project, developed a full set of documentation, brought the design proposals to realisation and administered the process and, finally, captured the needs of the target group of users of this object or product.

Special attention in the lectures is given to the role of the brief. A competent and full brief clearly defines relationships between the customer and the contractor at all stages of the project. The brief drawn up as a document defines the responsibilities of the contractor towards the customer in terms of scope and deadlines of the project on the one hand; on the other hand, it protects the contractor from unreasonable claims from the customer during designing. As often as not, during work on the project customers tend to overestimate requirements for the project in terms of both the number of objects to be developed and scope of documentation. The brief stating the scope of documentation and its quality is a guarantee against overclaiming.

The brief agreed between the customer and the contractor is a basis for estimating the cost of the design project. From the lectures students learn about factors that project costs. Such factors are the importance of the

object to be designed, contractor's qualifications, complexity, and number of variants to be presented. Students are also given "Recommendations on Designer's Fees". Based on these documents, students are asked to draw up a cost estimate of their graduate design project.

Towards the end of the "Organization of Design Activity" course, year-six students would have normally decided on the theme of their final degree project, and would have collected a considerable amount of analytical material for the relevant part of their explanatory note. Therefore, the theme, agenda, scope and stages of the degree project are clear to the student. They are asked to record these parameters according to the project schedule approved by the Department of Design and estimate the cost of the project based on "Recommendations …". Such a brief drawn up by the student is included as a part into the explanatory note in the section "Economic Feasibility of the Project" and is regarded as a report following from studying the course "Organization of Design Activity".

In conclusion, it should be noted that five years ago when this course was not yet taught, the number of graduates coming back with the question "How much should I charge for my work?" was considerable (5–7 young professionals a year); now this number has gone down to 1–2 graduates. Thus, this course proves to be useful for young professionals at the beginning of the career.

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Design Project Graphics

Embodiment of an Idea

Since ancient times man has been trying to implement improvements in life with the help of gadgets and processes by first depicting them – on cave walls, sand, parchment or paper – using the language of images, symbols and text understandable to others. The experience of visual communications accumulated by the humanity is essential for students of design for developing skills in the visualization and presentation of design project ideas and developing emotional, technical and creative visual thinking. In visual communication design, the graphic realization itself is often the final product, such as a poster, a trade mark, a label, etc.

This realization is duplicated by technology. In such designs, therefore, the "design project" character of the graphics comes to the forefront.

The authors of this paper have identified principles that characterize the academic discipline of Design Project Graphics in the Graphic Design course and make it stand out among other disciplines that are also associated with graphic skills, such as Graphic Techniques, Composition or Academic Drawing. These principles determine the quality of not only academic projects (graphic works) completed in this discipline but also contributes, through reflection and execution, to the development of design thinking in a would-be graphic designer.

Subordination of graphics to goals and objectives. This point determines this discipline as a having a "design project" character. Goal-setting is the starting point of the work on a project. The student of design should try and achieve the goal by solving certain professional tasks. Each task is a project in miniature, a kind of rehearsal for the academic project. In this way, the student develops skills in the application of design processes and design methodology. **1**

Reproducibility as the main characteristic of a graphic product. It is one of the primary technical goals for a

designer of any specialization. With regards to graphics, this means the creation of a prototype that can be easily reproduced under certain conditions and technological limitations. To ensure the understanding of reproducibility, use is made of such techniques as graphic generalization (stain, silhouette, single-line drawing) suitable for reproduction by any printing technology. Graphic design prototypes aimed to ensure such understanding are laconic, with a certain degree of detailing. **2**

Morphology. The language of graphic design. A visual communication designer's understanding of form should not be limited to the shape of a sheet of paper. Graphic languages used can be three-dimensional. Moreover, a graphic designer should have knowledge of method as an interaction of tools, processes and technologies. As well as understanding the logic of constructing physical forms, a graphic designer should know how to design verbal forms at different levels: naming, logo design, copywriting. **3**

Style. Cultural and historical basis of expression. A graphic designer should have knowledge of art history to understand style as an aesthetic unity of content and the various aspects of art form. Understanding the logic of style origination, a designer can use his/her knowledge in different projects using elements from famous styles or creating his own ones. **4**

Conceptuality as the principal quality of an idea and its implementation. This layer of interaction between design theory and practice is fundamentally important. It is a professional and creative attitude leading to author's authenticity and individual approach to idea generation and implementation. Students specializing in visual communication design have to keep coming up with new breakthroughs in the super-communicative space to catch the attention of the recipient, produce competitive ideas and find new graphic solutions. The job of the teaching staff is to keep putting the student in new, unexpected and very uncomfortable situations forcing them to find new solutions and developing an ability to think outside of the box. **5**

Intellectuality. Graphics as mathematics. There is a number of training exercises related to intellectual development of graphic design students. Projects of this kind are intended to engage the knowledge of scientific dis-
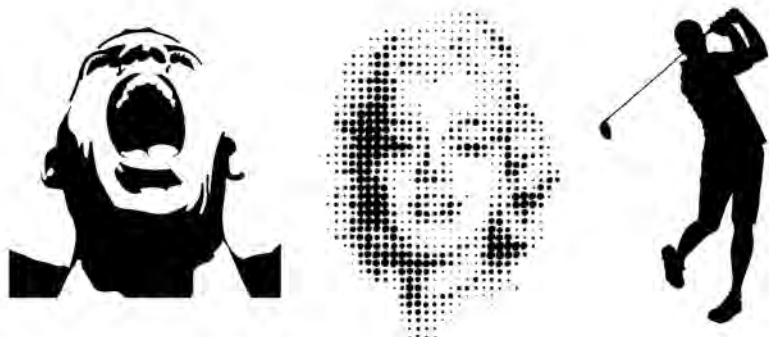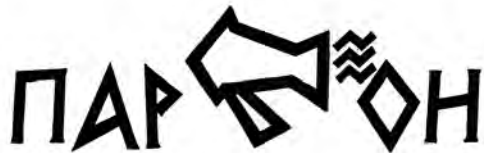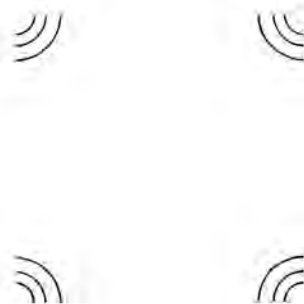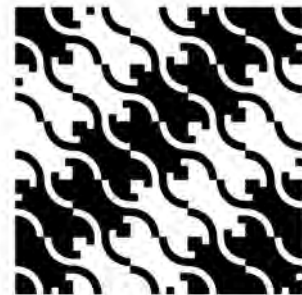
1. The task is to illustrate news in the "Russian" style. Lubok.
2. Techniques of graphic generalization. Stain. Raster. Silhouette.
3. Logo Puzzle. Exercise "FORM"
4. Exercise on a new interpretation of the Art Nouveau style
5. Exercise "The appearance of a square"
6. Configurational Combinatorics
7. Logo design for "Spring"

ciplines, the use of their laws and logic. For example, the works of M.C. Escher were taken as a basis for a separate teaching material, "Configurational Combinatorics", by Vladimir Tipikin. These assignments enable students to demonstrate their intellectual potential, develop thinking and understand some particular qualities of the graphic design language with regard to combination of meanings in a single laconic form. **6**

Sign. The meaning and form of expression. Graphic design is about expressing an idea through signs – not only at the level of graphics implying image, brevity and memorizeability but also at the level of meaning, because each design project is a search for a place in the culture in which the designer is creating and in which he is immersed. Sign should be clear to the addressee and easy to decipher. **7**

Relevance. Conformity to modern trends. Students of visual communication design must be well informed about the latest developments in their professional area (not only in the history of design.) They must not only follow but also be able to analyze and structure such knowledge, critically process fashionable technologies and contemporary styles and use them avoiding direct quoting and copying.

In addition to the above principles underlying the approach to completing assignments in design project graphics, the student is to meet other requirements, such as propaedeutic rigour and perfection, compositional accuracy as an indispensable condition, adequate image emotionality, and variety of visualization techniques, including contemporary computer and multimedia technologies.

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A Thing as an Object of Industrial Art

The concept of a thing in design and in the avant-garde vision of the world was an ontological rather than aesthetic category, which points to the existence of a "thing-code" problem during that epoch. The "Iskusstvo Kommuny" newspaper and the "lef" magazine became a voice for promoting a new understanding of art and a new understanding of a thing as an object of industrial art. The previous art had to be destroyed, and its place had to be taken by a new industrial kind of art with its new utility things and their new functions. Designers would work on simplification of things. 'Simplification of culture' became one of the most topical slogans for Proletkult. Initially, design was used in mass production of new consumer goods and technology. The function of a thing, its multi-functionality, acquired paramount importance, and the "thingness", "materiality" and "reality" became irrelevant and minor issues.

New things – a wardrobe, a chest of drawers, a cupboard, a desk, a table, a cupboard table to be used in a folding bookstall – were being made in vkhoutemas (Higher Art and Technical School est. in 1920 in Moscow) workshops under the supervision of A. M. Rodchenko. All those things were designed to be multi-functional in order to organise a new way of life for Soviet citizens. A new environment was moulded featuring a combinatory potential of things and reduction of things used in everyday life.

A thing became an artwork produced by many people of different occupations including a designer. The multi-functionality idea originated from the Utopian dream of the Soviet personality, who performs various functions himself, as the famous Soviet poet Vladimir Mayakovsky put it: "having ploughed the land, (he) would turn to writing a poem". In its rejection of the division-of-labour principle, Marxism proved to be Utopian and far removed from the mechanised production reality.

In its first stage, design used to be artistic engineering of industrially made things. It was focused not on the design of shape as such but on mass production of new consumer goods in the first place – automobiles, refrigerators, electrical appliances. At first all those things were very awkward in use – automobiles shaped like carriages, electrical lamps shaped like oil lamps, etc. At the design development stage, a designer had to build a new "morphology", not only the structure of a thing; he had to transform awkward shapes into laconic ones.

The multi-functionality idea offered by "mass-production" proponents proved to be of no use in everyday life aimed at human resource restoration. In the ussr, mass production was very low and totally unreceptive to projects created by "process-men". That is why all those multifunctional things found neither their consumers nor their mass producers.

The project's Utopian nature could be seen not only in the enthusiasm of destruction directed at previous culture and previous art alienated from life, but also in the programme ideas. Functionalism dissolves things in the social roles of a person/consumer, leaving no room for creative energy and existence of things, for their sensual and constructive variety. It was one of the avant-garde design programmes in Russia involving artists and art historians in industrial practices of making things.

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The Role of Education in the Evolvement of a Designer's Professional Ethos

Design in the modern-day context is becoming an increasingly more sophisticated and synthetic activity implying the need to know new design technologies and professional information, be able to communicate with the customer, and to understand and evaluate both the product designed and the design process. Therefore one of the leading innovative development tendencies in the higher vocational education system is enhanced focus on the issue of training human resources at a qualitatively new level. In this connection, priority is given to modern approaches to higher education, which requires new teaching technologies and pedagogical techniques enabling, on the one hand, development of a certain set of key competencies and, on the other hand, targeted training of creative personalities.

In developing state higher education standards for specific areas of specialization, we can be based on the following four models of competence currently adopted in European higher education practice. Each of the four models of competence (mc1–mc4) leads to different approaches to the planning, organisation and provision of higher vocational education and, in particular, to the assessment and recognition of student performance and estimation of his/her employment possibilities. All four models of competence are interrelated.

The model of competence based on personality parameters (mc1) underlies the approaches (in education, first of all) allocating special significance to the development of moral, intellectual and personal qualities of the would-be professional. The problem-solving competence model (mc2) gives special attention to the development of standardized (algorithm-based) procedures and operations in students (by means of studying the work process, work methods, etc.). The performance competence model (mc3) underlines the importance of achieving targets and is widespread in areas and professions in which activity is measured by re-

sults. According to the management competence model (mc4), activity is a function of the individual's social context in which there is a certain order of requirements and expectations, often interrelated, concerning the individual's job.

The integrated character of design ensures interrelations between various spheres of human culture (philosophy, science, technology, aesthetics, environment, etc.). This suggests that the modern-day designer should be a carrier of a new type of culture and of a new outlook. We believe these issues should be considered and addressed based on a systems approach. The substantive principles of the systems approach allow one to identify the insufficiency of old, traditional subjects for stating and solving new problems. The systems approach to design education is a way of theoretical consideration and presentation of an object as a system.

A review of the practice of teaching art disciplines at higher schools shows that in teaching graphic disciplines instructors often get carried away by teaching formats without their profound theoretical analysis or consideration of the substantive aspects of the process that is based on the laws of cognition. Therefore the methodological basis for teaching free-hand drawing is the philosophical theory of cognition and a systems approach to the management and organisation of the process of teaching free-hand drawing as part of society's culture. In this connection, it is possible to identify professional issues as follows: how could we identify the most effective forms and conditions for shaping the cognitive creative process, methods of shaping the professional ethos of a would-be professional and ways of realizing the identified methods of enhancing student performance in art disciplines.

The mechanism of interaction between the four models of competence in a modern-day design student using a specific assignment in free-hand drawing (a stylized self-portrait) is considered in more detail in the full report.

Professional ethos is a product and outcome of designer's professional work, his/her professional competence, his/her creative potential and self-development. Designer's professional ethos is a systemic set of professional knowledge, theoretical and practical skills, and socially-significant personal qualities evolving in the course of design practice and socio-cultural and learning activities.

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