Technology on Stage

The use of technology in scenography in a theatrical context

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The set for “Romeo and Juliet in 3D”, St Petersburg, 2014
Abstract

The following thesis focuses on the use of technology within the field of theatre scenography and serves as a starting point for a related final project. The author uses this work as an opportunity to investigate the role of technology - both analogue and digital - for the development of theatre productions through a careful examination of its history; the patterns and movements in scenography as a reflection of broader social and philosophical context.

Technology serves as an important tool of innovation within the field of scenography. However, its impact on the overall development of the dramatic action, as well as the focus of the audience, is also to be considered. The author aims to analyze the reasons for the implementation of elements such as lighting, projections and movement in scenography, as an addition to action's dynamic in the past and draw the conclusions for when such devices could be useful in the future.

Another important aspect analyzed and discussed in this work is the issue of sustainability within theatre. The author analyzes current situation and discusses potential ways in which it could be improved - both on a local and global level - which then results in the final project discussed below. The project aims to serve as a long-term, sustainable alternative to the current approach to theatre production.

Using an existing project of the director Fabio Cherstich as a starting point of the project, the author strives to both fulfill the requirements of the individual "client", as well as to serve a greater cause of offering a new, sustainable approach to scenography through a design of a service surrounding the final product.
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Introduction

The following project will aim to discover the new possibilities that modern technology can offer to the development of theatre scenography. I seek to implement an inter-disciplinary approach in order to expand the terms in which set design can be discussed and implemented. By incorporating technology, I wish to demonstrate that even a traditional discipline, such as opera, has the potential to be attractive to the contemporary audience; using the objects from our everyday life, I aim to create a stronger connection between the audience and the play.

The background for this project is an idea that the Italian theatre director, Fabio Cherstich, has shared with me some time ago- that is, to create a movable opera- “The Barber of Seville”- set on a truck, that through its accessibility could become an answer to the issues related with the role of opera in the contemporary society. The author claims that his motivation was the lack of interest of the young audience, as well as opera being overpriced. The creation of the “Opera Truck” could be used as an opportunity to discuss issues related with the accessibility of theatre (and, in particular- opera)- how elitist it has become and why; the economical aspects related to it- why is it overpriced? How should it be advertised? In my work, I will try to investigate what is the relation of the young Italian audience to the play and what could be improved, according to them- therefore, incorporating the user's participation in the creation of theatre. This should lead to the discussion of the accessibility of art in general and different aspects related to the creation of the “Popular Theatre”.

The main objective of my project will be to create a theatre set, which will represent the character of the contemporary society through the use of available technology. As suggested by Christopher Baugh, in some ways, theatre scenography has always been a reflection of the technological advancements of the given time.\(^1\) According to the author, this phenomenon is connected to the wider issues of power and ownership\(^2\), which I will discuss in more detail in the following chapters.

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1 Baugh, Ch., *Theatre, Performance and Technology: The Development of Scenography in the Twentieth Century*. Houndmills, Basingstoke, Hampshire: Palgrave Macmillan, 2005, p. 3
2 Ibid., p.1
The importance of the use of technology within the theatre has also been stressed by
the Czech scenographer Josef Svoboda. According to the artist:

“only that which is contemporary on stage can thoroughly interest the spectator and affect him
strongly... Contemporary art should present a ground plan of life, the life-style of its time”

The practical implementation of my idea will mean merging various design disciplines. I am
planning to create an outcome in which a set of modular elements will respond to the movement of
the actors. I believe that the use of modern technology, such as the Arduino board and infrared
motion sensors, could provide a solution that would enhance the harmony between the play and the
set through a synchronised movement. I reckon that a combination of human and computer
capabilities could merge and enrich the visual outcome.

Another important aspect of my work will be the environmental, social and economical
sustainability and the ways in which it can be achieved within the theatre. In my work, I will aim to
develop a sustainable theatre set solution, that- borrowing from the trends of the use of
prefabrication in architecture- could serve as a re-usable system, that could be incorporated into
different themes due to its changeable character. I would like to propose a generic, non-naturalist
set that instead of depicting a particular setting, would serve as a flexible platform for various
solutions. It could be easily modified with light, projections and additional set elements, in
accordance to what is needed for a particular play. Overall, my project will focus on providing a
durable and flexible solution, in order to minimize waste and costs associated with each
production.

On the other hand, the project is strongly connected to the issue of social sustainability of
the contemporary theatre. The director’s attempt to address the issue of accessibility of opera to the
young audience in Italy can be an interesting starting point for a discussion about the role of the
theatre in the contemporary Italian society, as well as the challenges it might be facing nowadays.
In my project, I attempted to get an insight from the audience- I conducted a survey, in which I
asked the participants to share their opinions and to reflect on the issues that might affect the
accessibility of the theatre plays to them.

The reason I have decided to work with scenography is my feeling that the impermanent
character of the theatre sets can be a liberating factor to the design work- as opposed to other
design fields that I have been previously working with, such as interior design and architecture, in
which the constraints such as functionality and permanence of the space might not always allow for
as much creativity and freedom as in the theatre environment. I would like to speculate upon the

barrier between the reality and fiction and how that border has been achieved in the theatre architecture through the years. Moreover, there is a more personal connection to the discipline of scenography that is related to my origin-I come from Poland, the country of theatre makers such as Tadeusz Kantor and Jerzy Grotowski, who have been some of the major figures that have influenced the development of theatre in the 20\textsuperscript{th} century.\textsuperscript{4} In his article “What is Scenography? - The Origins of Stage Design Through Architecture”, Micheal Eagan claims that due to the relative separation of Central and Eastern Europe during the communist era, it became a birthplace of modern scenography, which later came to be more appreciated in the West, in which at that time theatre production became “perhaps somewhat less relevant”\textsuperscript{5}

The main purpose of this project is to create an alternative proposal for the concept that the director is working on, which will not be bound by the budget and time limitations he has set upon the real-life project. In my proposal, the main objective will be the speculation- about the character of the scenography nowadays, the trends in the field and the ways in which it could, potentially, change. The final outcome should be strongly related to the theory of theatre and design; even if-judging from my previous experience working in the theatre- in most situations, the time constraints do not allow for an extended research, this projects aims to propose an alternative- a theory-based set design, developed by a person with a training in a different design field. Could that knowledge and the incorporation of theory benefit the final outcome? Is it important to the audience?

The final outcome of this project will be a set of prototypes, visualisations, diagrams and animations illustrating the mechanism of interaction between the actors and the scenography, the spatial properties of the construction and its relationship to the proposed location- Piazza Gae Aulenti in Milan, Italy. More detailed drawings will be provided to illustrate how the particular elements of the set are structured, related to one another and what is the principle on which they work.

Finally, the written part will illustrate how certain theories and methods have been incorporated into the design process and reflected in the visual outcome. It should also serve as a representation of the data I collect during my research and allow for the critical reflection on its significance, as well as the step-by-step collaboration with the director, who- even though this is only a concept for his project- will remain present in the development of this proposal.

Theory

The main areas of design concerned in my project are scenography and broadly understood spatial design, as well as the elements of interaction design. The merging of those disciplines aims to present theatre in a much broader context, borrowing techniques and theories from other design areas.

First of all, I would like to explain the difference in terminology used when describing the work of a designer in relation to the theatre. According to the Canadian theatre designer Michael Eagan:

“\textit{The term 'scenography' includes all of the elements that contribute to establishing an atmosphere and mood for a theatrical presentation: lighting, sound, set and costume design.}"

\textit{'Scenography' has evolved from historical roots in classical antiquity and connections to the architects of the Renaissance era largely due to the theatrical activity in Eastern Europe in the twentieth century.'}^6

Therefore the term “scenography” suggests a much broader approach to the design of the performance- not only as a visual background for the play, but also as a way of placing it in the context, therefore linking it to the other elements, such as the architecture of the theatre and the overall experience of the audience. An important part of my approach should be the consideration for all senses involved in the viewing process; treating it as a complex audio-visual experience, rather than just a series of images, which could easily become a result of a detachment of set design from other parts of experiencing the play.

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Theatre and Architecture

Eagan has also suggested that there are common origins of scenography and architecture, an that “the separation of stage design from architecture is a modern notion”. In the above mentioned article, the author presents a list of the most significant set designers who have primarily been trained as architects, such as Baldassare Peruzzi and Sebastiano Serlio.

In her book about theatre and architecture, Juliet Rufford quotes the French theatre director Jacques Copeau, who stressed the importance of architecture as an external framework in which the dramatic action takes place:

“(…) a given dramatic conception postulates a certain stage design and just as much or even more: a given stage architecture calls forth, demands and gives rise to a certain dramatic conception and style of presentation [so that] it is difficult to say which is responsible for the formation of a particular style, the form of the drama or the form of the theatre”.

Another issue related to the architecture of the theatre is the way in which the spatial distribution of the actors and the audience influences the relationship between them. Christopher Baugh indicates that the abundance of pictorial representation in the modern theatre lead to the abundance of the ambition of providing the audience with “a 'voyeur-like' perspective into the space that, through conventional means, pretends to be other than itself” and resulted in the theatre makers searching for the alternative venues that could host their shows. The author also indicates that a traditional theatre architecture had a power to imply the obvious social hierarchy in the galleried space, which was first removed by Richard Wagner in his design for the theatre in Bayreuth.

The issues mentioned above are crucial for the development of my project, as the setting of an “opera truck” provides us with an opportunity to implement an equal viewing experience for all the members of the audience- both thanks to the context it is placed in (a public space, equally accessible to all citizens) and the fact that the event will be free of charge. The spatial constraints are partly provided by the setting- the truck and the proscenium it forms while open- but can still be navigated in regards to the border between the play and the audience.

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8 Rufford J., Theatre & Architecture, Palgrave, London 2015, p.2
10 Ibid., p.147
That boundary between the dramatic action and the spectators- that is, between the fiction and the reality- can also be stressed through the architecture of the theatre. Rufford recalls an example of the Japanese Kabuki theatres, in which a platform connecting the stage and the back of the auditorium, passing through the audience- called “hanamichi”-forms a physical border between the reality and the play and allows for a visible transition from an actor to the character. According to Rufford, that particular transition remains invisible to the audience in the Western tradition, where it takes place in the wings of the stage.\footnote{Rufford J., \textit{Theatre & Architecture}, Palgrave, London 2015, p.3} In case of my project, the action will be taking place in an open space and therefore I will make an effort to achieve that border with other, non-physical means. I believe it is important to establish that division and make it clear for the audience how much proximity is permitted, in order to allow enough space for the actors.
Sustainability in Theatre and Architecture

Due to the strong connection between the two aforementioned disciplines, I feel that certain theories could be borrowed from architecture and applied to scenography, as well as the current trends in sustainability. Take, for instance, the use of prefabrication in architecture. When applied to the built environment, it can serve as a way of minimizing the impact on the environment and producing less waste. In her article about the use of prefabrication and modularity in housing, writer Sarah Fister Gale explains why the factory-produced houses can become a more efficient solution:

“(…) at traditional job-sites, leftover materials typically fill a dumpster before getting dumped in a landfill while factory-made buildings produce far less waste because the production environment allows them to reuse and recycle materials for future jobs.”

Therefore I would like to explore whether the use of prefabricated, site-specific elements could be possible in the theatre production and whether it could result in a proposal for a modular set, that could be reused for the future productions. I opt for a design solution that would be flexible enough to be customized according to the play, but serve as a durable element of the stage design.

I began to search for different views on what sustainability is and what it might bring to the design profession, in order to see how it could relate to the discipline of scenography. According to J. F. McLennan:

“Sustainable Design is a design philosophy that seeks to maximize the quality of the built environment, while minimizing or eliminating negative impact to the natural environment”

In his book on sustainability, Leslie Paul Thiele claims that the concept itself dates back to antiquity, but has only been expressed in our vocabulary for about three decades now. The author claims that the sustainable approach has its basis in ethics and is “grounded in moral claims about the responsibilities and obligations of individuals and organizations” According to Thiele, the easiest way to define what the term stands for and avoid overusing it, is to clearly define what is it not. As stated by the author:

“A practice, relationship or institution is not sustainable if undermines the social,
economic, or environmental conditions of its own viability”.

The same three pillars of sustainable development have been stressed by Jo Caird when discussing the sustainability issues in relation to the modern theatre practice. Regarding the environmental issues connected with the theatre, Caird recalls the launch of actions such as “Green Theatre: Taking Action on Climate Change” and the “Ecovenue Scheme”. According to the author, the most important concerns are the energy saving, recycling of the scenography materials and the responsible use of theatre technologies. In terms of the economic sustainability, there is an issue of the ownership of the theatre buildings as well as the independent theatre companies; another question here is how affordable theatre is and what influence does it have on the perception of theatre as an elitist, inaccessible form of entertainment. Which leads us to the social aspect of the theatre— is it/ should it be accessible to everyone equally? Does theatre have a potential to transform the society?

“Popular theatre” (from French ‘theatre populaire’) is a kind of theatre aiming to “move theatre from the being only accessible to the middle-class and above; popular theatre aims to make theatre approachable, understandable, and useful to the significant working-class population too.” As stated by Oliver J Harris, the popularization of theatre is achieved by the use of universal devices such as parody and mimicry, that can easily be understood by a majority of the society.

The social importance of the popular theatre has also been described by Joel Schechter in “Popular Theatre: A Sourcebook”, in which the author claims that the practice dates back to Jacques Rousseau and Louis-Sebastien Mercier, who by 1778 called for a theatre that would “mould the morals and manners of the citizens”; it is thanks to Mercier that attempts have been made to create a theatre that would be affordable and educational to the masses. According to Schechter, the concept was then advanced further by Rolland Romain, who in his 1903 publication of “Théâtre du Peuple” called for “recreation, energy and intelligence in people's theatre; he cautioned against excessive preaching and empty amusement”. As described in the book, even though the term might have originated in France, various forms of popular theatre, such as mimicry, pantomime, shadow puppetry and clowning have been known for thousands of years, and not only in the West. The author claims that the term “popular theatre” nowadays implies a democratic, proletarian and politically progressive practice. Recalling a tradition of Greek mimes, Schechter claims that popular theatre does not necessarily mean a text-free form; on the contrary, thanks to being an independent practice, free from the instructions from above, it evolved to be a more liberal form of communicating ideas.

21 Ibid.
22 Ibid., p.4
Therefore by identifying the play as a form of “popular theatre”, one can have a greater liberty of expression, as well as a stronger social impact. My initial intention was to create a visual language that can be understood on different levels—being both visually pleasant and meaningful, in an attempt to prove that making the theatre popular does not need to decrease its cultural and intellectual value. However, the consultation with the director proved that this idea does not correspond to his interpretation of the play—according to F. Cherstich, the popular character of the play should be reflected by its absolute simplicity. The director claims that the play and the set should not offer any deeper meaning, and if there is any—it should be slowly revealed throughout the duration of the play, in order to gradually introduce it to the viewer. Therefore the popular theatre should, indeed, be an ‘easy’ form of entertainment, devoid of the complications of deeper, hidden meaning.

In her article “Tips for green, more sustainable shows”, Sholeh Johnston argues that theatres have for a long time incorporated—quite intuitively—a sustainable approach to the way their shows were prepared, mostly due to the budget limitations. From my own working experience at Tron Theatre in Glasgow, I can confirm that indeed, theatres usually store props and materials and reuse them, as well as share with the other theatres in the area when needed. That, I think, is quite a basic approach to making theatre practice sustainable. Slowly, professionals are developing more sophisticated solutions with a broader view on sustainability—take, for instance, a project developed by Prue Lang in collaboration with MIT, in which the authors aimed to produce kinetic body suits for dancers in order to capture energy. Johnston argues that sustainability in the theatre is a more complex issue, involving not only the materials used on stage, but also their origin, the distance they need to travel before reaching the theatres; following that trace, issues related to the energy consumption during the shows, the architecture of the theatre buildings and its efficiency, the ways in which the shows are advertised etc. should also be considered.

Due to the topic being so broad, I have decided to focus on the environmental aspect of the stage design—that is, to centre my project around the possibilities of use of prefabrication in the theatre context—and the social aspect through the interaction with the audience. I have decided to involve the representatives of my target audience—that is, young people living in Milan, both Italian and international—from the early stage of my design process. Therefore the methodology I used is to allow the viewers to express their opinions on different issues related to the theatre, such as the accessibility of the shows, the prices of the tickets and the place of opera in the Italian society. I intend to use their input in the design process, in order to provide the audience with a solution that would suit their needs and, mostly importantly, attract them to see the show.

**Context**

The project is set within the context of scenography and spatial design, with a particular stress on the use of technology and interaction within the design proposal. Technology is used in order to reflect the contemporary character of the work and to better place it in the context of the society we live in. Modernizing the set may be a way of balancing the traditional, perhaps outdated, character of the opera, which was composed in 1813 by Gioachino Rossini, with a libretto by Cesare Sterbini. The dangers of plays becoming outdated have been stressed by Vsevolod Mayerhold back in 1913, when he wrote that:

“The actor may get bored with perfecting his craft in order to perform in outdated plays; soon he will want not only to act but to compose for himself as well. Then at last we shall see the rebirth of the theatre of improvisation”\(^{24}\)

It is, however, not only the actors and the character of the play that might be affected by an outdated content, but most importantly- the audience. As was stated by the American theatre educator, Viola Spolin:

“The audience is the most revered member of the theatre. Without an audience there is no theatre... They make the performance meaningful.”\(^{25}\)

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\(^{24}\) Letter from Mayerhold to Golovin, 30 May 1909, in *Alexander Yakovlevich Golovin* (Leningrad and Moscow, 1960), pp. 126-7

Participatory Design and Art

Therefore the ways to attract the audience will become the main point of this project; I aim to investigate whether an interaction with the play's set has increase the viewer's interest in it. My starting point was the practice of participatory design, that was developed in Scandinavia during the 1980s, in order to create a “democratic workspace” and therefore improve the working conditions.26

In case of my project, I have decided that it could work based on a similar principle- that is, the community involvement- but, since the direct users of the sets would be the actors, not the audience and as it is not exactly a long-term, functional product- it should rather be related to the world of art. Therefore I started looking into the participatory art- the form of art based on the ”collaboration in the realisation of an artwork, emphasising the role of the professional artist as sole creator or author of the artwork, while building social bonds through communal meaning and activity”.27 As stated by Claire Bishop in her book on the subject, “instead of supplying the market with commodities, participatory art is perceived to channel art's symbolic capital towards constructive social change”.28 The change that I aim to achieve through my project is to challenge the perception of opera no longer being attractive to young audience, being outdated and elitists.

There are, however, different views on how the participation in art should be executed and for what purpose. As Michael Kelly recalls in his “Encyclopaedia of Aesthetics”, there was a debate on the subject between the art historians Claire Bishop and Grant Kester, in which “Kester and Bishop have come to embody two sides of the debate—Bishop calling for a critical, problematizing art of negation and Kester looking for affirmative models of communication in dialogic art.”29

According to Kelly, the border between a participatory art project and a social service is not always very clear; however, there are certain benefits in calling an initiative a work of art. In certain cases, such as the Project Row Houses, it might be easier to obtain funds for an action labeled as an art project. Furthermore, the participants are usually more keen to acknowledge their role in the creation of an art project, rather than receiving social services.30

One example of participatory art projects is the Project Row Houses- a Houston-based initiative founded in 1993, aiming to improve the social conditions in the Northern Third Ward district of the city through the collaboration of artists and the local community. As stated by one of the project's founders, Rick Lowe:

“We wanted to let the people around us bring up the content of what we do, and then figure

30 Ibid.
out how to do it in an aesthetic way that is different and challenging.”

The initiatives undertaken by the group range from public art, educational and architectural projects. They are also concerned with sustainability and safety issues in the local community.

Another interesting example of participatory art is the work of the Brazilian artist Rivane Neuenschwander. Her piece “I Wish Your Wish”, first presented in 2003, includes a collection of ribbons, on which the audience writes their wishes and has an opportunity to collect the ones written by the others. According to Neuenschwander, it is derived from a tradition of pilgrims to the the Church of Nosso Senhor do Bonfim in Bahia, who bind ribbons on their wrists in belief that when they eventually fall off, or disintegrate, their wishes will be granted. The artists says her inspiration comes from the paranoia of being under surveillance and that the wishes written by the audience are the representation of their own fears. Practically, it means that the content of the art piece depends entirely on the audience- the only thing provided by the artist is the medium on

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which to write (the ribbons) and the concept behind the artwork. In case of my project, however, such way of interacting did not seem to be favoured by the audience itself- as seen in the questionnaire, some of the participants expressed their concern that too much involvement of the audience could disrupt the traditional character of the opera. In this case, it was the users themselves that suggested a stronger boundary between the viewers and the maker.

![Fig. 2- The “I Wish Your Wish” piece by Rivane Neuenschwander.](image)
Kinetic Architecture

In my project, I wish to achieve the flexible design outcome through the use of kinetic elements within the set. I wish to use responsive mechanical elements to provide a modifiable platform for projections, shadows and reflections, rather than a digital screen. According to Arnold Aronson, the excessive use of light in scenography can negotiate the importance of the author and the play in relation to the set. The author also claims that in the modern era of constant interaction with digital media, the use of an excessive amount of digital technology on the stage can no longer impress the audience; on the contrary, what comes to be more appreciated is the craft of the traditional, painted naturalist sets.33

Inspired by the projects of kinetic architecture, I hope to discover the opportunities that mechanism can offer for scenography. As defined by Zadinac:

“Kinetic Architecture lies in creating spaces and objects that can physically re-configure themselves to meet changing needs, whereby an adaptable architecture is formed. At this intersection, there exists an unexplored physical architecture tuned to address today's dynamic, flexible and constantly changing needs. Kinetic design depends on motion for its effects.”34

A practical example of kinetic architecture could be the “Mashrabiya” facade at Al Bahr Towers in Abu Dhabi, designed by Aedas Architects. The kinetic facade responds to sun exposure and changing incidence angles during the different days of the year. As stated in the article of Karen Cilento, “it is estimated that such a screen will be reducing solar gain by more than 50 percent, and reduce the building’s need for energy-draining air conditioning.”35

Fig. 3- An illustration of the changing configuration of the facade of Al Bahr Towers in Abu Dhabi.

Naturally, in the context of the durable, built environment, kinetic properties allow for a greater adaptability to the external factors. In general, however, it can be a response to the changing needs- either of the users, or the visual representation.

An example of using kinetic structure within an interior can be the project of the Resonant Chamber, designed by RVTR- a interior space in which the kinetic structure allows for the modification of the acoustic qualities of the space, in order to provide for various types of music events.36

Fig. 4- The Resonant Chamber by RVTR

Movement in Scenography

The field of scenography, however, also has a tradition of using kinetic structures in the sets. According to Christopher Baugh, the emergence of modernism at the beginning of the 20th century had its impact on the ways in which the scenery was represented on the stage. The first major change was the reduction of the set elements and the rejection of realistic representation of space.  

As stated by W. J. Lawrence in his 1891 “Realism on the Stage: How Far Permissible?”:

“Realism is a grateful auxiliary so long as it leaves the imagination unshackled, and remains subservient to the play of action. We must draw the line sharply where it ceases to assimilate with its surroundings, where it inclines to become to itself quite uncontrollable. Illusion is the aim of Art, and Realism is permissible so far as it aids that aim. When Illusion is thrust on one side, Realism, even when reigning in its stead, has not the slightest right of existence.”

Another issue expressed with realism, as expressed by Brecht’s scenographer, Caspar Neher: “[a] picture is never realistic, the stage is always realistic. That's why I maintain that the “realistic stage picture” is a nonsense.”

Therefore a shift in the modes of representation took place within the theatre; the new forms emerged that attempted to represent, not imitate the space in which the dramatic action took place. The stage became a “machine for performance”. The new approach was expressed in the Neher’s attempt to introduce a new terminology- the existing term Bühnenbildner (the “stage picture-maker”) was to be substituted by the- according to Neher, more acceptable- title of Bühnenbauer- the “stage builder”. Similar ideas concerning the construction of the theatrical space were expressed by Gordon Craig, who tried to define the stage as a place for performance, rather than a scene. This approach was manifested through his proposal for the “screens” in 1910- a system of mobile, non-representational, neutral flat screens that were to serve as a new staging device. The author specified the relationship between the proposed set and the performer:

“For the foremost characteristic of this scene is that it is an architectonic construction with a life of its own. It is a solid, three-dimensional unit which adapts itself to the actor's movements, a group of screens which stand up by themselves”.

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38 Westminster Review, February 1891 {quoted in: Baugh, Ch., Theatre, Performance and Technology[...]}p.279
39 Neher to Brecht c. 1951, quoted in John Willett, Caspar Neher, Brecht’s Designer (London: Methuen, 1986), p.75
40 Baugh, Ch., “Theatre, Performance and Technology- the Development of Scenography in the Twentieth Century”, p. 46
41 Ibid., p. 47
42 Ibid., p. 49
43 Craig, E. G., Scene, Humphrey Milford and Oxford University Press, London, 1923, p. 1
Christopher Baugh recalls the kinetic sets emerged as an answer to the dissonance between the moving characters and the dramatic action against the static environment in which they are placed.\textsuperscript{44} In another chapter of his book, Baugh presents a comparison of different ideas of a dynamic stage as proposed by Craig, the quick change of scenery could be achieved thanks to the qualities offered by the lighting; on the other hand, Josef Svoboda opted for the entire set being a kinetic, mobile system.\textsuperscript{45} In 1922, Liubov Popova designed a kinetic, mechanical stage set for “The Magnanimous Cuckhold”. The kinetic stage was supposed to be a reflection of the society in the USSR, with an idea of “presenting the socialist transformation of work into fun”.\textsuperscript{46}

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{img5.png}
\caption{A drawing of the “Screens” by Gordon Craig (1910)}
\end{figure}

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{img6.png}
\caption{Liubov Popova’s set for “The Magnanimous Cuckhold” (1922)}
\end{figure}

\begin{flushright}
\textsuperscript{44} Baugh, Christopher. \textit{Theatre, Performance and Technology: The Development of Scenography in the Twentieth Century}. Houndmills, Basingstoke, Hampshire: Palgrave Macmillan, 2005, p. 82
\textsuperscript{45} Ibid., pp.125-6
\textsuperscript{46} Ibid., p.62
\end{flushright}
In the same year, Vselovod Meyerhold first outlined his theory of biomechanics—the study of the mechanics of the body as a plastic form in space. He then related his proposal to the scenographic construction of the space within the stage:

“In art of constant concern is the organisation of raw material. Constructivism has forced the artist to become both artist and engineer. Arts should be based on scientific principles; the entire creative act should be a conscious process. The art of the actor consists in organising his material; that is, in his capacity to utilise correctly his body's means of expression.”

Another example of an attempt of incorporating technology into the creation of scenographic elements can be the project of Josef Svoboda, who in 1970 was collaborating with Siemens company to develop “Lasergrafie”—a web of coloured laser beams that he was going to use for Gunter Rennert's production of “The Magic Flute” at the Munich Staatsoper. Svoboda has managed to achieve a seemingly solid scenographic element, using only the immaterial element of light. Unfortunately, due to the possible safety risks, that technique was not developed any further.

![Fig. 7- Josef Svoboda's set for “The Magic Flute” (1970)](image)

A more recent example of the use of technology in scenography can be a project developed by the Polish studio Platige Image for the musical “Romeo in Juliet in 3D”, which was performed in St Petersburg in 2014. The authors decided to use the techniques known in the production of the 3D movies and apply them in the theatre. As a result, the audience could experience a three-dimensional, live set.

47 Report of the Meyerhold's lecture, *The Actor of the Future and Biomechanics*, Moscow Conservatoire, 12.06.1922; in Ermitazh, Moscow, 1922
48 Ibid., p.137
As we can see in the above mentioned examples, theatre has a potential to incorporate a technology of a given time in order to reflect its society. In my project, I propose a possibility to transform the appearance of the stage through the use of a mobile phone in order to highlight the importance it has in our daily life; many of us are no longer able to get by without the device that has become available to most of us less than two decades ago. I hope to stimulate a discussion about technology and its potential to attract young people towards the theatre. I want to express that with technology being so widespread and thanks to the Internet information being easily accessible, our society has a chance to become more equal and democratic. By allowing the audience to influence the set, I wish to stress their importance in the theatre that it has always existed for them, and thanks to them. They are an integral part of it and should have an opportunity to shape its character.
Project and Process

The process of working on my project began with a search for the theatre with which I could collaborate, in order to find a relevant setting for the proposal. I have met Fabio Cherstich as a guest lecturer at Politecnico di Milano; we have met afterwards in order to discuss what projects he is currently working on. Together, he have decided that the “Opera Truck” project is the most interesting and suitable for me; however, due to the fact that proposal will be mostly theory-based and because the main element of the set- the projections of animations made by Gianluigi Toccafondo- had already been decided on, we have come to the conclusion that the best solution is for me to work on an alternative concept for the opera and use the existing project as the context in which it would be situated.

The next step was, naturally, reading and analysing the libretto of “The Barber of Seville” opera and searching for the main values the text conveys. Simultaneously, I have been collecting a series of images that would serve as a representation of the life in Milan and a helpful tool for specifying the location in which I would situate the play.

Fig. 9- A collection of photographs representing the context- Milan

I have then decided that I would like to place the “Opera Truck” in the context of Piazza Gae Aulenti- a modern space, surrounded by skyscrapers that- maybe thanks to its connection with a traditional Italian “piazza”- became a successful popular public area of Milan, frequently visited by tourists and locals. The square, designed by architects Claudio Zappia and James Haig Streeter, has been described as “the square of the future” by the Italian newspapers Libero and Il Giornale. Corriere della Sera reported that thousands of people have visited in just three days after the
opening.49

Following step was a deep analysis of the history of theatre scenography, for which the most useful source proved to be the book “Theatre, Performance and Technology- the Development of Scenography in the Twentieth Century” by Christopher Baugh form the University of Kent, which is entirely dedicated to the relationship between theatre and technology that I have decided to explore in my project. Further analysis of trends in sustainable architecture, including prefabrication and modularity, was helpful in order to specify what solutions could be used for the creation of a sustainable scenography system.

After that, I have started to attend the course of virtual prototyping which have stimulated me to consider the possibilities of using interactivity within the theatre context. Could a theatrical play somehow connect with the idea of playing? Could we use the techniques from game design to create an environment in which the viewer is not only passive, but has an opportunity to become a maker? Few months ago I was asked to analyse the influence that conceptual art had on the design profession. The most important element seem to have been the ability to let go of the process and allow for random results. Sweden, in which the process-driven design seems to flourish, is the country of design studios such as Front, which often base their work on the uncontrolled factors (for instance, animals). I have decided to use that concept in my project and let go of the idea of the designer being the only one responsible for the final outcome- after all, designing for the stage is a collective effort of the scenographer, the director, the technicians...

That's when the idea of an interactive set came forward. It is important to provide the tool for navigation, but I understood that most of us already own it- a mobile phone. So I started thinking about the set that can respond to signals send either via text messages or through a website (as I have observed, in Italy most of my peers use mobile internet rather than text messages or calls,
so I assume it would be better to provide different possibilities). Obviously, such possibility has certain risks associated with it, if the audience is allowed to text/submit any kind of content. Even if we assume that the viewers are responsible enough in order not to send any inappropriate content, there is still an issue of visual/aesthetic part and the way it relates to the content of the play. Therefore a set of limited possibilities should be established.
The first proposal- audience interaction

My first proposal for the set included the use of kinetic elements that were supposed to be responding to the suggestions that the audience would send through their mobile phones. This approach was meant to further explore the issues related to social sustainability of the project. The setting provided by the director was already interesting in terms of increasing the availability of opera to the young audience through the provision of the Opera Truck. My idea was, however, to not only make the play available, but also to engage the audience in the design process, by allowing them to modify the visual character of the set. By doing that, I was hoping to strengthen the bond between the audience and the play itself, as well as intentionally blurring the line between the “user”- that is, the viewer- and the “maker”- the stage designer. As a result, the stage would become a platform on which the actors would shape the dramatic action and the audience would influence its physical setting.

![A proposal for a movable kinetic structure, that was to be modified by the audience](image1)

Another important aspect of my concept was the way that I wanted to present certain characters of the play- for instance, I wanted to express the oppression of the female character of Rosina through the use of “oppressive” architectural elements; the physical wall that was supposed to separate the actress from the audience was meant to be a symbol of inaccessibility.

However, the first proposal was not accepted by one of the tutors. According to him, my interpretation of the play was wrong. For him, the female character was a symbol of independence, for me- quite the opposite. Therefore we decided that the best way to resolve it is to consult the director again and see what is his interpretation and in what way he would wish to present the opera. After all, we have decided that a written text can be interpreted in multiple ways- which concept proved to be explored by the director himself anyhow- and it is up to the maker, in this
case- the director, to determine what kind of message they wish to convey to the audience.
The director’s vision

During our next conversation, F. Cherstich explained to me what was his vision. Interesting new elements appeared— for instance, the director was provided with a group of actors by the theatre that commissioned the work. It proved that the actors are international and so, the role of Count Almaviva is to be played by Patrick Kabongo from Congo; the female character of Rosina is to be portrayed by Reut Ventorero from Israel, etc. Therefore the new element became visible— that the play can no longer be grounded in the Italian tradition specifically... and that, perhaps, we have missed an important fact: that the contemporary Italian society is, indeed, mixed.

The director explained to me that he would like to connect the opera to an Italian tradition of moveable marionette theatres, that would arrive into the main piazza of each city and give their performance for free. The citizens would gather around it; the same element of surprise would be present in his project nowadays.

The director has also informed me that he is expecting that 90% of his audience have never been to the theatre; therefore, they will require a slow introduction into that world. According to him, the play will gradually reveal its meaning, during the 1 hour and 20 minutes— that is, shortened- version of the opera.

The only scenographic elements that the author has in mind so far, are the shadows- silhouettes of the actors, and the projections of animations of Gianluigi Toccafondo.

When I asked him to summarize what kind of meaning he is trying to convey, the author responded that the whole point is that there is no deeper meaning; he wants the play to be as simple and easy to understand as possible. His argument is that the opera is a piece of poetry— and that, by its very nature, cannot be understood logically. He proposes to the audience to enter the world of craziness, in which there is no place for logic, or deeper meaning.
Audience participation- the Survey

Another important step in the process was gathering the opinions of the audience. As proposed by the director, the concept of the “Opera Truck” emerged as a response to the youth's lack of interest in the opera and the prices of the tickets being too high. I have decided to check if such statement corresponds to the actual situation. Also, as my intention was to increase the participation of the audience in the design process, it seemed crucial to investigate what kind of expectations to they have.

Therefore I have prepared an online questionnaire. My intention was to keep it short, as I knew that most of the participants I was going to ask to do me a favour of answering my questions, have a busy schedule and might not be willing to go into too much detail. Also, my assumption was that the participants are not in any way engaged as theatre makers, or visit theatres often, therefore the subject might not match their interests much. Overall, the survey I composed, included 7 questions. Eventually, they were answered by 20 participants.

I have asked the participants the following questions:

1. Are you Italian? [Yes/ No, but I live in Italy/ No]

2. How old are you?

3. On average, how often do you go to the theatre? What does it depend on?

4. If the tickets were cheaper, would you go more often?

5. Have you ever seen “The Baraber of Seville? If so, what were your impressions/ how does it relate to our society?

6. Do you think young people in Italy are still attracted by opera?

7. Would you be more interested in seeing the opera if you had a chance to interact with it?

I have decided to pose such questions in order to find out what is the relationship between “The Barber of Seville” opera and the young audience- both Italian and international, since- as seen in the survey- a significant part of the audience, and the Italian society as a whole, is international.
The data provided by ISTAT in Italy shows that the current amount of international immigrants in Italy is circa 5,000,000, which constitutes 9% of the overall society.\textsuperscript{50}

The answers to the first question proved that the majority of participants are the immigrants living in Italy.

\textsuperscript{50} "Cittadini Stranieri. Popolazione residente e bilancio demografico al 31 dicembre 2014". ISTAT. 15 June 2015.
Question 2

The answers provided to Question 2 proved that the age of participants ranged from 20 to 33 years old.

Question 3

When it comes to the frequency of visiting theatre, the following responses were given:
- never [2]
- rarely, once every few years [7]
- once a year [4]
- twice a year [3]
- once a month [4]

Question 4

When asked if they would go more often, have the tickets prices been lower, the participants responded:
- yes [12]
- maybe [6]
-no [2] (one person added that the ticket prices are adequate just now)

**Question 5**

The majority of participants [16] have never seen “The Barber of Seville” before. Three participants said that although they have never seen the opera, they know the story of it. Only one person has seen the play.

Comments about the meaning/significance of the play included:
“In have never seen it, but I read the history. It's a classic, describing old times with different lifestyles. Then I think, that it can't relate to our society.”
“Yes, I'd say it's about how to coexist peacefully, to forgive and forget”
“I only know the song 'FLIIIGAAAAAROOOOO’”

**Question 6**

In the next question I asked whether the participants thought that young people in Italy are still attracted to the opera.

This question proved to be more complicated than I initially thought- some of the participants suggested that they do not know the answer, since it is not a topic of conversations they would normally have with their peers. Others suggested that the youth in Milan might indeed go to the opera, but not because they are interested in this form of entertainment, but in order to see the famous building of Teatro alley Scala.

In general, the participants claimed that the youth is either not attracted to the opera genre at all, or not as much as in the past. It has been suggested that theatre is much more popular amongst young audience.

**Question 7**

The last question aimed to investigate whether the audience would be attracted by the possibility of interacting with the play. The answers included:
- no [11]
The most important here was the feedback that the participants gave on the idea of interaction within the theatre. Some expressed their worry that changing the role of the audience would break the traditional values associated with theatre. Two of the participants claimed that they would not be interested, since “opera is for watching”. Other participant provided the following answer: “Interact with the opera? Definitely not, I usually find breaking the 4th wall in a play pointless and awkward.”

Survey- results and significance

The first important factor in collecting the responses was how the distribution of the questionnaire could have affected the group of participants. I have sent the link to the survey to my friends and asked them to spread it. Based on the conversations we have had, we have concluded that the vast majority of participants are either the current university students, or workers with higher education. This could make us question whether the participant group is really a good representation of the society as a whole- are well educated people more probable to be interested in what could be called the “high culture”? According to Raymond Williams, “high culture has no specific social structure”. The author claims that culture is never evenly distributed and equally accessible to all the members of the society due to a number of factors- some might be associated with a class, others- with nationality, or geography. According to Williams, the result of imperialism and neo-colonialism is a selective access to the culture, which, even within a single nation, might vary greatly- in which case, it is impossible to assess both its value and the groups to which it could be attributed.\footnote{Williams, Raymond. "On High and Popular Culture." \textit{New Republic}. N.p., n.d. Web. 10 May 2016.}

Therefore I propose that we can assume that there is no correlation between the level of education of the participants and their interest in the opera. Is there, however, a relation between their income and the accessibility of the plays to them? Twelve out of twenty responders confirmed that the price of the tickets is the main factor that stops them from going to the theatre; further six participants expressed their opinion that that could possibly be the reason for why they do not go to see theatre plays often.
The most significant part of the survey was, however, the last question, in which the responders shared their opinion on whether or not it would be desirable for the audience to interact with the play itself. While some of the participants said that they might find an additional interaction interesting, others were strongly against it— one person, for instance, claimed that “it wouldn’t be an opera anymore”. This proved to be the most important input into my project, that made me decide to abandon the initial idea of implementing interaction between the audience and the set. While the set could still be interactive, it could be achieved within the stage itself—therefore, avoiding the border between the play and the audience that the participants wished to maintain.
Another interesting finding was the confirmation of what was previously stated by the director- that is, that the opera is not appealing to the majority of young audience anymore and that there is a need for the theatre makers to take an initiative in order to make it more attractive. I reckon that question of how to achieve it could be approached from many different perspectives, as there are many aspects of the opera that might determine how successful it becomes- one factor will, for sure, be quality of the play itself, how attractive the dramatic action is- but that remains within the competency of the director. In one of the talks that the director F. Cherstich gave at Politecnico di Milano, the author claimed that opera as a genre is outdated; according to Cherstich, the attractiveness of the play can rarely be determined by the script itself, as they are mostly based on traditional sources, therefore an attempt should be made to attract the viewers with other theatre devices, such as the set, the sound etc. Another issue is the accessibility, which can also be determined by a variety of factors- some of it might be associated with the ways in which plays are being advertised; other may include the economical factors that determine who is able to attend the spectacle and who is restrained from doing it.

As the survey has shown, most of the participants would like to go to the theatre more often and would do it, if the prices of the tickets were lower. The questionnaire has again confirmed the initial statement of the director- that the opera is, indeed, overpriced. The Opera Truck project seems to be a good way of approaching this problem- by providing a free show, open to everyone, the director has a chance to check whether the viewers would be attracted to see the opera shows in the future, having seen “The Barber of Seville” for free.
The second proposal

At that point, my idea of a set began to clarify. My main objectives where to achieve: the simplicity, the lack of meaning and the craziness. In the best case, the result would also reflect the tradition to which the author refers.

The simplicity will therefore be achieved with the use of plain forms, limited materials and the lack of pictorial representation of the space. The initial idea was to create an analogue screen, made of individual pixels that could be modified to achieve various results. However, this proved to be difficult to achieve, due to its form, and had to be simplified. That is when I decided to implement the simple, vertical “tubes”, that I will describe in more detail below.

![Fig. 13- The proposal for a system of three-sided, rotating “tubes”](image)

The simple, generic forms will therefore provide for the second “requirement”- that is, the lack of meaning. Avoiding the use of any kind of symbols proved to be a difficult task- having studied at an art school before, I am trained to look towards a deeper meaning of my projects. To abandon this approach meant to look for the simplest of solutions. What could be the beautiful part of something meaningless? I decided that the lack of meaning offers the possibility to focus on pure materiality of the structure. The materials should also be determined by their function.

At that point, I have decided to withdraw my role as a designer. Instead of proposing a statement, I wish to offer a platform for the others to modify. That is:
- one side for Toccafondo and his animations
- one side for the actors and their shadows
- one side for the audience.

The animations should, obviously, be projected on a white surface, so that they are clearly visible. The surface, however, does not need to be flat- the moving surface will offer a chance to interrupt them even further, allowing for the crazier effect, as requested by the director.
The second side should be translucent, so that the silhouettes are visible when actors stand behind them. The best material to achieve it, in terms of price and availability, will be the translucent plastic.

The third side of the structure will be a one-way mirror. Personally, I find this material beautiful in itself. The changing qualities, however, can provide us with more possibilities. When seen from the front, the mirror will reflect whatever it is in front of it- will it be another set element? A double of the actor? Or will it be the audience?

When lit from behind, the one-way mirror becomes transparent. Thanks to that, the silhouettes of the actors can still be seen by the audience.

Fig. 14- A sketch illustrating how different materials will react to light and allow the audience to see

The triangular form of the tubes is the result of the need for something that could be rotated and maintain the flat surface when seen from the front. The rotation, the movement, is where the project meets its origin. When the director told me about the marionettes, I have thought about the set that becomes a marionette itself- when pulled by a string, it would change its form. In the digital era, however, the string does not need to be visible- it could be just the movement in front of it, that will stimulate the structure to move.

The inspiration for the form of the rotating triangles came from the location of the project. During my process, I have decided to visit Piazza Gae Aulenti again and observe the buildings around it. The form of the residential buildings of Porta Nuova, designed by Arquitetonica, made me think of a three-sided, rotating form. The relation between the final form and the site on which to situate the project was an attempt to achieve the visual harmony between the elements.
The final idea is to propose a system that would respond to the movement of the actors. Relating the proposal to the idea of movement in scenography described above, could be achieved easily with the use of available technology. Nowadays, we have the devices needed to detect the movement and respond with a harmonized action. I would like to use the digital devices to achieve the precision that a human might lack.

The movement of the actors can be detected using technologies that are widely used within the animation, game design and virtual prototyping fields. There are different ways of tracing movement—most of them would require the actors to wear markers, which could limit their comfort. Therefore I propose the use of infrared motion sensors, that can detect movement without limiting the actors. The sensors would be connected to an Arduino board, that would be programmed to associate certain moves with the actions of the set—the rotation of individual elements.
When it comes to the use of prefabrication, the whole set would be a combination of modular elements that could then be combined into a variety of outcomes, depending on the play and the venue in which they are used. The dimensions and the form of the set would therefore depend on the needs of a particular play.

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The last part of the project is the way in which the set is represented. The issue of
representation in design remains an important part of the profession- how to communicate the concept of something that is not yet existent? In this case, I would argue that there is no consistent mode of representation that should explain the concept. Some of the details might best be described using the analogue media, that is, a series of hand drawings to clarify the details. When it comes to incorporating the light, I would like to represent the overall set through digital renderings of the space. Also the plans and sections should be done digitally, in order to provide the necessary precision. The spatial and material qualities of the set might best be represented through the use of scale models and real-life prototypes. The movement, however, would be best illustrated through the use of dynamic media- and so, the project is complimented with a video and a stop-motion animation.
Fig. 20- A digital rendering of one of the possible set configurations, fitted for the Opera Truck context

Fig. 21- A fragment of the 1:20 scale model of the space
Summary and Discussion

The final outcome of the project should be presented to the group of potential audience and evaluated for whether or not it makes them more interested in attending the play; I should gather more opinions about the whole project and observe how it was received once it is realized by the director, with the scenography of G. Toccafondo.

The discussion can include two angles- the tangible one, which is the reaction of the audience towards the opera presented in the form proposed by the director and me, and the speculation about the use of technology in the theatre. What seems particularly important to me, are the opinions of my friends with whom I have been discussing the project- some of them suggest that opera should be respected as the traditional form of art and therefore does not need to, or should not, be spoiled with the implementation of modern technology into the sets. The argument here is that if it is a valuable piece of art, its value will remain appreciated despite the passage of time.

However, certain technologies have been used in the theatre for a long time. For instance, the lighting systems used in the theatre nowadays are also relatively recent- thanks to the invention of electricity, the old candle-based lighting could be replaced by a more efficient substitute. This, somehow, does not seem to pose a threat to the aesthetics of a traditional piece. What is the reason for that? I suppose that some of the technologies are more drastically contrasting with what is expected from the theatre. In case of lighting technology, it does not seem so intimidating, as the light has been present in the theatre for a long time- in a slightly different form, but it is something that we are used to. In fact, as J. Rufford recalls in her book “Theatre&Architecture”, light used to be much more present in the theatre before the construction of the Richard Wagner's Bayreuther Festspielhaus in 1876, when for the first time it was only the stage being illuminated- not the audience. This has lead to a shift in the character of the theatre- from a social space of meeting, it became a quiet environment dedicated for watching the play only.  

What is then the acceptable level of innovation in the theatre technology? I believe that, like many other things in art, it can be dictated by the general harmony of the elements and the reasons why they are being used. What do they say about the play? What do they say about the audience, about the context? There must be a clear purpose of why they are being used and why they are beneficial. I believe that theatre is can no longer serve as a showroom of technology, as suggested by Baugh, because we are accustomed to owning it. If digital is a part of our everyday life, why would it be considered theatrical?

Another important aspect related to the use of the technology in the theatre is the balance between the actors and the stage. It is important to remember that in most cases scenography is just an addition, a setting for the dramatic action. As suggested by Baugh, the early Italian scenic

artists warned against the close proximity of the actors and the sets, as one could easily make the other lose their power, should that be positioned too close to one another. As stated by the author, “the actor might show the audience the rage of King Lear or the love of Juliet, whilst the corresponding scene typified and indicated the kind of the location. What needs to be considered, is that the power of theatre lies within its being fictional- and therefore, some areas should be left for imagination. But creating a set too heavy, attention-taking, or too literal, the designer diminishes the power of the audience.

Therefore this project is a search of a form oscillating between novelty and harmony; it aims to provide a valuable contribution through the careful examination of the surrounding factors. It is also an attempt to contextualize design done within the theatre in relation to the other design disciplines in hope that it has a potential to develop as quickly as those other areas. I believe that they have a chance to benefit each other, if we learn to connect them to each other and look for the relevant similarities between them.

As for my own learning outcomes, this project allowed me to study the history of scenography deeper and learn how it evolved in relation to other events in the history; how it was influenced by new discoveries and the changing character of the society. Moreover, thanks to my previous projects on performative architecture, I have had a chance to discover a connection between the two fields that fascinate me. I am glad to see that they can be studied and developed together.

Another interesting part was the process itself; the collaboration with the director that has allowed me to experience how a set designer normally works with other members of the theatre team and the written text of the play, as well as the social, historical and architectural context within which they are situated. I had a chance to observe to what extend a scenographer may work individually and how far they can reach on their own. Objectively, I can say that my initial idea of my role within this project seemed much greater- I saw myself as an interpreter of the play, even though it proved to be the role of the director himself. During the process, I have also observed a need for a change in the approach that the scenographers adapt in their work- for me, the problem of sustainability in the theatre lies within the outdated concept of using permanent media for structures that have a very temporary character. On the other hand, the technology that we have today, could allow us to use other, more appropriate devices to create a setting. Projections, holograms, light- those could easily replace the old methods of building the sets and – as suggested by Caspar Neher- serve to create a scene, rather than a literal picture of the setting in which the dramatic action is taking place.

54 Ibid.
The most important part of this project is the social importance of the theatre; the potential it has to involve and transform the audience. The character of the theatre itself is changing, with more room for experimentation and new ways of reaching the public; the performance is no longer limited to the theatre spaces. Therefore I believe that the way in which its space is being created ought to change as well and my project is an attempt to propose such alternative.

Finally, I can say that this project is more than a proposal of a particular solution for a particular event- instead, it is an attempt to create a new way of thinking about scenography. I reckon that the modern day technology could allow us to shift from the era of material theatre sets and naturalist representation into a new way of designing theatre venues. If the theatre plays are no longer limited to the theatre spaces, so can change the way in which the stage itself is being created. To my mind, the fact that our society is strongly attached to the digital media, could resonate within the theatre field. As proposed in my project, it could be used to benefit the shows in a variety of ways- be it, the cost of the production, the material sustainability of the theatre sets, or the attractiveness of the shows and the ways in which they are related to the contemporary society.

Personally, I do hope that the technology and skills of the theatre makers will have the chance to be better incorporated in the theatre field in the future. As far as I could see in my work so far, people involved in the production of theatre shows tend come from different backgrounds. For instance, in this project, the collaboration happens between the director, F. Cherstich, a visual artist- G. Toccafondo, and a student of interior architecture. In many ways, this could enhance the character of the industry and provide different knowledge and perspectives, that might not be as present in other disciplines. It seems to me that theatre does have the potential to change rapidly in the future and be an attractive form of entertainment, as long as we learn how to question the existing thinking about the profession in order to achieve that change.
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- Figure 2- Pailley, Benoit. "I Wish Your Wish" Detail. Digital image. 18 July 2010. Web. 10 May 2016.
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- Figure 7- Josef Svoboda's Set for “The Magic Flute”, 1970. Digital image. 3 June 2013. Web. 10 May 2016.
- Figure 8- Set for "Romeo and Juliet in 3d", 2014. Digital image. Web. 10 May 2016.

The remaining images were created by the author.