Conceptual educational projecting as a method of research and development of ideas of worldwide known architecture and art masters

Abstract
The article highlights the phenomenon and results of conceptual, educational projecting as a unique means of mastering the syncretic architectural skills on the example of artistic heritage of an architect F. Kiesler and a scenographer – an architect Ye. Lysyk.

Keywords: architectural, architectural and scenographic ideas, educational, searching, conceptual and applied projecting

Introduction
Development of architectural science and theory, in education in particular, is impossible without generalization and comprehension of creative experience. Therefore, everything in architectural science must be built in a way so that any theoretical subjects favoured the improvement of projecting process – the main subject in the education of architects and designers. However, unfortunately, it is necessary to state that projecting got lost among theoretical courses which apart from not assisting in projecting progress, push it away to the background. Thus, architectural and designing education is becoming similar to all the others more and more. So that projecting was not dissolved in historical, culturological, philosophical, artistic subjects, new principles and methods of educational projecting should be designed, which would have a unique character and convey both the experience of existing projecting kinds and those which are directed at the future.

That is why the experience in the direction of architectural and designing education of Lviv architecture school is extremely important and has received the name – conceptual educational projecting.

The aim of the paper
The aim of the article is finding out the results of conceptual projecting, which have been received by the teachers and students from the department of design of architectural environment at Lviv National Polytechnic University. Having been created under the influence of creative ideas of an architect F. Kiesler and a scenographer-architect Ye. Lysyk, it is proven that these ideas are topical in Ukraine, Europe and the World nowadays as well as in the future.

The analysis of recent researches and papers
Architectural and designing education at leading higher institutions of Ukraine has been recently enriched by special scientifically-methodical and specialized literature of both national authors – V. Proskuryakov, V. Timokhin, V. Mykhaylenko, M. Yakovlev, I. Fomin, O. Kashchenko, L. Starodubtseva etc., and foreign ones – V. Shymko, F. Ching, V. Barr – what helps the effective mastering of its main component – educational projecting [1]. However, building the educational process exclusively according to the system of occupations and specializations, accepted in architectural education and science of Ukraine not only divides the process of educating a future specialist into scientifically-theoretical and practically-applied but also polarizes it in an unjustified way, thus it is important to search for new vectors of activation the main educational component – architectural projecting.

The main part
Since the first terms of studying at the department of design of architectural environment...
at Lviv National Polytechnic University conceptual projecting has started to be used in educational process. As a component of educational architectural projecting, its task is testing any new ideas and conceptions, exclusive decisions or futuristic projects. It is also a method of researching existing architectural objects, researching the phenomena of architectural creative work and certain architectural figures. In other words, conceptual projecting has started to be used as a method of studying historical, theoretical, phenomenal, high components of architectural profession [1].

Two phenomena have been selected for the experiment – creative work of F. Kiesler and Ye. Lysyk. It is difficult to choose a term which would characterize the importance for Ukraine of the fact of an architect Friedrich Kiesler’s birth in Chernivtsi. This fact can be called a miracle. Yet Kiesler himself is considered to be treated as a phenomenon in the most modern world architecture, whose postulates are implemented even now, in the 21st century. The list of Kiesler’s activity directions is extremely diverse. He was the first person who suggested the ideas of pendent space cities and buildings, promoted and experimented in the directions of mobile, kinetic architecture, projected interiors, furniture, equipment in places which could change their functions in short time. He designed the ideas of architectural bionics, total architectural ecology, defended and developed the ideas of “flexible” architecture. Moreover, since the beginning of the 20th century F. Kiesler cultivated the ideas of infinity and perpetuity in architecture. All this belongs to the directions of his activity but one of the main directions of creative activity of F. Kiesler was the search for architecture of the theatre of the future [2]. Powerful creative impulses of an architect focused on the substitution of traditional theatre with curtains and artificial sets with something absolutely different: space of the stage itself (il. 1) and space of an infinite theatre.

F. Kiesler led experimental work constantly on theatrical space with designing a new theatre stage in the shape of a mobile spiral construction with a lift, as rhythmically-visual microspace, accordant to popular in the 20th ideas of “plasticity” of art. A variant of the first experimental scenic structure was suggested by F. Kiesler in Berlin for the premier of a play “Emperor Jones” by an American playwright Eugene O’Neill (1924) [3]. This new-type stage is considered to be the beginning of revolution in the traditional concept of theatrical space. Stage space became the environment where F. Kiesler for the first time implemented the idea of avant-garde theatre as an unlimited space. The performance took place on different levels simultaneously on the open spiral stage. While conducting experiments on theatre spaces F. Kiesler in 1924 formed his own definition of “theatre” as “being mechanically ruled sound-and-light, visually-phonetic one whole” [4]. It was shown in graphic designs of geometrical structures of double spiral, in combination of concentric circles of ellipsoid and also in the designing “Infinite theatre”.

In future designs F. Kiesler aimed at reaching not only combination of dimensional, acoustic and playing phenomena of the theatre but also integration of the world of art and existence of a person. F. Kiesler created the concept of “Endless theatre” (1926) which included the theory of ellipsoid. The theatre was projected without proscenium and curtains, the hall was projected in the way that walls were constantly moving and favouring even closer interaction between the performers and the audience [5].

For a visual presentation of ideas of “endless” theatre space in 1960 F. Kiesler made an aluminium model of “Universal theatre” (il. 1), where he synthesized the previous concept of ellipsoid (1924) [4], and “Endless theatre” (1924) [5]. “Universal theatre” was formed in master’s imagination into an ideal theatre of the future, as a component of an organic world of nature.

One F. Kiesler’s theatre ideas was implemented after his victory in New-York contest.
of multimedia projects for summer festival Woodstock Music and Art Fair. In his project (The Space Theatre Woodstock) (il. 2) an artist for the first time suggested flexible, mechanically considered multifunction of theatre space [6]. The main idea of the concept was in the mobility of stage and audience hall due to the usage of lift, movable rails and panels. It was particularly named above architectural ideas of F. Kiesler’s architecture that have become the grounds for forming the tasks of conceptual projecting the department design of architectural environment at Lviv National Polytechnic University.

Generally, since the foundation of the department, over 20 projects of different principally-functional and formally-dimensioned organization have been designed. Students, while designing their projects, under no circumstances used the re-makes of the works of a genius architect. No, they interpreted the intentions, developed or changed functions, shape, dimensional compositions, texture, vertical and horizontal communications, proportions and scale, using environmental context in the way that, in their opinion, Maestro himself would do. Since Kiesler himself constantly improved the projects of his infinite houses, constant theatres, buildings-sculptures, pendent, suspended, dimensional cities, syncretic, universal, irrational buildings [1].

Student V. Vynogradova (il. 3) has done a very interesting interpretation of one of the projects of Kiesler. Cultural centre in the Philharmonic square in Chernivtsi city reminds of “Endless House” very much, just its corners are not “rounded” and “smoothed”, what generally gives a building dynamism. Instead of stone pillars which should have supported the house, according to Kiesler’s intention, the building leans on the construction of glass and concrete, therefore it looks very modern. Though the building is asymmetrical by composition, it successfully fits the classical forms of historical environment; it might be favoured by glass mirror constructions of the first floor and windows and bubble-shaped form of the building, what integrates it into current environment.

Another student R. Bevzyuk based himself during dimensional organization of his centre on decision by Kiesler of “Temple of a book” in Jerusalem (il. 4). Similarly to Kiesler’s version, the composition is extended along the main longitudinal axis. Thus, in real conditions of space on Teatralna square in Chernivtsi in the direction to the main entrance of O. Kobylyanska theatre, however unlike Kiesler’s decision, the student has designed the internal size of his complex easily accessible. It is both due to numerous entrances-exits, vertical communications and to the fact that the dome and
roof area of the complex are half transparent. However, the most important element in the whole, in contrast to Kiesler’s idea, who created space for storing manuscripts – the author-student suggested also the building-screen, its task would be integration into the exploited roof area of the façade of existing theatre as well as showing holographic, lights-and-shade, kinetic, light projecting plays.

A student B. Shymanskyi has projected the exhibition centre in Philharmonic square in Chernivtsi city but as a basis for his idea he also used architecture of “Temple of a book” by F. Kiesler in Jerusalem. Unlike stud. Vynogradova’s project, the building is symmetrical, has a shape of a sphere which bases itself on four concrete “counterforts” located in the corners of the square, which apart from constructive function also fulfill the aesthetic one. The upper part of the building reminds the contours of the dome of Jerusalem Museum of ancient manuscripts. The building is not high (only 3 floors) but, irrespective of this, it appears as the main accent in the square. The project of double theatre by F. Kiesler in Brooklyn, state New York inspired a student O. Dudyak to create a project of double theatre in Chernivtsi. Although general structure contours of student Dudyak are similar to the theatre of this outstanding architect, organization of her building is different. Top floors are decorated with square windows with ornamentation and in the Southern corner the tower is projected, which does not exist in Kiesler’s double theatre. The building of Kiesler’s theatre did not have any décor but was structured in an interesting way: there was a big and a small hall for the audience, the stage was situated in the middle between them, diagonals of covering both halls met above the stage, thus if there was necessity, two halls could be combined in single space of the theatre. Student Dudyak has also used similar decision for her structure.

The project of a city hall in Chernivtsi in Philharmonic square by a student O. Proskuryakov has been distinguished by the most complex dimensional decisions comparing with all the other student works (il. 5). According to the author, Soborna square is built up along the perimeter with a glass building with an inside space-hall similar to the project of double theatre of Kiesler in Brooklyn (1926–1927). The centre of the structure has a big hall projected with a wide functional variety – theatrically-spectacular and culturally-educating functions. The project of a student Yu. Tymoshenko was based on the research by F. Kiesler which he did all his life (il. 6). These were the researches of egg-shaped buildings and curvilinear surfaces which crossing with each other, create the infinite space. The projected structure of cultural centre consists of two parts: three-storey structure with a concave main façade and a hall with glass dome. Together they have created united flexible space combined by vertical and horizontal communications. Architectural image of the structure is correctly integrated into the existing architectural environment. Transparent fencing constructions and their plastic shape mirror the surrounding environment, create the effect of building lightness.

Student I. Kruk has decided the architecture of exhibition centre in an absolutely different from traditional architecture way (il. 7). The idea of “infinite space” by F. Kiesler has been taken as a basis of volume planning decision. The building reminds a combination of massive egg-shaped spaces, on pillars-communications. The construction of “eggs” has formed a metal frame with glass filling, which is similar to painting Ukrainian pysankas, and each of five “Pysankas” corresponds to one of exhibition halls.

The second component of conceptual projecting of Lviv architectural school is a unique phenomenon of architectural and scenographic creativity of Yevgen Lysyk* (il. 8) At the end of 20th – beginning of 21st century in Lviv everything, foreseen in the sphere of theatre architecture and its development in research papers by V. Proskuryakov, V. Kutsievych, R. Kubay, B. Goy, D. Yarema, I. Kopylyak, O. Sinkevych, I. Gumennyk and others, was fulfilled [7, 8, 9, 10, 11, 12]. Everything was fulfilled, what had been projected long time before, as in the direction of traditional architecturally-dimensional decisions, among which the ideas of theatres were suggested.

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Il. 5. Project of City Hall in Chernivtsi. Authors: prof. V. Proskuryakov, stud. O. Proskuryakov

Il. 6. Project of cultural centre in Chernivtsi city (general view). Authors: prof. V. Proskuryakov, student Yu. Tymoshenko
on analogical basis of their historical prototypes or as a result of readjustment, or new decisions but with traditional scenography. Among them there were various Ukrainian and city halls, Ukrainian houses; landscape theatres, theatres in communities, centres, theatres-laboratories and studios, theatres of national societies; as well as modern types of Ukrainian theatre objects in all possible directions. They were of current, innovatory, historical, traditionally-searching, intercultural avant-garde. Among them there was arrangement of any setting for building theatre space; theatres of mobile landscape; transportable, mobile, sectional, travelling; touring theatres, studios, theatres-museums, theatres-exhibitions; spiritually-religious theatres, theatres-TV-shows, virtual theatres, total and momentary theatres.

Projecting and implementation – this is what concerns classical architectural and theatrical scientific researches. At the same time owing to the special researches of V. Proskuryakov, D. Yarema, R. Kubay, S. Abramkin, Z. Klymko [13, 15, 16, 17, 18] of architectural and scenographic ideas of Ukrainian and world theatres into the architectural theatrically-spectacular and culturally-educating national paradigm, it was suggested to set synthetic architectural and scenographic grounds of dimensional, environmental, acting, culturally-aesthetic basics for building Ukrainian theatre of the future.
These research surveys, and most importantly the surveys of architectural and scenographic ideas of the brilliant scenographer Ye. M. Lysyk (il. 8) have found the reflection in conceptual projecting and implementations by the department of design of architectural environment, under the supervision of a professor V. Proskuryakov.

All scientific research during last 20 years in Lviv of architectural and scenographic aspects of creative heritage of a worldwide known theatrical artist Ye. M. Lysyk by prof. V. Proskuryakov, which in the 21st century have been joined by researchers D. Yarema and Z. Klymko, have allowed to reveal various architectural means and actions in his scenographic activity.

There had been many artists of stage before Lysyk who had admired or used architecture for theatre needs. A. Smuglevych decorated the stage by classicism architectural analogues, In. Maraino not only used full-scale sketches of natural and local landscapes, brought from Italy for his scenographic decisions, but also built summer theatre in gardens of Yablounovski in Lviv with his personal technical equipment. F. L. Pohlmann participated in deciding architecture of interiors and building stage space in the Ukrainian theatre “Ruska Besida”. Jan Duhl used harmonious perspectives, close to classical patterns, in stage formations.

An artist F. Vygzhyvalskyi, K. Matskevych and A. Pronashko developed various style decisions of the beginning of the 20th century in their works. But it was only Lysyk who made architecture and fundamental laws of its formation a constant means of creating quality environment for stage theatrical acting from the first plays to those which became significant [14].

The main means and actions of architectural and scenographic creativity were the following:
First. Architectural metaphors on curtains, pallets, coulisses;
Second. Architectural means of harmonization syncretism of play environment;
Third. Using architectural styles of epochs, when the plays were created;
Fourth. Development of architectural quotes;
Fifth. Creation of new architectural types, places, environments, spaces, buildings for theatrically-spectacular activity.

All architectural and scenographic form creation by Maestro named above was tested within two conditionally led project directions:
First – educational, searching and experimental projecting and second – applied projecting.

Among the best examples of conceptual projecting, in which architectural and scenographic ideas of an artist Ye. Lysyk developed, are the projects of “Lysyk’s House” and buildings for accumulating, keeping, restoration and exhibiting scenographic works.

The projects of “Lysyk’s House” are buildings which aim at keeping and demonstrating works by Ye. M. Lysyk; they have systematically been created by Lviv architecture school immediately after the death of a famous artist at the beginning of 90s of the 20th century.

In one version “Lysyk’s House” (student V. Romanyuk) was seen to the author as a comet which fell in the middle of Lviv. Comet is a symbol of bright creative life of Ye. Lysyk, of a dynamic life and at the same time, by space measures, of a very short life. A comet, having left the trail after itself, as if came across the organ – symbol of harmony, then changed its direction and, having outlined the shortened trajectory, turned into a huge egg – symbol of a Universe eternity, creativity, spirit and faith.

The huge egg is a space where the main hall, galleries, boxes, balconies are situated, it can be transformed to any kind of artistic activity (il. 9).

Another version (by a student M. Dmytryshyn) suggests making “Lysyk’s House” in simple suprematism volumes and details. Main exposition space-sphere is placed in a huge cube which is divided dialogically by communication – ramp. The idea of exposition space in the shape of a sphere emerged from the author’s desire to make one of his dreams come true – to see how theatre curtains, pictures and others would look on the spherical volumes.

Some following original projects of “Lysyk’s House” were made at the end of the 20th century by the students of the Institute of Architecture from Lviv National Polytechnic University Myroslav Goryn, Oleg Bonchuk, Vladyslav Mastykas etc.

According to the project of Myroslav Goryn “Lysyk’s House” should be located in a town block that borders with V. Chornovola str., Zernova str., Kulisha str., Vagoa str in Lviv. It was there on “Malyarka” where Yevgen Lysyk worked for almost all his life and created the majority of his brilliant works. The author sees this project as a syncretic complex of new and old buildings, combined by the inside yard deep in the town block.

Oleg Bonchuk continued the topic of “Lysyk’s House” in Nyzkyi Zamok square between M. Zankovetska theatre and a branch of a National museum. By the idea of O. Bonchuk, volume and space composition of the House is created by “glass” half-transparent in the evening and at night crystal frame, mirror-facades of which during the day as if turn into the continuation of all the city landscape from the ancient historical part of town. The hall in the shape of an egg is like mounted, built into this half-transparent crystal frame.

And finally, suggestions and searches by Vladyslav Mastykas. The House itself is a complex of buildings which would have to rise opposite the Opera theatre, across Gorodotska street, connected between them by under-
ground communication and premises. This part of a House reminds of the Opera Theatre by its silhouette but it does not shade its back façade completely and forms the ensemble of Gorodotska street together with the winging houses. This decision would allow to place in the complex not only rooms and premises for storing Ye. Lysyk's heritage, but also to create another one, new and more modern stage of the opera, as well as the room for artistic work, decorations, rehearsal hall and other services which are scattered around the city now. This is what the Master dreamt about (il. 10).

In applied projecting architectural and scenographic ideas of Ye.M.Lysyk have been used by the teachers and students from the department of design of architectural environment while creating resting centres: theatres-studios; summer, open season, stationary theatres; mobile, sectional buildings; TV studios and teletheatres; theatres in the buildings of national societies etc. However, the best Lysyk's ideas have been implemented in the projects-buildings of...
Landscape-folk theatre in the Museum of folk architecture and customs in Lviv, TV-show-theatre in the studio of Lviv television and the theatre “Gaudeamus”. The project of a landscape-folklore theatre, which was built in 1989, was created by a professor V. Proskuryakov with the participation of architects I. Shcherbakov and P. Gavrylov and students V. Khyzhnyak and I. Kuzmak [7].

The basis for the project was using regional cultural traditions, synthesis of the stage, amphitheatre with a view of the museum and its live landscape silhouette. The project from the very beginning was aimed at creating organic ensemble of theatre architecture, its dimensional, acting, culturally-aesthetic decision and historically-landscape environment of the museum.

The catalysts of all these decisions were the sketches of Ye.M. Lysyk’s architectural and scenographic decision for folk opera “Fern blossom”. Some scientific sources named it “Opera on Ukrainian folk motives” [14, 15].

The authors of landscape theatre took as the basis for creation the architecture of their object first the experience a scenographer’s addressing the folklore material – usage of ancient Ukrainian mythological symbols both as emotional rappers and actions taken to build space-active compositions. It found the reflection in landscape theatre in subject-surrounding meaning and space-active meaning (il. 11).

The architectural and scenographic ideas of Ye.M. Lysyk became useful while building the space and organization of action of TV-show “Christmas with Ruslana” in the studio of Lviv television, the biggest one in Ukraine. Professor V. Proskuryakov designed the conception of the project of symbolically-imagery, subject and dimensional, colouring, scenographic and functional organization of the theatre. Famous theatre artists V. Bortyakov, V. Tolmachov with the participation of an architect R.Kubay and constructor V.Turchyn helped implement this idea in reality. The main idea of building space of Tele-theatre was the idea of an axis – direction from darkness to light, which guideline is the very Birth of Jesus Christ. The axes on which and around which everything else is located and is happening – images, action, concert. Though, this studio is the biggest among such studios in Ukraine – it has plan sized 30*20 meters and the height of 15 meters for covering constructions, the authors from the beginning of projecting and to space construction were looking for ways of visual expansion of the structure boundaries, with the aim of creating space eternity… (il. 13).

In 2010–2015 the projecting of theatrically-spectacular and culturally-educating building with the usage of architectural and scenographic ideas of Yevgen Mykytovych Lysyk has been activated again. The following projects can be considered to be the best ones:
il. 11. Landscape and folklore theater at the Museum of Folk Architecture and Rural Life. Arch. V. Proskuryakov, I. Scherbakov, P. Havrilov. Detail elements scene and amphitheater

il. 12. The project of the building of the theater “Gaudeamus” in Lviv. Architect prof. V. Proskuryakov, designer Yu. Yamash
The project of the centre of arts named after Ye. Lysyk. The project of the building for production, keeping and demonstration of the outstanding scenography works and the Project of the building for keeping and demonstration of famous scenography works in Lviv.

If the project of the art centre named after Ye. Lysyk, by the authors prof. V. Proskuryakov, stud. K. Kovalchuk, with participation of a designer Z. Klymko, was close to the ideas of the Master concerning spherical demonstrating spaces tested in the projects of the previous years (V. Romanyuk, M. Dmytryshyn etc.) with the only difference, that this project from the 21st century has become more spectacularly-demonstrating (il. 14), than the projects of buildings for accumulating, keeping, production and exhibiting scenographic works can be, undoubtedly, considered as new types both theatrically-spectacular and culturally-educat-

il. 13. TV-show-theatre “Christmas with Ruslana”. Arch. prof. V. Proskuryakov, with participation of an artist V. Bortyakov and V. Tolmachov, arch. R. Kubay, const. V. Turchyn

ing. The conceptual ground of architectural typology which Ye.M.Lysyk received at experimental plays in “Malyarka”. The experiment was a forced event. Lviv opera and ballet theatre was closed, it was being restored and at the same time the company was working on staging the ballet “Medea”. There was no place to test the scenographic setting for the ballet with the ready fragments.

And then Yevgen Mykytovych suggested building the place in the lower demonstration hall on the fourth floor of “Malyarka”. And in the top, newly-built hall, on the fifth floor, trying on of ballet costumes was held. Thus, a concept of a new public building appeared – theatrically-spectacular and culturally-educating at the same time. Back at that time Ye.M.Lysyk was persuading that in the nearest future appearing of types of buildings for production and exhibiting scenographic works or buildings for accumulating, keeping and exhibiting would be absolutely possible (il. 15).

Conclusions

Summing up the results of suggested decisions of conceptual projects it is possible to make the following conclusions and generalization.

– Educational conceptual projecting is not necessarily “projecting which is not aimed at implementation” and “…conveys any new ideas” as it is interpreted by famous researchers, it is a universal means of mastering syncretic architectural knowledge and educational and projecting skills.
– Conceptual projecting has been tested in Lviv architecture school in contrast to the abroad experience, for instance, at the University of Manitoba or at Ukrainian Youth Society in Vienna, it is aimed at studying architectural objects and heritage not only owing to projects-copies, sketches, paintings, drawings, models but also to the process of development of project intellect, by a way of creative projecting on the topic of researching objects and ideas of famous masters.
– Professionally-oriented subjects, and in some cases humanitarian ones may be also considered as the sphere of using conceptual projecting.
– As experience of promulgation of conceptual projecting results of Lviv architecture school shows, such type of activity may be the effective means of popularization of the profession, the ideas of separate artists as well as schools, by means of intercultural and international cooperation and integration.
– Conceptual projecting allows, in the context of national education, to make all departments, forming the educational institutions, the professionally-oriented ones, what could intensify the process of studying and its quality.

In conclusion, it is worth emphasizing that according to the results of polling architects-professionals graduates of Lviv architecture school, conceptual projecting occupies considerable place in their creative method.
ENDNOTE:

*Yevgen Lysyk (1930–1991) was an outstanding Ukrainian scenographer. He was the main artist of Lviv Opera Theatre. For years of his creativity he made scenic setting of a scene for 85 opera, ballet and drama performances in Ukraine, Russia, Poland, Belarus, Macedonia, Bulgaria, Turkey.

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