

The architecture of the 'Monobloc' and its potential of initiating a new interdisciplinary educational concept for Cultural Diversity

Fisker, Anna Marie; Christensen, Jeppe Heden

Published in:
Le Vie dei Mercanti

Publication date:
2019

Document Version
Other version

[Link to publication from Aalborg University](#)

Citation for published version (APA):

Fisker, A. M., & Christensen, J. H. (2019). The architecture of the 'Monobloc' and its potential of initiating a new interdisciplinary educational concept for Cultural Diversity. In A. Ciambrone (Ed.), *Le Vie dei Mercanti: World Heritage and Legacy* (pp. 62). Article ID053 Gangemi Editore.
<http://cdn.gangemieditore.com/import/materialiVari/WORLD%20HERITAGE%20and%20LEGACY%20-%20Abstract%20XVII%20Forum.pdf>

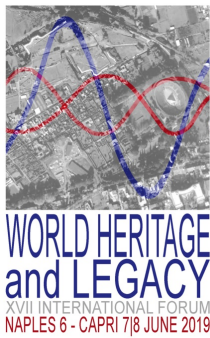
General rights

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
- You may not further distribute the material or use it for any profit-making activity or commercial gain
- You may freely distribute the URL identifying the publication in the public portal -

Take down policy

If you believe that this document breaches copyright please contact us at vbn@aub.aau.dk providing details, and we will remove access to the work immediately and investigate your claim.



Le Vie dei
Mercanti

XVII INTERNATIONAL FORUM

WORLD HERITAGE and LEGACY

CULTURE | CREATIVITY | CONTAMINATION

Naples 6 - Capri 7|8 June 2019

The architecture of the 'Monobloc' and its potential of initiating a new interdisciplinary educational concept for Cultural Diversity

Anna Marie FISKER, Jeppe Heden CHRISTENSEN

Department of Civil Engineering, Aalborg University, Aalborg, Denmark

amf@civil.aau.dk

jhc@civil.aau.dk

Abstract

The Monobloc is a chair, known in every corner of the world, despite the ubiquity of the white plastic it can be regarded as an item that is completely without context. In this regard, we find that this anonymous chair has a unique role in the world heritage creating a tie between different cultures.

It is our belief, that the perception of the chair is the same in Africa as in Europe since materials, productions and expressions are uniform throughout the world.

In CRAFT, an EU Erasmus project, we work with a new interdisciplinary educational concept focusing on the cross-examinations of traditions of sitting; investigating the comparative historical, cultural and metaphorical differences, the chair embodies as artefact and functional object.

Cultural heritage is a complex matter, to use a concise definition it is the value of the past that we distinguish in the present in order to be able to preserve it for the future. It is our thesis that design is the engineering of the Humanities - and in CRAFT we investigate the chair as a **transcultural design** discourse.

We examine the connection between the Monobloc and society, and, importantly, we investigate if the chair has contributed to the world heritage. Furthermore, we ask; can the Monobloc create new cultural expressions through interdisciplinary education?

Keywords: Cultural Heritage, Interdisciplinary Teaching, Monobloc, Craft – an Erasmus+ Strategic Partnership, Innovative Design.

Introduction

All over the world, numbers of Cultural Heritage are available. Especially in Europe there is a common Cultural Heritage worth remembering, discovering (again) and being aware of. In a world where cultural diversity is increasing, the shared Cultural Heritage is a tool to promote intercultural understanding and create relations between identities, representations and performances of history (European Commission, 2019).

In the Erasmus+ Strategic Partnership; *Craft*, we explore the chair and its archetypal-typological credibility in representing transcultural concepts in spatial design, human comfort, materials technology, structural design and construction. It is a project with a process linked through contemporary interpretations and responses to our shared Cultural Heritage. A project focusing on insights through comparative studies in the tradition of sitting and in the design and use of chairs.

The aim of the European Year of Cultural Heritage in 2018 with the slogan: "*Our heritage: Where the past meets the future*", was to encourage more people to discover and engage with Europe's Cultural Heritage, and to reinforce a sense of belonging to a common European space (European Commission, 2019). In *Craft*, this is carried out and continued by connecting higher educational institutions with

cultural institutions and companies to work in an interdisciplinary, new and innovative way. We created Craft including six partners in total, representing five European Countries - Denmark, Spain, Portugal, Italy & Slovenia - each country is represented by a higher educational and/or cultural institution or company.

Craft will, in a joint interdisciplinary approach on research-based education, stimulate, create and promote innovation built on shared cultural heritage. The result will contribute to the social and educational value of European Cultural Heritage.

Craft will work to strengthen the links between innovation, research and education – the three sides of the 'knowledge triangle' – within the context of higher education by designing, developing, implementing and testing the effectiveness of a new developed Joint Multidisciplinary Curriculum. Craft aims to teach new generations of young people about Cultural Heritage by implementing a new Joint Multidisciplinary Curriculum, providing them with the relevant and high-quality skills and competencies needed, to meet the expectations of the changing labour market (British Council, 2014). It is therefore an important feature of Craft that the project involves both theory and practice, bringing together both educational and cultural institutions, and cultural actors from across Europe.

Our shared Cultural Heritage

Regarding Cultural Heritage, the physical environment is one of our most important cultural assets, and in that optic Cultural Heritage represents the historical layers in places made of brick, plaster, wood, metal and stone. Famous Cultural Heritage buildings includes cathedrals and cemeteries, factories and fences, houses and hotels, museums and markets. It includes the streetscapes and the townscapes, of every town, as it is the physical evidence of our cultural development and a key to the understanding of our shared history.

Cultural Heritage can contribute to feelings of connectedness, and community pride and confidence, and it can excite curiosity about our past and enrich our daily lives. Built Cultural Heritage is not just about beautiful or significant historic buildings, but it also includes small, modest vernacular buildings that reflect the social conditions of working families. It encompasses a wide range of familiar and historical landmarks that are important in creating and sustaining a strong sense of belonging and attachment in our society.

Zooming in, the objects of our daily life, such as the interior of our homes, the furniture and the domestic objects that surrounds us, helps to define a sense of place, an identity for each of us, of the feeling that 'this is our place'. As long as architects have been designing buildings, they have also been designing the chairs that feature within them. Whether architecturally designed, or not, there is something about chairs. They are a ubiquitous presence in our daily lives, appearing around the kitchen table, inviting you to rest your feet after a long working day and exercising power over the posture of being a teacher everywhere. The extremely broad genre of chairs includes the most mundane plastic bucket seat through to the most recognizable design objects in the world.

The chair – a fundamental Cultural Heritage

In Craft we work with a new interdisciplinary educational concept, focusing on the cross-examinations of traditions of sitting; investigating the comparative historical, cultural and metaphorical differences the chair embodies as artefact and functional object.

When analysing a chair, it is not enough to go through studies in ergonomics, spiritual well-being and interaction, material processes and ideas in production. The study of the chair needs new explorative approaches to sitting, supported by an inter-cultural collection of chair designs, representing ideas and processes developed during the project. This is the reason why we have initiated a collection of chairs – expressed through small essays – on our project website: www.craft-culturalheritage.eu, which will be further developed during the craft-projects lifetime.

We focus on the chair as a type of object with a cultural significance, capable of revealing differences and connections between several cultures.

The distinctiveness of the object carrying Cultural Heritage is equal with its ability to represent developments in the technique and culture of sitting at a universal scale. Comparative studies into the development of the type object and its social significance relate to the hidden heritage of production and use, which need to be revealed. As Galen Cranz, professor in Architecture at University of California express: *"... our current ideas about seating originated in the past, understanding contemporary chairs requires an appreciation of their social history, ancient and modern"* (Cranz, 1998).

As an example, we mention Eileen Gray on the Craft website, one of the most influential furniture designers of the twentieth century. Gray pursued her interest in the art of lacquering through direct contact with the renowned Japanese lacquer artist, Seizo Sugawara, who she became a student of in 1906 in Paris. Despite the laborious and potentially toxic nature of lacquer work, Eileen Gray devoted

herself entirely to the art. The Dragons Chair (1917-1919) is the most famous of her works and is indeed created upon Cultural Heritage as an important design parameter.

During the Art Biennale 2019 in Venice, Craft will be participating with a workshop and a Session. The chosen chair for this event, the *Monobloc*, will be the point of origin when gathering 50 students and teachers from Europe to an exceptional teaching module.

The project will through interdisciplinary research exercises, discover, analyse and develop key areas of the Monobloc, by situating the chair into particular careful chosen contexts. The students are invited to establish their individual critical frameworks and contextualise design in relation to the following themes:

The public landscape

The Monobloc and its relation to public space

The Monobloc the social interaction and the daily life

The Monobloc and the experience of cultural expressions, exhibitions and events

The Monobloc as a spatial organiser, signifier (Saussure) and intensifier

The domestic landscape

The Monobloc and its potential to enhance the daily and/or domestic rituals

The Monobloc defining seating as a factor for supporting the functionality of the space

The Monobloc and its potential to enhance the experience of the space

Body, Mind and Posture

The Monobloc and new visions of sitting: work, leisure, interaction and communication

The Monobloc, comfort and the technique of sitting

The Monobloc, personality and individuality

The Monobloc as part of human movements (dancing, working out, relaxation)

Materials and Production

The Monobloc, materials and production methods

The Monobloc and enabling technology

The Monobloc and sustainable design

Cultural Factor

The Monobloc and literature, art, theatre and movies

The Monobloc, politics and political events

The Monobloc and climate changes, refugee crisis and world problems

The Monobloc and traditions

The ubiquitous Monobloc

The Monobloc is a chair; known in every corner of the world and despite the ubiquity of the white plastic can be regarded as an item that is completely without context. In this regard, we ask if this anonymous chair has a unique role in the world heritage, creating a tie between different cultures. It is our belief, that the perception of the chair is the same in Africa as in Europe since materials, productions and expressions are uniform throughout the world.

The Monobloc has been subject to varieties of comments through its existence; it has provoked both positive and negative reactions throughout the world. The chair has been resembled with 'the real evil of globalization' for example the German writer and artist Ingo Niermann state that the biggest difference between the Monobloc and other big marked products are that 'the manufacturers of white plastic chairs are anonymous for the buyers, who don't notice the differences between the various types of chairs'. Meaning that the chair is almost impossible to love or understand because they reassemble nothing and relates to nothing (Niermann, 2004).

跨界椅子

主讲嘉宾
Matteo Guarnaccia
Cross Cultural Chairs
项目发起人

王鸿超 邓绮云 游鹏
BENWU STUDIO 合伙人

主持人
徐晓 **Shell Xu**
资深文化评鉴顾问\策展人



特邀论坛嘉宾

刘知礼
GYRO品牌创始人

方静峰
MATTERSOFSE
EING创始人

李希米
URBANCRAFT 创始人

2019 / 03 / 30 周六 SAT

11:00 - 11:40 Cocktail & Reception

11:40 - 13:30 Speech & Panel discussion

13:30 - 14:20 After Party

上海市黄浦区建国中路10号八号桥1期2号楼
ZiWU 言志屋多功能小剧场

ZiWU / Modern Art Academy
Building 2, 10 MID JIANGUO RD.
HUANGPU, SHANGHAI

若能拨冗出席:
product@benwustudio.com 中
R.S.V.P.
crossculturalchairs@gmail.com 英

ziWU 志屋
kvadrat
BENWU EDITION
WINE
CHINA
Conservatoire de Catalogne
Département de Culture
ad
ad

Fig. 1: The exhibition “Cross Cultural Chairs” in Shanghai opening on 30. of March 2019 is an example of the public interest in the Monobloc chair.

Even the furniture company Vitra has stated that when sitting in the Monobloc chair, ‘it is almost as if one can feel the cheapness though the product’, and refers to the city of Basel in Switzerland where they made a law banning the white plastic chair from being used in public cafes (Freinkel, 2011 p.47). Despite the fact that the chair has received unfavourable comments from the design communities, the Monobloc has by many people been received as an element that improves life quality. The Vitra Design Museum did establish an exhibition named “The chair of the world”, devoted to tell the story of history and cultural connection of the Monobloc chair around the world (Vitra Design Museum, 2017). The exhibition underlines the Monobloc as a symbol of ‘the ambivalence of today’s consumer society’, where it as both an affordable and thus democratic furniture also collides with the mass consumption of

uniform products and the lack of sustainable consideration. In that way the chair thereby resembles the same cultural issues as the western world faces today.

The German design buff Jens Thiel has had a big role in the development of the exhibition at Vitra (Freinkel, 2011 p.45). He is mentioned in various articles about this particular type of chairs as he is the founder of a website that is devoted to the Monobloc, which also links to several photo-sharing-sites as the Flickr 'Those White Plastic Chairs' where over a thousand pictures of the Monobloc's are collected from all over the world. Mentionable is also the Canadian movie producer Henning Wötzel-Herber who is in charge of a website and a twitter account trying to get a photo of the chair from every country in the world (Global 3000, 2014).

It is evident that the Monobloc chair brings people together, and makes the world smaller as you find that the same chair you are sitting on in southern Africa is the exact same chair that you find in the northern Canada. Emphasising the idea of a chair that connects cultures across continents is literal existing.

The Monobloc has also been the object for multiply transformations through e.g. the Danish designer Nikolaj Steenfatt who has experimented with both shape and surface, resulting in 12 abstracts and almost organic creations that are nothing like how the Monobloc is normally perceived. The transformation removes the usefulness of the chairs and is almost seen as a disease, deforming and twisting the chair making you imagine the deformation on your own skin (Steenfatt, 2019).

Another example is the German designer Bert Loeschner who has modified the Monobloc into humanlike behaviour where the chairs are found in various situations that only a human would otherwise be in. The chairs began to hold umbrellas, dressing as waiters and holding around each other as if they were good friends (Kurze, 2019).

Notable is also the art piece "*The Shapeshifter*" by the Canadian artist Brian Jungen where the Monoblocs are cut into different pieces and used as bones creating the skeleton of a whale – or is it a dragon? The art installations were bought by the National Gallery of Canada hanging from the roof becoming almost a spiritual object combining both the animal kingdom and the industrial plastic production referring to the issues with nature and culture (Jungen, 2000).

As the Monobloc has been transformed into organic creatures, it has also been used as architectural elements, the architect bureau CODA has created into a pavilion by joining hundreds of white plastic chairs together (Arch Daily, 2016).

On a smaller scale the chair has also inspired to the book "*The Infamous Chair*" and the children boards game of stacking plastic chairs. We can conclude that the Monobloc, due to its ubiquity and anonymity, has been the subject for a multiple transformation by different artists and designers around the world. It is an object that is cheap to acquire while at the same time it is identified by people in every corner of the world, where its anonymity apparently both frustrates and inspires.

We want to emphasize that all these examples define the Monobloc as not only a cheap plastic chair but also, no matter if you are a fan or not, as an element that is ubiquitous, or as The New York Times calls it in 2007: "*The world's most famous chair*" (Rawsthorn, 2007).

The chair that no-one notices but, when you think back, we all remember them, in cafes, schools, beaches, hotels, hospitals and in the neighbour's garden. We have all seen them in pictures from the hurricane Katrina or outside Saddam Hussein's hideout when he was captured. We have all sat in one at a point during a vacation to southern Europe or with friends in a backyard. While the chair is as ubiquitous as nothing else is, it is also almost completely context free. It is seen in the poorest countries in the world, providing affordable seating while in the riches contexts as the chair that Hillary Clinton stood on when she spoke to her followers. Nevertheless, if you are to see a picture of the Monobloc, the only thing that is not telling a story about where or when the picture was taken, is the Monobloc itself, the Monobloc is as anonymous as nothing else (Zuckerman, 2011).

At the Art Biennale 2019, the Craft-project wishes to embrace this interpretation, when working with the Monobloc in all dimensions with point of departure in Cultural Heritage. The Monobloc is nothing, but yet so much, that is why we believe using it as a focus point in an interdisciplinary teaching frame, we can develop extraordinary artistic solutions concerning both cultural, societal and political difficulties of our time. The work with the Monobloc can also both now and in the future make a new innovative approach and thereby comply with the overall theme of the Art Biennale 2019: "*May You Live in Interesting Times*" (Ralph Rugoff, 2018).

In the craft-project we work intensively to enhance the European Cultural Heritage through the chair. The chair can function as multiple symbols, which the Monobloc beautifully executes as being a chair for everyone, everywhere. The craft workshop and Session of the biennale will take point of departure in the Monobloc as a symbol of connecting and contextualising Cultural Heritage in a new, innovative and interdisciplinary way. Further, we wishes with the project to go beyond any former known activities and offer an experience, stimulating the mind and emotions of the biennale visitors, inviting to interaction

between students and guests to occur, physically or mentally. The Monobloc is found to be a perfect 'blanc canvas' to embrace this, having so much history, without having any at all.

The anatomy of the Monobloc

Several chairs are mentioned as the very first one-piece plastic chair, and thereby affiliated with the origin to the today worldwide known Monobloc chair. The oldest references mention how the Canadian architect Douglas Colborne Simpson in 1946 made a one-piece plastic chair (Rashid, 2015).

However, the first chair made by the same process as the today known Monobloc chairs is the Panton chair, in the beginning called the S Chair (Verner Panton, 1959). It is a chair that in many ways was different from the furniture design of its time. Still, in 1967, the chair was a technical success for the designer and the producer at Hermann Miller Furniture (Freinkel, 2011 p.39 [1]).

The Panton chair led to the design of the Monobloc as we know it today and can as such be seen as an important Cultural Heritage element if we, in relation to the craft-project and this year's art biennale, focus on the cheap plastic chairs. After Panton had his breakthrough, various chairs inspired by the cheap and fast production process was produced around the world (Rashid, 2015 [2]).

In 1971, a new production technique emerged and the chair got its commercial success. The new production technique was called injection moulding, and it allowed through the use of a much cheaper thermoplastic-material a much faster production of the chair (Freinkel, 2011). The S Chair, through its stunning story of ups and down, could easily define the citation of the Monobloc; a chair that is made of one single piece plastic material, through a cheap production process of injection moulding, optimized for stability and limited material use (Nielsen, 2018 [3]). Therefore, the Monobloc as we know it today has still much in common with the Panton chair, but the equality can be hard to grasp since the design are nothing alike. Even through the Monobloc might be a descendent from the Panton chair it is still unclear where the first Monobloc was produced (Freinkel, 2011). Some claim that the first cheap mass-produced Monobloc was the Fauteuil 300 designed by the French designer Henry Massonnet in 1972 (Bianchini, 2017) where other claims that it was not until 1983 where the Grosfillex group designed the Resin Garden Chair that was mass produced by the price of only 3\$ per chair and a selling price of 10\$ (Rashid, 2015).

In the beginning, only European companies with good economies were able to produce this type of chair, since the production and material for the chair was cheap, despite the fact that the production moulds were rather expensive. After some time, when the moulds became cheaper almost every country in the world began to produce the Monobloc (Freinkel, 2011 p.40). This meant a boom in production of cheap plastic chairs and an increasing competition on the market, causing selling prices to almost production price, which forced various companies to declare bankruptcy. Today millions of plastic chairs are produced every year; the production technique is extremely simple and the variation in them few.

The Indian-based consultant George Lemieux stated that "*the design of the Monobloc ultimately comes down to price*" (Rashid, 2015). The chair is in Lemieux's perspective constructed to use the minimum amount of material giving the maximum stability. The legs are slightly angled to prevent buckling and the back and the corners are curved to add strength to the overall geometry. This distinct design of the Monobloc is so optimized, it is almost impossible to change even the smallest details (Freinkel, 2011 [4]).

In other words, the Monobloc is the result of more than a hundred years of material-, production- and design-optimization that all comes down to the cheapest, and maybe also most complex, chair in the world.

The Monobloc is still the most produced and common chair in the world. Great designers as Philip Starch, Jasper Morrison and Karim Rashid has all worked with the idea of the one-piece injection moulded chair. These later designs might be both aesthetically and technically exciting, but the pricing and production quantity are not at all comparable to the cheap garden chair. This means that these chairs might have more in common with the original Panton chair, while at the same time it underlines how the Monobloc is seen as a functional chair everywhere in the world thus it has a history/context that every human can relate to, even at the Art Biennale 2019.

Conclusion

The history of the Monobloc is filled with ambivalence, love and hate, technologic breakthrough and financial bankruptcy. Through the origin of the white plastic chair to this day is unknown, the orphan chair has roots into some of the greatest design in the history. The design is, unlike almost every other element in the world, completely context-free while the producers of the chair is almost as anonymous as the chair itself.

The Monobloc has been subject for a great variety of opinions, through where it has both been the symbol of the buy-and-throw-away mentality as it has provided comfortable seating for some of the poorest countries in the world.

No matter where you are in the world, you would in some way have established an acquaintanceship with this chair, which means that the Monobloc is an object that we all have a relationship to and thereby it brings all of us closer together.

The Monobloc provides us with common conditions and background allowing us to understand, perceive and talk about several phenomena with basis in this chair across different cultures and generations.

Cultural Heritage is a complex matter, to use a concise definition, it is the value of the past that we distinguish in the present, in order to be able to preserve it for the future. It is our thesis that design is the engineering of the Humanities - and in Craft we investigate the chair as a transcultural design discourse.

This discourse will be the main question when the group of students that are invited to the workshop and later to showcase their work at a Session at the International Art Biennale in Venice to come up with answers on the transformation of the Monobloc. Based upon the context of Venice involving the history, the myths, the city of Venice, i.e. this unique Cultural Heritage we expect the students to work within the interdisciplinary frame, we have developed.

We have found that the Monobloc has a special role in today's society, as it creates connections between culture and generations, allowing people from all over the world to meet with the same common conditions and background. The Monobloc is an actor in the everyday life with a social function that creates bond across cultural heritage.

It is our expectation, through this process of interdisciplinary teaching at the Art Biennale, that the Monobloc as a physical element brings us closer together and contribute to the rediscovery of the Cultural Heritage in Venice.

We see the Monobloc as an element that can create new cultural expressions through our interdisciplinary education where the chair is examined in not only historical and technical levels, but also through explorative approaches connecting it to cultural legacy and innovative design thinking.

Bibliographical References:

Arch Daily. (2016). *How CODA Used Hundreds of White Plastic Chairs To Build A Recyclable Pavilion*. Available: <https://www.archdaily.com/797182/how-coda-used-hundreds-of-white-plastic-chairs-to-build-a-recyclable-pavilion>. Last accessed 18th March 2019.

Bianchini, Richard. (2017). *The history of Monobloc plastic chairs on view at Vitra Shaudepot*. Available: <https://www.inexhibit.com/marker/the-history-of-monobloc-plastic-chairs-on-view-at-vitra-shaudepot/>. Last accessed 21st January 2019.

British Council. (2014). *Why do we need cultural Heritage?* Available: <https://www.culturepartnership.eu/en/article/why-do-we-need-cultural-heritage>. Last accessed 3th January 2019.

Cranz, Galen (1998). *The Chair: Rethinking Culture, Body, and Design*. New York: W.W. Norton. 288 pp.; 85 bw illus., bibliography,

Europa Nostra. (2018). *Food is culture: a multimedia artwork will share stories and traditions behind European food heritage*. Available: <http://www.europanostra.org/food-is-culture-a-multimedia-artwork-will-share-stories-and-traditions-behind-european-food-heritage/>. Last accessed 12th February 2019.

European Commission. (2019). *European Framework for Action on Cultural Heritage*. Available: https://ec.europa.eu/culture/content/european-framework-action-cultural-heritage_en. Last accessed 14th January 2019.

European Commission. (2019). *Culture sector support*. Available: https://ec.europa.eu/culture/policy/culture-policies_en. Last accessed 25th January 2019.

Freinkel, Susan. (2011). *Plastic: A Toxic Love Story*. Houghton Mifflin Harcourt.

Global 3000. (2014). *The Global Object - The Monobloc*. Available: <https://www.dw.com/en/the-global-object-the-monobloc/av-17373066>. Last accessed 10th March 2019.

Jungen, Brian. (2000). *Shapeshifter*. Available: <https://www.gallery.ca/collection/artwork/shapeshifter>. Last accessed 19th March 2019.

Kurze, Caroline. (2019). *Monobloc*. Available: <https://www.ignant.com/2013/03/07/monobloc/>. Last accessed 19th March 2019.

Nielsen, Kristian Hvidtfelt. (2018). *Sådan indtog plast vores hverdag*. Available: <https://videnskab.dk/teknologi-innovation/saadan-indtog-plast-vores-hverdag>. Last accessed 19th March 2019.

Niermann, Ingo. (2004). *Plastic Chair*. Available: <https://web.archive.org/web/20080121033144/http://www.functionalfate.org/archives/2004/08/26/light-seems-heavy/>. Last accessed 10th March 2019.

Rashid, Karim. (2015). *A brief history of the humble plastic chair (and its oil-free future)*. Available: <http://edition.cnn.com/style/article/history-of-plastic-chairs-karim-rashid/index.html>. Last accessed 23rd March 2019.

Rawsthorn, Alice. (2007). *Celebrating the Everychair of chairs, in cheap plastic*. Available: <https://www.nytimes.com/2007/02/04/style/04iht-design5.html>. Last accessed 18th March 2019.

Steenfatt. (2019). *Monoloc - Experiment*. Available: <http://steenfatt.dk/work/monobloc-experiment/>. Last accessed 10th March 2019.

Verner Panton. (1959). *Furniture*. Available: <http://www.verner-panton.com/furniture/archive/7/>. Last accessed 20th of March 2019.

Vitra Design Museum. (2017). *Monobloc - A chair for the world*. Available: <https://www.design-museum.de/en/exhibitions/detailpages/monobloc-a-chair-for-the-world.html>. Last accessed 10th March 2019.

Zuckermann, Ethan. (2011). *Those White Plastic Chairs – The Monobloc and the Context-Free Object*. Available: <http://www.ethanzuckerman.com/blog/2011/04/06/those-white-plastic-chairs-the-monobloc-and-the-context-free-object/>. Last accessed 19th March 2019.

Notes

[1] In 1946, the Danish designer Verner Panton designed his unique S Chair, which later became known as the Panton Chair (Verner Panton, 1959). This chair, one of the first designed Monobloc's was produced through a production by a strong fibreglass polyester resin through cold moulding process causing both the material cost to be high and a long production time. The chair where despite a technological and design-related breakthrough not a commercial success (Vitra Design Museum, 2017). It was not until 1971 where a new production technique began to break through that the chair got its commercial success. The production technique is called injection moulding, and it allowed through the use of a much cheaper thermo-plastic-material a much fast production of the chair (Freinkel, 2011. p.39).

[2] In 1983 the Grosfillex group designed the Resin Garden Chair, made of polypropylene (PP) through injection moulding resulting in a production price of only 3\$ pr. chair and a selling price of 10\$ (Rashid, 2015) being the beginning of a production war between producers trying to produce the cheapest and fastest one-piece chair (Freinkel, 2011 p.40).

[3] The first plastic material was discovered by an accident in 1899, but it was not until 1935 that plastic where produced through a process which were actually manageable and plastic could be used as an industrial material. The first plastic materials polystyrene (PS), polyvinylchloride (PVC) and polyurethane (PU) where used through the 2nd world war because of their properties as insulation for high frequency receivers and transmitters. After the war, the materials got its commercial breakthrough, as the material became a symbol of the affluent future, because of the cheap production price and the fact that the material could take any wanted form (Nielsen, 2018).

[4] Through the life time of the monobloc there has been different attempts to break this locked design paradigm: Both one with a back of perforated roses, and a southwestern-model with little stars and a half moon, but none of the designs did get a big share of the marked both because of increasing prices and because some iterations were actually considered less attractive than the standard version. (Freinkel, 2011 p.44-46).