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ČIČMANY ORNAMENTS IN GRAPHIC AND PRODUCT DESIGN

Katarína Zbudilová

Keywords: ornament, Čičmany, symbol, tradition, log house, embroidery, design

The aim of the article is to map the development of ornaments from Čičmany village, their "journey" from the past to the present day, as they are currently the most used Slovak folk pattern, especially in the graphic and product design.

In the beginning, the author explains why she is interested in this topic and how it is connected to her dissertation theses. Before discussing the topic as such, it is important to define and clarify the basic notions of symbol and sign and take a closer look at the concept of ornament and its function and types.

The following section offers a brief introduction of the village that has kept this local tradition that has become known world-wide and the eye-catching ornamental decoration of the outer walls of log houses in Čičmany. Although it is a unique locality, similar artistic expressions have appeared in other regions of Slovakia and also abroad. However, the traditional geometric ornaments can be found only in Čičmany. The time of origin of this tradition is questionable, because while the locals speak of centuries, Vilém Pražák, who focused on the research and analysis of architecture in Čičmany, dated it back to the first half of the 18th century and the beginnings of the construction of multi-storey log houses. The paintings were linked to the processing of materials used in the construction of the houses. Another question is the primary function of these paintings. It is more than clear that the paintings were created predominantly as a protective coating against moisture. Experts also discuss their possible magical function, as there were different symbols that each woman adjusted. Many experts attribute the origin of these paintings to the foreign provenience of the region's first inhabitants who could have brought this tradition with them.

The paper then describes the division of ornamental decorations into 3 stages, as they were first described by Pražák, since the approach of painters was not always the same. The paintings were influenced by the contemporary trends in construction, the time period, and it was likely that they would fall into disrepair. However, the natural elements that have affected the area over the years and left their traces behind were also ultimately responsible for the renewal of the tradition. The most famous person who contributed to this was Dušan Jurkovič, who was referred to as "the discoverer of Čičmany as a remarkable ethnographic locality". He was responsible for the increased visibility of this village; thanks to him it was discovered by other people of prominence, but he was also the person behind its "rebirth" after a fire. He was mostly keen on preserving the decorative tradition, and based on his recommendation, only classic log houses were built and their painting in a traditional but somewhat newer style was also supported. The modern history of the village is slightly confusing. Although it has become a tourist destination for both domestic and foreign tourists, or for experts who are

currently working on their projects there, the population of the village has been decreasing. Fortunately, the tradition is maintained because of young enthusiasts.

Another important element of the local tradition is embroidery. After the basic description and analysis of its colours, the focus shifts to individual ornaments. They have local names and are “transferred” from the embroidery to the walls of local log houses. Although the symbolism of the ornaments used on the houses is questionable, it certainly had its place in the embroidery. The meanings of the symbols can also be relevant to its use in the design, so it is appropriate to at least explain the basic elements. Common symbols include a diagonal cross, a heart, or various spiral variations. The most common zoomorphic element is a rooster.

After presenting a small part of the many symbols that the painters individually modify as appropriate and which are used in Čičmany embroidery and ornamental decoration of the outer walls of log houses, the author moves on to the current use of the ornaments in graphic and product design. Examples have been selected with the aim to illustrate a wide range of their applications. Elements from the Slovak national Olympic team clothing collections are presented, the first of which, in 2012, triggered the interest in Čičmany ornaments as a source of inspiration. Many textile products have similar ornaments, a series that is rather extraordinary in its design has been chosen as an example, together with a project of artists that design souvenirs, which has spread out into other regions of Slovakia. A sample is included also from the “Kruhy na vode” competition, which is regularly organized by ÚĽUV (the Slovak Folk Art Centre). Slovak brands with world-wide recognition or international companies with products for Slovakia are also mentioned in the paper. There are two views of the book, which contains the Čičmany ornament. As regards the graphic design, two fonts and logos based on Čičmany ornaments are described here, as well as several posters and prints for local events, together with the latest visual art focusing on visual identities inspired by the Čičmany pattern.

In the conclusion, the author presents opinions of a designer as well as a former mayor of the village on the topic of Čičmany ornaments, assesses the use of this source of inspiration and offers a vision for the future.

KOLIBA AS PART OF SLOVAK GASTRONOMIC CULTURE

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Keywords: identity, region, gastronomy, log cabin, tourism, architecture, design, roadhouse

The article focuses on the situation in regional gastronomy and how it is reflected in the material culture in Slovakia—which is part of our country’s cultural identity and plays a significant role in tourism as one of its pillars. Gastronomic culture encompasses not only traditional regional dishes or drinks, but also the way they are served and the environment in which it happens, so architecture and interior design are relevant, too. The article maps the historical context, previous and current influences that have played their role in the food and eating culture in food service premises and the effect of globalization. It also explores the significance of preserving traditional local gastronomic culture as part of the concept of sustainable development of regional tourism. The main focus is on a koliba (a specific log cabin or chalet) that has historically been associated with shepherds’ culture in mountainous or highland areas of Slovakia as a seasonal dwelling for the Vlach herdsmen and has progressively developed into one of the symbols of Slovak hospitality facility for tourists. The paper is an introduction to a larger study and presents a pilot mapping of the current situation in regional food service industry as part of the research project APVV Identity SK—a common platform for design, architecture and social sciences.

Modern society is characterized not only by the expansion of education, technological progress, and the possibility of political participation, but also by revitalization of traditions and by the promotion of cultural and historical awareness of the community. People have realized that the need for national legitimacy of the soci-

ety and the justification of its political organization has not disappeared due to globalization and modernity. On the contrary, the traditional culture has come to the fore and it is no longer presented only in museums, but has become multidisciplinary and appears in new contexts. It is often reflected in the contemporary architecture of the buildings in touristically-attractive regions, in the interior design, or in other forms of creative design in the broadest possible sense. Food service businesses, whether restaurants in the city or at the roadside often work with the phenomenon of the regional identity and in addition to the quality food, they also try to present the local traditions to their visitors. This article focuses mainly on koliba as a part of the shepherd's culture and of current Slovak food service industry, which became a general representation of our cultural heritage and a part of our invented national identity. The aim of this initial study is to point out this phenomenon.

During the era of the first Czechoslovak Republic, some restaurants already had the so-called typical Slovak specialties on their menus. However, the key period that contributed to higher popularity of these dishes was the end of the 1950s, when tourism experienced its first significant development, with the focus mostly on promoting the natural beauty of Slovakia to both domestic and foreign guests. The growth of tourism was also associated with the effort to draw attention to the national cuisine as an important element of culture. All these efforts supported the idea that anything typically Slovak would be associated with the culture of mountainous regions and sheep farming. The first appearance of "salaš", a building similar to koliba, used for hospitality purposes, probably also contributed to this phenomenon. It was located in the village Dechtáre near the lake Liptovská Mara close to the main traffic route, and with its folk architecture and traditional dishes on the menu, it presented the typical and unique elements of Slovak culture. Its success among both foreign and domestic visitors triggered the so-called "salaš-mania" in the 1960s—the construction of various hospitality facilities, named after the original buildings of shepherds—"koliba" or "salaš", or even "zbojnická koliba" (outlaws' log house) to increase the attractiveness. The paradox of the time was that the construction of these facilities often happened without any concept, often in regions where sheep farming was not common.

"Folk architecture is one of the most significant manifestations of the Slovak traditional culture. Its regional forms were created across the whole territory, with more or less common elements that reflected the skill and the artistry of our ancestors." Salaš and koliba as well as other village buildings related to breeding and housing of sheep or cattle, are a part of the typical cultural landscape of Slovakia, especially in the mountainous locations. The deep relationship with the vernacular objects is exactly the area where we can find the root of the natural attractiveness of these objects for general public. They have an air of nostalgia about them, associated with the old regional traditions in architecture and crafts.

The traditional regional identity is therefore presented in the architecture of buildings, in the design of their interiors, as well as in the range of meals and services offered. A separate phenomenon is the decoration of interiors, with the typical use of objects of folk culture but also naive contemporary art, etc. Sometimes, the result is pretty balanced, sometimes less so. It is important to always consider the regional specifics in each area and to examine in depth the traditional cultural expressions of previous generations. Only in this way is it possible to sensitively enter the locality with one's authorial work, to support its regional identity by various means of expression and to prevent various misinterpretations of cultural heritage.

The text analyses the available sources on the topic of regional identity in restaurants and further develops the topic of culture in food service industry and the design of restaurants. It is an introduction to a more complex study of food services as the key to preserving and maintaining regional identity in material culture. The next step of study is an in-depth research of selected hospitality facilities and of various approaches and strategies in presenting regional and local identity, which will represent a certain regional food service culture and be processed into case studies as examples of a good practice.

FURNITURE AND REGENERATIVE DESIGN: BEFRIEND SUSTAINABILITY

Katarína Lauková Zajíčková

Keywords: item recycling, cradle to cradle, sustainability, open design, authorship

Recycling in furniture design has various forms. Its ultimate principles are the reuse of an object or the full material recycling of the object. The reuse of an object or recycling of furniture consist in minimal intervention in the original solution and is connected in particular with surface renovation or basic repairs without any changes to the function and use of an object. In contrast, material recycling is a principle which, when applied, means that both the new material and the product made from it do not bear any recognizable characteristics from the previous lifecycle. In between these main principles there are several strategies that overlap. One of the possible approaches is to monitor the increasing extent of interference in the original object. The fact that it is possible to identify parts of products—items from the previous life cycle is related to the definition of the term “item recycling” in furniture design. As part of the secondary raw materials is processed this way, the item recycling is often classified as a tool suitable for the reduction of waste and it is interpreted in connection with sustainability. But where do they meet?

One of the most important criteria is that of the potential for material recyclability. Items or parts of products that are easily recyclable (PET bottles, aluminium cans, or high-quality office paper, or bottle glass that can be reused) constitute a valuable nutrient for another reuse or material recycling. They are often used in single item recycling because of their material qualities, form-related usability, repeatability and quantity/availability.

Not so long ago, garbage was perceived as material that was not usable any longer, not as nutrient raw material that could be processed further. Many nutrient recycling-based designer products have arisen in response to this approach. A typical example is the relaxation sofa by Miroslav Debnár made from PET bottles (2004). It is an inventive and clear-cut design with clean technology that enables easy separation of parts. When using these valuable materials for single item recycling design it is necessary to elaborate a detailed creative strategy which will prevent the loss of their value. Furthermore, these materials should be locally accessible (obtained by collecting, inheriting, donating, or finding).

Another criterion for the selection of materials for design is the possible content of harmful chemicals. It is very important for designers not to focus solely on the aspects of the object of their interest but to consider also the material structure and composition as well as previous lifecycle. Besides the potential of the relevant material with respect to item recycling, designers must examine the composition of materials from the original production. Difficulties might emerge when trying to detect the contamination with mildew, fungus and microorganisms which might increase not only due to incorrect storage but also during the use of the product by the previous owner. However, it is next to impossible for both the future user but also for the designer to recognize the risk of biological contamination.

The cradle to cradle method should be integral part of theoretical background of every designer that wishes to create environmentally responsible designs. It is a holistic theory which was published under the same title by William McDonough and Michael Braungart (2002) and its indispensable part is the division of materials into two main categories. Therefore, the cradle to cradle theory specifies two material bases: biological (biodegradable), and technical (continuously circulating materials in closed loop of—industrial/production cycle). If these different bases can be kept separated, the management of materials can run within closed loop life cycles. Products should be designed not for one use only—the first life cycle, but in a way that they can be reused repeatedly.

This approach has been applied in the collection of dining furniture Made in Peckham designed by Hendzel & Hunt, which is made of found wood collected around their studio without using metal joints or links.

Single item recycling is based upon that what was once designed. Designers often use the designs of their forerunners and use them as a parts for their new products. Authorship can be perceived more freely, as implied by Jan Michl, which allows for interventions into the preceding solutions and their use for the designer's own concept. The extent and the method of intervention into previous objects remain in hands of the single-item-recycling designer. Another interesting phenomenon are similar or almost the same products and material processing solutions that emerge autonomously, independently from each other. The position of the author as an individual designer that creates original and unique work would thus be weakened.

Recycling is as old as humankind itself. It has been used as a tool for designing or for creative artistic activities only in the last few decades. From times of Marcel Duchamp's readymades up to the present, the reasons for recycling in design, arts, and architecture have changed in response to the economic and social changes.

Open design and application of its principals are a challenge for the concept of single item recycling nowadays. Such an approach, where design would be perceived as an idea that could be freely delivered under certain conditions would be a way to connect designers, craftsmen, and sculptors, and to improve the previous proposals regarding item processing. It would also enable better access to the design to a wider group of customers. The users would have the option to participate in the production process by doing their own share of the work, either on their own or in collaboration with the local craftsmen or designers, which would decrease the price of the product. This would allow for design verification through the process of prototype refinement among craftsmen—designers, even with the outcome in the form of a new type of “serial design”. Furthermore, users would have the chance to develop a relationship with the product, which would further increase the probability that the product would be used longer and its lifetime would be considerably prolonged. This leads back to the concept of sustainability, which becomes an integral part of the item recycling.

MIXED REALITY DIGITAL TECHNOLOGIES IN THE AUTOMOTIVE DESIGN PROCESS

Ondrej Dóci, Peter Olah, Miroslav Truben

Keywords: virtual reality, augmented reality, design, automotive interior, speculative design

It is likely that post-mechanical methods will continue to progressively gain ground in design. The idea as a result of design activities will be equivalent to a tangible product, and moreover, it may happen that this tendency will contribute to the dematerialization of the design process. Most design industries seek to reflect emerging innovations, technologies, or simply put, their present. Digitization, connectivity, and the rising attention to autonomous driving are changing not only the functionality and user experience in the interiors of today's cars, but increasingly also the way we design them.

It is important that technological innovations are thoroughly examined, mainly so that the new discoveries may become useful tools. This could be achieved by a constant effort to implement innovations not only into design processes of designers. At present, doctoral research is being carried out at the Faculty of Architecture and Design, which deals with the implementation of reality distortion technologies into design processes. Therefore, this article aims to discuss these evolving technologies in design practice as well as analyse approaches and hypotheses that the authors are currently working on in their doctoral research.

Extended reality (XR), a relatively new development in most areas, is an emerging umbrella term given to all computer-generated environments that merge the physical and virtual worlds. According to a 2017 survey, more than a third of XR product companies concerned predict a 4 – 5 year timeframe till XR becomes mainstream. This means that in the next two years we will encounter more and more extended reality products, whether in the form of virtual, augmented, or

mixed reality, or any other form of reality that such technology may bring. New extended reality technologies have the potential not only to spice up the final presentation of a work, but also to significantly influence the design methodology. However, this potential still contains a lot of unexplored aspects. The ways to use this technology in the design process requires deeper scientific knowledge, which should be based on practical experience from case studies.

The authors of the article explain the inspiration from the pillars of speculative design as one of the possible research approaches. Speculative design often considers emerging technologies as an object of interest, and at the same time uses them as a means of expression. The technologies are able to materialize the theses of speculative and critical design, but can also become the object of interest to these design branches: with the aim to explore the so far undiscovered ways of using the technologies in a wide range of disciplines, or their potential development in the future. Design speculation can act as a catalyst for a collective reassessment of our relationship to reality. The article gives an example of applying such an approach. The topics of mixed reality and speculative design were partly covered in the diploma thesis of one of the article's authors, Miroslav Truben, during his internship at Volkswagen's interior design department. The relevant part of the article mainly describes the presentation model as the outcome of this diploma thesis.

Based on the experience from the professional design environment of car companies ŠKODA Auto and Volkswagen, the authors describe the current state of implementation of extended reality technologies into the design processes of designers. In the article they express the opinion that these technologies are further gaining the trust of automotive designers in product development, compared to physical reality. Step by step, they are finding their place in various specializations, where they replace physical designs/realizations, and even offer new possibilities both in research and in product development, or in their final outputs. They also offer a brief overview of examples that they consider worth mentioning in terms of the use of extended reality technologies.

At the end of the article, the authors describe their doctoral researches. In the automotive industry, mixed reality technologies are still used among designers, mainly in the projects' final stages, for the purposes of presenting or simulating digital, intangible (non-physical) aspects of car design (lighting conditions, user interface, etc.). The authors work with the assumption, and they are not the only ones, that the potential of using these technologies extends deeper into the design processes. Application in a specific field, that is the interior design of a car, could bring more defined, usable results. The authors try to include methods of speculative design as well as other methods in their research. They are finding ways how to incorporate mixed reality technologies into designing car interiors and create case studies. These studies aim to provide measurable benefits for automotive interior design departments, whether in terms of time or material savings. Verification of the proposed spatial solutions and volumes proposals could also bring significant gains in the academic environment for students working on their studio assignments. Finally, the authors of the article draw attention to the importance of keeping a critical view over the application of extended reality technologies to design processes of designers. The studies published so far have not covered all the methods of using these technologies as a tool to support the creative process of designers, and therefore authors see importance to keep room for criticism regarding the usefulness and importance of applying these new methods in practice.

MICROALGAE IN DESIGN: SUSTAINABLE SUPERFOOD PRODUCTION AT DOMESTIC ENVIRONMENT

Tibor Antony

Keywords: sustainable design, urban farming, lamp, biotechnology, microalgae, Spirulina, super-food

The design research utilizing microalgae biotechnology was conducted at the Institute of Design in years 2015 – 2019 as a part of doctoral thesis—Application

of Microalgae in the context of Industrial Design—holistic approaches in the design process. The research focused on the implementation of microalgae Spirulina in the context of everyday objects. Microalgae constitute a potential platform that can be used in the Design for Sustainable Development due to microalgae's promising qualities, such as multi-functionality and efficient growth. In terms of methodology, the research was based on experiments and interdisciplinary approach combining various disciplines for consequent application of the acquired knowledge in designing objects and services. The final outcome was generated as a result of the interaction and intersection of three disciplines – Biology, Physiology and Industrial Design.

The project was based on the collaboration with the Czech Institute of Microbiology of the Czech Academy of Sciences (Třeboň), the Institute of Biotechnology (Faculty of Chemical and Food Technology, STU in Bratislava) and also an internship with Cesare Griffa Architecture Lab in Torino.

Its core concept is the introduction of a new kind of object culture: a combination of synthetic industrially made protective case and living organisms - microalgae contained inside. From the perspective of environmental sustainability, it links local, domestic production of food with microalgae biotechnology, Spirulina microalgae in particular. Our current food production methods have considerable environmental impact, so there is room for improvement, especially with regard to the logistics of food supply and transport and food processing.

Microalgae are water-based microscopic organisms which, thanks to their simple structure, constitute a very promising material that can be used to solve specific sustainable development issues. Spirulina is one of the most studied and researched microalgae with unique nutritional composition, which was the reason it was declared a food of the future by the United Nations at the World Food Conference in 1974. From practical point of view, its advantage is the fact it can be consumed right after its filtration from water.

The first half of the article focuses on the methods used in the design for sustainable development, including the research methods, theoretical background and examples of inspiring projects. The second half is dedicated to the summary of the practical research of the author, including its outcome: Spirulina Lamp prototype.

The practical part describes individual ideas and concepts aimed at the interaction between the end user and the living system (Spirulina) in the context of urban interior design. In other words, it consisted in the search for such objects of interest, whose functionality would enable the best synergy with the nature of microalgae. The idea was to increase the added value of the products and their attributes, primarily through the utilization of the polyfunctional nature of Spirulina as a way of ensuring the maximum benefits for the end-user and the three main functions: (1) Food, (2) Oxygen, and (3) Light.

The practical research also included the creation of a series of functional prototypes (cultivators), where the goal was to verify specific ideas and gain practical experience with physical cultivation of microalgae, which was then used in the preparation of the final product.

The final product, Spirulina Lamp, is designed as a sophisticated artificial interior lighting that enables easy cultivation of the microalgae Spirulina, either at home or in restaurant interiors. The fundamental value of the product consists in the direct consumption of the highly nutritious biomass without the need for any intermediates. The added value is that the cultivator uses part of the light to illuminate the interior, thus it works as a fully effective complementary room illumination. It is the first artificial lighting of its kind that produces food for humans. The whole device is designed as part of the interior furnishings for living room or dining room areas. The product is a response to the increasing demand of the population segment that prefers sustainable, healthy and modern contemporary solutions. As a by-product, it also improves the quality of the indoor air by producing oxygen.

An important part of the device Spirulina Lamp is a biomass fertilization dish. It can be placed on a light reflector, where it separates the biomass from water in approximately ten minutes, thus making the food accessible to the end-users.

If we quantify the aforementioned benefits per one day of the operation of the device, we get the following data: (1) Food—20g of fresh Spirulina biomass (verified from the use of the prototype), (2) Light—approximately 50% of the light is released into the room, which means 3500lm per day. (3) Oxygen—25 litres of the live culture produces approximately 7.5L of oxygen in one hour.

The Prototype Spirulina Lamp demonstrates a possible way in which lighting fixtures of the future interior could maximise the benefit for humans. In particular, the interior of the future could contain more lamps of this type, which would form a consistent collection of objects with high added value.

In 2019, the prototype was tested in the domestic environment for several months and achieved the expected functionality and productivity. The project is now in the phase of a start-up (Living Elements s.r.o). It has attracted two angel investors and received a grant from Tatra Banka (More Design). The internal team consists of three people and continues the cooperation with the Faculty of Chemical and Food Technology, STU. The project won the competition—Wanna Be Start-up in 2018, in Bratislava (CERlecon Interreg) and was presented at the conference in Venice (CERlecon Interreg). In 2019, as a newly-established company, the project placed second at an international start-up competition organized by EIT Food Hub platform in Nitra. Currently, the company has applied for extra financing through SME Instrument supported by the European Commission. As the next step, the company plans to optimize the device and perform customer validation of the product on the market.

METHODOLOGICAL GUIDANCE FOR STUDIO DESIGN: A WAY OF ENCOURAGING THE DEVELOPMENT OF DESIGN THINKING

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Keywords: methodology, design process, design thinking, creativity, interdisciplinarity, studio tutorial

International internships, professional experience and especially the creative discourse of doctoral students, as well as the goodwill of senior pedagogues to provide space for the next generation made it possible to conduct several pedagogical procedural experiments in the design courses taught at the Faculty of Architecture and Design at the Slovak University of Technology in Bratislava (hereinafter as “FAD STU”). This article describes one of the experiments in particular, it explains how it was necessary to explain the design process to students, introduce them to various methodologies, tools, and techniques, so that they would gain a better theoretical background and understand that design—in addition to its artistic core—is also a powerful tool with a reach into other scientific disciplines where the setting of certain rules and limits does not pose a threat to personal creative freedom, but offers guidance and a useful principle for innovative thinking.

Times are changing and so is the job market. For quite a long time, the analyses of the World Economic Forum (WEF) have indicated a trend towards a reduction and even disappearance of some professions and the concurrent emergence of new ones. New key human abilities have come to the fore with the implementation of robotics and digitalization: complex problem solving, collaboration, creativity, analytical and critical thinking.

The pedagogical experiment we have been conducting and also this article focus on the so-called design thinking, developed into the design thinking methodology. Design thinking as a set of methods and workflows related to problem-solving and project based learning was defined in 2004 by the Hasso Plattner Institute of Design (known as the School of Design, d.school) founded by David M. Kelley and his colleagues at the Stanford University, USA, with IDEO, a global design and consulting company, as one of its major promoters.

The process of design thinking is directly based on the human-centred approach in design. This concept is not new. In his publication, in which he analysed the future of design, D. Norman (2017) stated: "Designers have talked about design thinking for at least half a century. It has recently been revived, in part as a marketing slogan by the company IDEO." This approach places a person in the centre of the design process and it is based on a thorough understanding and analysis of the needs of an individual. However, the design thinking methods and workflows should not be accepted dogmatically. Creative design work is such a dynamic and individual process that it would be wrong to consider the presented methodology as the only alternative and the only right path towards an innovative designer solution. However, its basic principles follow, to a large extent, the individual phases of the design process typical of the Vertical Studios (VAT) at Institute of Design at Faculty of Architecture and Design in Bratislava (ÚD FAD STU).

The tools of the design thinking have been used within the Studio Tutorial course since 2017. They are incorporated into the design process and pedagogues use them to develop critical thinking of students. In the past methodical guidance used to be provided primarily to the studios in specialized architectural study courses. Significant changes in the development of Studio Tutorial courses did not occur until the accreditation in 2009. Then, from the formal perspective, there arose a need to extend the teaching of Studio Tutorial courses for Product Design specialization to several semesters. In order to streamline the teaching in this area, the Institute of Design has been gradually modifying the content and method of teaching tutorials. During the four semesters of the Studio Tutorial course, students have the opportunity to try out not only the principles of the design thinking methodology, but also human-centred design and teamwork with interdisciplinary overlaps.

Interdisciplinarity does not refer exclusively to teams consisting of scientists or students from different scientific disciplines. This individual approach also covers curiosity, knowledge, and skills that reach across the borders of all areas of study. In its multi-dimension nature, interdisciplinarity also covers the freedom to choose the area of interest or the subject of research, the theoretical and methodological approach, and even the institutional affiliation of researchers. Interdisciplinarity is also typical of scientific communities that respect open discussion and constructive criticism. Furthermore, it encompasses flexibility, development, and respect for the principle of freedom of research as opposed to, or in contrast with, excessive specialisation and the bureaucratization of science (Fatyga, 2014).

The implementation of design thinking methods and techniques is an experiment that aims to assist and guide the students' designing process that is often rather intuitive and sometimes even chaotic. This experiment will also be of importance with respect to the upcoming accreditation process and subsequent more targeted response to students' needs with the aim to prepare them better for the professional career of designers in the context of the Fourth Industrial Revolution. Therefore, both students and studio pedagogues were asked for feedback on the Studio Tutorial course and its syllabi and some of the results are published in this article.

The pandemic in 2020 has brought a lot of changes and improvised solutions into people's lives. The reduction of personal contact, the transition from the real to the online world and the related home office work and online study are a few of the most significant ones (Marinova, 2020). Consequently, also the Studio Tutorial course has faced new challenges, gained a new dimension and has been enhanced and enriched with new tools and techniques specific to virtual space.