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Academy of Fine Arts in Gdańsk  
Faculty of Architecture and Design

### **ECO-FRIENDLY – WHAT DOES IT MEAN?**

Ecology studies how organisms interact with one another and how they interact with their environment. Therefore what does the term 'eco-friendly' mean? What is the ecosystem of human organisms? What is the ecosystem of human beings? These ecosystems have different dimensions. What is our natural environment? What is homeostasis? When one begins to deliberate on the concept of eco-friendly design many questions and doubts arise but very few practical rules of conduct are formed. Perhaps design and ecology cannot be reconciled. After all, design can be blamed for many offences against the environment, culture and civilization. Is it possible to design without interfering with the environment? Is there a point in trying if all organisms influence each other and influence the environment, changing it, frequently to such an extent that it becomes unfit for habitation? Perhaps it is a natural process and we should deplete our planet without giving it a second thought and find another one to exploit? Is the old-fashioned eco-friendliness worth taking into consideration by the power of reason civilization? Or perhaps we should simply return to the concept of sustainable development? Is the choice between the above mentioned paths only a question of timescale and space? Now for the cherry on the cake – the thesis: eco-friendly design = responsible design. But what does 'responsible' mean? Moreover – to whom are we responsible? ... Fine. Da capo al fine.

dr Tomasz Kwiatkowski  
Academy of Fine Arts in Gdańsk  
Faculty of Architecture and Design

### **DESIGN'S POISONOUS AFTERTASTE**

'As long as synthetic chemicals are not at least partly removed from the environment... it is highly probable that many dysfunctions of human organism will occur on the level of whole populations.' I would like to demonstrate how dangerous are the tools we, designers, have at our disposal and what is the aftermath of stupid and often short-sighted and selfish human activity. How is the pollution of today more dangerous than in the past? Well, its reach has changed from local to global. Chemical contamination has reached even as seemingly distant and unpolluted regions as Alaska. The threats which used to be visible to the naked eye are now impossible to see or detect with other human senses. Very often, even if the information about them is provided, it is done in a vague way, e.g. by using terms incomprehensible for an average consumer. In the majority of cases the effects of pollution are not visible instantaneously, but are cumulated and are chronic, they are frequently revealed in next generations. A very serious threat is also posed by the durability of certain types of pollution, e.g. perfluorinated compounds, Teflon and other water and stain proof substances are practically indestructible, and so, once released into the environment, they will remain there forever - from the point of view of a human lifespan. In these circumstances we have to consider if designer can and are willing to try to make things better?

Prof. Ewa Latkowska-Żychska  
Strzemiński Academy of Fine Arts Łódź  
Faculty of Textile and Fashion

### **MY UNSUSTAINABLE SPACE**

The aim of my paper is to present the disharmony introduced into our living space by mass information generated by the new media, the media which use their insistent energy to force their way into our lives, settle down and are constantly present even though we do not consciously choose to use them.

dr inż. Joanna Witczak  
Poznań University of Economics and Business,  
Faculty of Commodity Science

### **PAPER OR PLASTIC – ECODESIGN FROM THE PERSPECTIVE OF PRODUCT LIFECYCLE**

Turning towards eco-friendly, circular economy results in more frequent search for and use of tools which help to achieve sustainable development objectives. Assessment of the impact of products on the environment should be undertaken as soon as possible, preferably at the stage of product design. DfE or Design for the Environment is a complement to the traditional design process with environmental impact assessment and the product

lifecycle approach. It is used for environmental improvement of both new and existing products. The aim of the paper is to demonstrate the significance of the Life Cycle Assessment (LCA) and the criteria which should underlie eco-design, with special regard to production of materials.

dr Marcin Mielczarek

Strzemiński Academy of Fine Arts Łódź

Faculty of Sculpture and Interactive Actions

### **SCULPTURE AND CASTING – RENEWABLE INFORMATION, MATERIAL ECOLOGY**

The aim of the paper is to popularize the issues involved in shaping sculptures in the context of basic techniques of material processing, including casting. The paper deals with the relationship between the sculptor's chosen technique as a medium of intellectual value and the aspects of broadly understood ecology – both as a humanist attitude of a conscious artist and as a system of objectively existing rules of work characteristic of this art discipline. Furthermore, it compares two types of media which can be used in sculpture – the real and the virtual media.

mgr Aleksandra Bąkowska

University of Arts London

MA Innovation Management, Central Saint Martins

### **HOW TO RETAIN AUTHENTICITY? WHAT VALUES BUILD IDENTITY? ETHICAL AND ECOLOGICAL CHALLENGES OF DESIGN PROCESS AND BRAND MANAGEMENT**

What risks and opportunities lie in the future of fashion industry in the upcoming years and for the next generations? How can we build responsible and ethical supply chains? What do new EU regulations concerning slave labour mean for fashion companies? Who are the consumers of the 'millennial' and 'digital natives' generations and how can we reach them? What new technologies are adapted by the fashion industry and for what purpose?

What is most interesting in fashion industry for me are its biggest challenges, and for that reason I intend to provide examples of brands and strategies which create fully usable products and at the same time implement something innovative. Through this they allow their customers to 'wear' their identity and to communicate their common values: responsibility towards the society, care for natural resources, minimalism... My aim is to convey to the audience as much as possible about the current data on the European luxury and fast fashion products. I will try to get them acquainted with useful tools, which in part come from the world of start-ups and which students may apply when working on establishing their own business and defining their identity as a designer. These include design thinking, PESTEL analysis, SMART goals, user-centered design and minimal viable product.

A question and answer session will follow and I will be happy to talk about my experience of studying in England, especially since the conference takes place at the academy which for many years has been a leader in fashion design rankings in Europe and worldwide.

Maryna Naumchuk

Lviv National Academy of Arts

Department of History and Theory of Art

### **ECOLOGY ART CAMP RESIDENCE AS A NEW APPROACH TO A CREATION PROCESS**

Last summer an initiative of ECO art residence was started in Ukraine. "Art Changemakers-2017 Residence" gathered artist from different countries, and was held during a children language Dec Camp in the village of Mygovo in the Carpathian Mountains. It was an opportunity to promote art among children of different ages and allowed them to realize creative projects.

In many other countries it is not a new idea to use recycling materials or garbage as a base for creating artwork, but in Ukraine this way of thinking and producing art is innovative.

The Dec Art Residence artists used various media in their work: some of them applied photography, some referred to nature and incorporated natural materials into their works, others, both artists and children, worked with waste products and created art objects and sculptural forms.

What is evident in all these forms is their high quality and deep ideas that come from the main topic – saving nature in all its forms and showing the problem from a new point of view, also by incorporating handwork like embroidery, ceramics or clay forms. Through the media of painting, sculpture, video and installation works the

participants investigated their personal connection with the natural world and the idea to preserve nature and prevent its destruction. This interdisciplinary approach allowed demonstration of the diversity of new directions for development. Such an approach to art residence increased the awareness of participants and also of the local population.

prof. dr hab. Wiesław Karolak  
Strzemiński Academy of Fine Arts Łódź  
Faculty of Visual Arts

### **UPCYCLING IN CREATIVE SELF-DEVELOPMENT**

A multimedia presentation of an e-course book, created thanks to the specified-user subsidy for maintaining research capacity, financed by the Ministry of Science and Higher Education, within the framework of a competition at the Strzemiński Academy of Fine Arts Łódź.

The lecture explains the following terms:

- upcycling, re-used, recycling art, repurposed (reworked, refashioned, restyled, remade, restructured, redesigned),
- downcycling,
- pre-consumer waste,
- post-consumer waste,
- trash art, trashion, redesign, re-products,
- 3R: reduce, reuse, recycle.

Additionally the lecture presents the documentation of examples of practical classes and workshops realised with students with the aim of increasing their environmental awareness.

These will include:

A Portrait Made of Nothing,  
What Are Telephonebooks For,  
Plastic Fantastic,  
Bottle Caps,  
Big and Small Pieces of Glass.

Oksana Shpakovych  
Lviv National Academy of Arts  
The Faculty of History and Theory of Art

### **USING MODERN TECHNOLOGIES IN SET DESIGN IN LVIV THEATRES**

Possibilities of theatre set design were expanded by the widespread application of modern technology for theatrical production needs. Such design practices intensify audience reception and engagement. Using different computer programs for creating environment allows changing the space of the play in the theatre and generates new forms of communication which make viewers plunge into the world of the performance faster, and thus opens new possibilities for self-knowledge.

It is important to understand that the multimedia theatre is not just a combination of digital technologies with traditional theatrical art, but the concept of a new aesthetics, a new eco-design that completely avoids or significantly reduces the use of classical decorations, costumes and stage props. There are innovative stage designers who actively work with new techniques, for example, B. Polischuk, V. Kaufman, V. Stetskovich, O. Khoroshko, D. Zavyalova. They create set design with multimedia and computer graphics in the Les Kurbas Theatre, the First Theatre, and the Lviv Academic Drama Theatre n. a. Lesya Ukrainka. In many Lviv academic theatres set designers introduce spatial video, computer projections, three-dimensional computer graphics and other digital effects in their performances. All these combined make a single integral structure where the role of a performer is divided between the actor, the set designer and even the spectator, who has to take an active part in the events of the play.

dr Katarzyna Caban-Piaskowska  
Strzemiński Academy of Fine Arts Łódź  
Faculty of Textile and Fashion

### **DESIGN THINKING – THINKING IN SOLUTIONS**

Design thinking attracts more and more interest both of big companies, smaller enterprises, design teams and designers who work independently. Currently it is one of the most sought-after methods of creating new products. It is an intuitive method of work thanks to which innovative products are created. It does not require large resources but discipline. The most important of its aspects is quick testing of new solutions in practice. Design thinking is a method derived from designers. It has many definitions.

The term is understood differently and different models are used in business practices.  
The presentation uses selected examples of design thinking application in the work of a designer to explain the meaning of the term, discuss the related issues and show what value the method has for companies.

MA Ista Boszhard

TextileLab Amsterdam – Waag Society

## **EXPLORING POSSIBILITIES – AN INTRODUCTION TO TEXTILELAB AMSTERDAM**

An introduction to TextileLab Amsterdam

Waag Society—institute for art, science and technology—is a platform for artistic research and experimentation in the area of emerging technologies, and has become both a catalyst for events and a breeding ground for cultural and social innovation. Waag Society’s own TextileLab Amsterdam focuses on the unethical and environmentally unfriendly realities of the current textile and clothing industry, which has been a topic of discussion for some time now. Bringing together digital fabrication, heritage, technology, craftsmanship and biology to see if things can be made, designed, produced, dyed and explained in a different way. In the lab, new ideas are always seen in a broader context, coherent value systems are questioned and possible scenarios are outlined. Waag’s starting point is research through making. Because if one doesn’t understand how something works, it’s hard to change it for the better.

dr hab. Małgorzata Burchard-Dziubińska

University of Lodz

Faculty of Economics and Sociology

## **MANAGING IN ANTHROPOCENE – CHALLENGES AND SOLUTIONS**

Anthropocene is the name of our age proposed by Paul Crutzen. It has become widely accepted by the scientific circles. What makes it different from the previous ages is the profound impact of human beings on ecosystems of the Earth. Due to the rapidly growing scale of production and consumption enhanced by the technological potential our economic activity has become a source of many social and ecological problems, which it would be at least unreasonable to ignore. The most important challenges that we face include preventing the progress of environmental degradation and climate change, recognizing the extent of the social problems resulting from inequalities in access to resources and unfair division of income and goods. To solve these problems, or at least to mitigate them, it is necessary for all of us as consumers, producers, designers to realize the driving force we possess. New standards of behaviour should be based on profound awareness of the effects of our everyday choices. It is necessary to realize the meaning of the ‘tyranny of small decisions’ and to oppose them by making ‘sound decisions’, which will set a sequence of positive changes in motion. Designers may, or even should, play an extremely important role as they decide at the very beginning what the product’s life cycle will be like. It would be good if it reflected the cradle-to-cradle design approach because it is the best possible answer to the challenges we face.

dr Magda Barecka

Lodz University of Technology

Faculty of Process and Environmental Engineering

## **AN AMOUNT OF NATURAL RESOURCES YOU CAN HOLD IN YOUR HAND. LIFE CYCLE ASSESSMENT IN PRACTICE**

It is widely accepted that abundant use of natural resources limits the availability of those reserves for future generations and process alternatives leading to more sustainable production must be considered. However, life cycles of products or services are complex and hence it is difficult to properly evaluate sustainability aspects. To this end, life cycle assessment (LCA) is performed. It makes it possible to assess which components produce smaller environmental impact over the entire period of a product life cycle (“from cradle to grave”, during manufacturing, operation and waste management). My presentation will give a brief introduction to different LCA techniques and illustrate them with a number of practical examples, such as environmental impact of a diamond ring. The presentation will also address the issue of resources which may become sparse in the nearest future. One of such resources is Indium, which is currently broadly used in electronic industry in doped indium oxide (ITO) for production of transparent conductive films (TCO). Materials which may replace Indium are widely analysed in terms of TCO layer quality, yet the environmental impact of newly developed layers is unknown. Therefore, this paper studies the environmental effect of ITO replacement by other materials, such as

zinc oxide. LCA results support further process improvement and help to determine possibilities of environmental impact minimization.

mgr Małgorzata Salamon  
Designer

### **RE-COVER. HOW MUCH IS FASHION?**

Biodegradation of materials used to produce clothing may last from a few to several dozen years, depending on its composition. Clothing industry not only contributes to environmental pollution but to the production of tons of material waste, whose further destiny in particular factories is widely known, so why don't we react? What choices should we make to avoid the disastrous influence of our consumerism on the environment and the living conditions of people who make our clothes? A presentation of alternatives in shopping choices, innovative businesses and materials and a better model of cooperation with the Third World countries. Moving the production to Europe as another manifestation of our ignorance. Should we trust the turn of clothing corporations to eco-friendliness? Greenwashing used to ease our conscience. What was the origin of the idea of Re-cover? Cooperation with homeless people and projects addressing the issue of homelessness.

mgr Anna Świętek  
Strzeziński Academy of Fine Arts Łódź  
Faculty of Textile and Fashion

### **THINK BEFORE YOU THROW OUT, OR CONSUMERISM IN OUR CLOSET**

Consumerism is a characteristic feature of the developed countries. People value shopping above religion or the common weal. A recent survey showed that an average American throws away about 26 kilograms of unwanted clothes, a UK citizen – about 25 kilograms and a German citizen – about 15. Do we ever stop to think if an unwanted thing that we throw out could be reused? Only about 1% of such things go to the needy. Some of them are sent to African countries and resold and others find their way to local second-hand shops. Consumerism – a new religion brings together followers of a given brand. We are rewarded for the frequent use of loyalty cards with ever new discounts. Celebrities, who have become new idols, put a personal signature on products and present new outfits at every show or festival. We are surrounded by commercials which make a pressure on us with their appealing message: “buy me, you can't live without me”. Big fashion houses, treated like ancient temples full of mysticism, present new collections not 4 but 16 times a year. But they are also places where craftsmen find employment and make pleats, fine ornamentation or embroidery using traditional methods. With the “seasonal death of garments” bought in chain stores, terms like darning or ladder mending have been forgotten. They are connected with crafts practised by specialists who used to give new life to worn clothes. Will shoemakers, embroidresses and milliners share the fate of hatters and fullers? If we want to have a conscious approach to the things we buy and give them new lives using our creativity as it was done in the past by our mothers or grandmothers we have to answer such questions now.

mgr Marta Krawczyk  
Packaging Recycling Organization Rekopol Joint Stock Company

### **PACKAGING. HOW TO DESIGN SO AS TO RECYCLE?**

Europe is going in the direction of circular economy where one of the foundations is prevention of waste production by proper product and packaging design. Their impact on economy, the waste management system and eventually on the environment is substantial. It is packaging that sells products, and a lot of designers and marketing specialists rack their brains to invent their shapes and forms to maximize the commercial effect, but they also have to take into account the requirements concerning the environmental impact of packaging. Everything becomes waste in the end, and as a mature and responsible society we should keep in mind not only the environmental aspect of our consumer choices but also what we do as designers, companies introducing packaged goods on the market and promoting them. There are no sustainable products without sustainable packaging. How then should we design packaging to make it recyclable and reusable? What is packaging recycling all about and do we know everything about it? Are we aware of the fact that someone reaches (in the literal meaning of the word!) for what we throw out and that recycling is a large branch of economy? Rekopol conducts a pioneer project to share knowledge between packaging designers, marketing specialists and recycling specialists who deal with processing packaging waste.

prof. dr hab. Izabella Krucińska  
Lodz University of Technology

### **BIODEGRADABLE TEXTILE PRODUCTS**

In the times of sustainable development textile waste management becomes an increasing problem. Biodegradable polymers and composting deserve special attention. The presentation includes definitions of biodegradability and compostability as well as examples of technologies of producing fibres from biodegradable and compostable polymers. The presentation also discusses the practical uses of such products.

dr hab. Piotr Kulpiński  
Lodz University of Technology

Faculty of Material Technologies and Textile Design

### **CELULOSE FIBRES – NEW TECHNOLOGY, NEW MATERIALS, NEW POSSIBILITIES**

Although cellulose artificial fibres are produced from a biodegradable polymer, they are usually associated with the environmentally hazardous viscose technology. For many years attempts have been made to develop new, more environmentally friendly and cheaper cellulose fibre production methods. One of the latest and most promising technologies is the method based on the direct cellulose solvent N-Methylmorpholine N-oxide (NMMO). In comparison with other cellulose solvents it is almost non-toxic and relatively easily decomposes to form products harmless to the natural environment. Another advantage of the technology is the possibility of almost total recycling of the solvent and its reuse in the process of fibre production. The technology allows the production of special fibres with antiseptic, electro-conductive or luminescent properties. Such fibres may be applied in technology and medicine, and owing to their unique qualities may surely be used in broadly understood art.

dr Bogusław Krzciuk  
Strzemiński Academy of Fine Arts Łódź  
Faculty of Industrial Design and Interior Design

### **WHY ISN'T 3D PRINTING ECO-FRIENDLY?**

Very frequently the terms '3D printing' and 'eco-friendliness' are put together, presenting the process in a positive light. However, this approach simplifies matters and does not cover all the issues connected with 3D printing and such aspects as materials, carbon footprint or the production scale.

mgr Ewelina Niedzielska, mgr Magdalena Stecka  
EC1 Łódź City of Culture  
Lodz University of Technology

### **ENVIRONMENTALLY FRIENDLY 3D PROTOTYPING**

Prototyping with the use of 3D printing is becoming an increasingly popular method of searching for new design solutions. It allows presenting a fully developed design quickly and at a low cost which is key to mutual understanding between the customer and the designer. It is good for designers who use the 3D printing technique to be aware of its impact on the natural environment. Eco-friendly objectives in line with principles of sustainable development should be introduced at the initial stage of the design process. The following should be taken into account: energy use, process optimization, lifetime of the created models and their disposal. Creating models in the 3D technique makes it possible to use a wide spectrum of polymer materials. Various materials have different qualities, but it is the environmentally friendly materials which should be used. We will discuss biodegradable polymers used in 3D printing and propose solutions least harmful for the environment. Furthermore, we will introduce new ideas which are worth taking into account in future projects. A closer look at 3D printing technology and filament specifications will allow us to save time and funds and will help to increase the eco-friendliness of the designer's work.

dr inż. Cezary Rapiejko  
Lodz University of Technology  
Faculty of Mechanical Engineering

## **POLYSTYRENE – A MATERIAL FOR PATTERN CASTING**

The paper presents the possibility of polystyrene application in pattern casting. The two most popular types of the material used for the purpose are polystyrene (PS) and extruded polystyrene foam (XPS). The presentation demonstrates making models of both materials and shows their possible use in foundry industry. Special emphasis will be put on the application of models made of the two materials in artistic casting. I will discuss the main characteristics of industrial methods of casting production with the use of polystyrene models: the full mold method, the Lost Foam and Replicast CS processes.

mgr inż. Małgorzata Latos  
Lodz University of Technology  
Faculty of Chemistry

## **BIODEGRADABLE POLYMER MATERIALS INSPIRED BY THE COLOURS OF NATURE**

Plastics have a great potential and various applications. They are adapted to meet a variety of user requirements and they are practically an unlimited source of innovation in many sectors of industry and various areas of life. Due to their low price and specific qualities they substitute traditional materials such as wood, glass and paper. Application of polymer materials of petrochemical origin leads to problems with disposal of waste created in the process. Legal regulations and emphasis put on application of environmentally friendly materials resulted in the increase of interest in biodegradable materials and eco-friendly processable additives. In the light of current trends biodegradable polymers and natural adjuvants constitute an important group of polymers. My paper presents biodegradable materials inspired by the colours of nature obtained using flavonoids. Flavonoids are chemical compounds found in plant tissues (in leaves, flowers, fruit, woody parts of plants). In plants they serve as dyes, antioxidants and also as protection against negative influence of fungi and insects.

Sebastian Górecki, Katarzyna Zielińska  
Lodz University of Technology  
International Faculty of Engineering

## **DESIGNING A SOLAR POWERED VEHICLE**

Eagle Two – the latest creation of the students, members of the Lodz Solar Team, is a new version of the solar powered bolide! It possesses a completely new construction which took over a year to design. The design process took place in cooperation with students of the Strzemiński Academy of Fine Arts Łódź. Thanks to the experience we acquired while designing and using the first vehicle we were able to create a much more advanced and exciting bolide.

mgr Karol Janiak  
Strzemiński Academy of Fine Arts Łódź  
Faculty of Industrial Design and Interior Design

## **ECO-FRIENDLY APPROACH AS A MEDIUM FOR EMOTIONS – DESIGNING A BODY OF AN ELECTRIC PASSENGER CAR POWERED BY PHOTOVOLTAIC CELLS**

The design of the electric passenger car powered by photovoltaic cells was created in cooperation with the Motoring Enthusiasts Student Scientific Group of the Lodz University of Technology. The project is characterised by high aesthetic and utility values. It was first created for the purposes of the Australian Bridgestone World Solar Challenge. When designing the vehicle I wanted to come up with a modern solution, as compatible as possible with the new power technologies. I wanted to move away from the uninteresting designs of ecologically friendly cars of the future and to work towards a vision filled with emotions which have always accompanied the car industry. The task was realised in several stages. The project evolved due to regulation changes, and improvements introduced into the construction and solutions. The design process lasted for over a year. During that time four designs crucial for the development of the car were created. The first one introduced an innovative approach to the issue of aerodynamics and the panel surface, the second aimed at creating a modular vehicle, the third was a 'design – sculpture', an idealised and pure design while the fourth one was the final, executive design. The final design (Eagle Two) was constructed and took part in the race in Australia on 08.10.2017. In my paper I would like to use my Eagle Two design to discuss what cars have been so far and what their future should be.