

# COLLECTING PLASTICS IS COLLECTING DESIGN HISTORY

## Conservation Practices in Museums

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**ABSTRACT:** From the 1950's onward, the myriad qualities of all plastic objects were praised without a second thought. This enthusiasm significantly delayed the awareness of their enormous impact and it took almost half a century to consider these objects a part of post-war culture. This essay aims to sketch the history of the appreciation of the relevance of plastics in the museum world, specifically as a part of design heritage, seen from the viewpoint of the collector and the conservator-restorer. The case of the Design Museum Brussels, established in 2015, shows how a collaborative and interdisciplinary approach on conservation can be developed to the benefit of our plastics heritage.

**KEYWORDS:** Design museum; plastic design collections; conservation practices; plastic heritage; Brussels

**INTRODUCTION:** We welcome each renewed design museum or new collection of post-war plastic design furniture. We admire the creativity and optimism of the Space Age shapes with their typical colour outbursts, while we are simultaneously standing on the barricades to protest the use of plastics in everything, from disposables to cosmetics, because we can no longer ignore the damage plastics cause to the environment. For decades our everyday life was marked by the widespread use of petroleum-based polymers, and until very recently this was also the case in arts and culture. From the 1950's onward, the myriad qualities of plastics – from the Greek word 'plastikos', meaning capable of being shaped or moulded – were praised, and so were all sorts of objects, from ordinary kitchen utensils to design objects and furniture, from the disposable items in our daily lives to art. So much so that after half a century we came to regard these objects as part of our heritage – our architectural heritage, interior design heritage, the broad heritage of design cultures and the heritage of consumer culture. The awareness of the enormous impact these materials have had, and are still having on our lifestyle and environment has grown slowly, as well as the knowledge of their inferior durability compared to traditional materials. This time-lapse makes the desire (and one could add, the moral obligation) to conserve this heritage still more challenging.

This paper aims to sketch the history of the awareness of plastics in the museum world, specifically as part of the design heritage seen from the viewpoint of the collector and the conservator-restorer. In this regard it is worth noting that the post-war rise of design itself triggered a reorganisation of the museums of applied arts. This has paved the way for the establishment of design museums and more recently *plastics* design museums. The fact that these recent museums are smaller and operate with limited staff and modest facilities in terms of stock area and restoration laboratories, is in harsh contrast with the fragility of the materials in their collection. This fragility is underestimated. A number of initiatives indicate that scientific research on preventive and restoration practices is now finding its way to museums, stimulated by a collaborative attitude. Dedicated partnerships in a multidisciplinary context produce an exchange of knowledge among the museum stakeholders: the conservator-restorers, the curators, the (free-lance) conservation scientists, the artists, the art historians, the managers<sup>1</sup>, the visitors and finally the authorities. To illustrate this, we will zoom in on the Design Museum Brussels<sup>2</sup>, established in 2015 to host the private collection bought by the Atomium containing some 2500 plastic objects, and which ever since, has been working on a successful restoration policy [FIGURE 01].



01 The Plastic Design Collection of the Design Museum Brussels. © C. Licoppe 2018, DesignMuseumBrusselsLiophotography

## DRAWING ATTENTION

In its Strategic Plan for 1992-1997, the London Victoria & Albert Museum expressed for the first time in its history the necessity of a care program for plastics. A few years later, in 1994, it appointed Brenda Keneghan, a conservation scientist at the museum, as its first polymer conservator<sup>3</sup>. During her surveys in the 1990's, Keneghan called the situation she encountered 'a plastics denial syndrome'<sup>4</sup>. People in charge of collections didn't have the faintest idea about the quantity and diversity of plastics in their collection, which resulted in a complete lack of expertise on polymers. This 'denial' was rooted in the misconception that the use of plastics had begun in the period of modern life post WWII. Instead, the use of semi-synthetics such as cellulose-nitrate dates back to the 1880s, and the use of so-called 'natural plastics' even further. Thus, when dealing with a comprehensive collection of decorative arts, one ought to take into account the possible presence of synthetic components in objects from as early as the mid-19<sup>th</sup> century. Addressing the synthetic materials in urgent need of attention, Keneghan specifies 'dry and brittle' rubber, 'unstable and degrading Celluloid™ with formation of acidic vapours causing disintegration of neighbouring objects', 'visible loss of plasticiser and darkening in colour' in PVC, and toys and cushioning of polyurethane foam which 'fall apart as a result of simple oxidation'<sup>5</sup>.

Keneghan's first brief and factual articles on the topic, written for the museum field, suggest six focus areas which are still relevant. These are recognition (awareness), identification, storage, survey, accurate fact sheets and monitoring<sup>6</sup>. Although we are dealing with these issues in a more sophisticated way, her visionary statement of almost 25 years ago still counts: 'It is not all doom and

gloom, however, as by the implementation of preventive conservation measures, the lifetimes of these materials may be extended significantly, but not indefinitely'<sup>7</sup>.

## THE RISE OF DESIGN MUSEUMS AND PLASTICS-ONLY COLLECTIONS

The identity of design objects is often described in relation to a set of categories: craftsmanship, uniqueness, serially produced artefacts, or the applied sciences. The start of the use of the umbrella term 'design' for these identities marked the emergence of the design museum<sup>8</sup>. In the 1990's, the awareness of the shifts in production and consumption connected with post-war modern life initiated the process of musealizing design. This development was accompanied by a shift in perspective from the decorative arts to design, which implied a broader view on how design is embedded in history and society. This conceptual change encouraged a great number of museums of applied arts to change their name to 'Design Museum'<sup>9</sup> [FIGURE 01].

Historically, museums of applied arts distinguished themselves from art museums and natural history museums in a way which was influenced by a multitude of continuously changing factors<sup>10</sup>. The crisis of functionalist design was followed by the post-war success of 'good design', which in turn brought about post-modern design, which playfully experimented with a new mindset towards materials, the notion of craft, high art and uniqueness. As a consequence, the traditional conceptions of applied arts shifted to the consideration of design as a genuine form of art. From the early 1980's this was gradually reflected in the acquisition policy of museums, which started to focus on more recent periods, of which plastic objects were



02 Guido Drocco and Franco Mello, Cactus, 1971 in the Design Museum Brussels. © C. Licoppe 2020, DesignMuseumBrusselsLiophotography

unavoidable representations<sup>11</sup>. As the concept and cultural validation of design broadened, culminating in the expansive turn-of-the-century definition by John Heskest<sup>12</sup>, design research could not disregard the importance of plastics for the discipline. This offered museums new avenues to theorise and present their plastics collection as a clear subgroup within the wider collection.

Only in the 1980s did plastic objects become valid and valuable collection items, even though the first examples had already been purchased in the 19<sup>th</sup> century. This transition raised a twofold shift regarding plastic objects in museum collections, namely awareness and interdisciplinarity. By the start of the 21<sup>st</sup> century the awareness had spread, and specialists were called for collaboration between the diverse fields. Today it is only common sense to ground the decision-making process on interdisciplinary dialogue. The consciousness that 20<sup>th</sup> and 21<sup>th</sup>-century acquisitions quite probably contain polymers, and thus may have a shorter life expectancy than traditional materials<sup>13</sup>, has caused no measurable decline in acquisitions.

At this point, a third shift can be noted. While in the past, museums rarely collected objects on account of the materials they were made of<sup>14</sup>, with the exception of certain precious materials, entire collections have recently been assembled exclusively of plastic items, and some



03 Plastic chairs in the Design Museum Brussels. © C. Licoppe 2020, DesignMuseumBrusselsLiophotography

have even generated – at least for a short period of time - independent museums. An example of this evolution in the UK is the Museum of Design in Plastics Bournemouth. Founded in 1988, it changed its name to the Museum of Design in Plastics (or MoDiP) in 2007 and became the UK's first and only fully accredited plastics museum a year later. MoDiP is now acknowledged as the UK's leading centre for the study of design in plastics focusing mainly on utility objects with either a compelling form or function or a historic documentary value<sup>15</sup>. In The Netherlands, the PolyPlasticum Steenwijk was first established in 2003, moved to Zwolle in 2010 and in 2013 it became the country's single online museum on polymers. In New York City a pop-up educational Museum of Plastic was set up in 2019 in the SoHo neighbourhood. More recently in the UK, the online Museum of Plastic 2121 was launched, which focusses on the history of activism related to plastics. It is a hub of the British Council's 'Climate Connection. Be Inspired' initiative.<sup>16</sup> In the following we will consider another example, this time in Belgium: the Design Museum Brussels, established in December 2015, which, besides presenting the history of design, boasts an impressive permanent collection of iconic plastic design objects from the 1960's onwards [FIGURE 02, FIGURE 03]. But first, let us dive into the topic of conserving collections of plastic objects.

## PROGRESS IN CONSERVING PLASTICS COLLECTIONS

Plastics in art and design has known a long history and a rather slow development<sup>17</sup>. Though plastics already started to appear in the 1960's on a large scale in both artworks and utility products, and the material attracted attention from art-historians and conservator-restorers<sup>18</sup>, the apparent simplicity and ubiquity of the material has long deceived academic research. For a couple of decades most art and culture historians discarded plastic utensils and furniture along with the mass culture they belonged to. When this opinion was revised in the late 1980's to early 90's, the interdisciplinary nature of the subject gradually dawned.

Admittedly, conservator-restorers and (design) museum directors had this change of view with a certain delay, often triggered by stumbling upon examples of spectacular degradation in some collection pieces. When they did, the alarm quickly sounded for a broad and integrated restoration policy. This raised a number of hurdles. First, museum directors, most of whom were trained as art historians, lacked the knowledge of organic chemistry and materials science of conservator-restorers and on the other hand conservator-restorers lacked a background in humanities – specifically in design cultures – necessary to grasp the extent of the subject matter<sup>19</sup>. Also, the museum sector as a whole was just then going through a transformation period. In 1984, the profession of conservator-restorer, developed by the International Council of Museums (ICOM, established in 1946) and its Committee of Conservation (CC), received its current definition, which emphasizes the understanding of the objects' material properties and documentary quality<sup>20</sup> and deems interdisciplinary co-operation of 'paramount importance' and teamwork a 'must'<sup>21</sup>.

Most museums of a certain scale and importance have by now developed a comprehensive preservation policy for their collection, including the special needs of plastics<sup>22</sup>. In many cases the conservator-restorer of organic materials is made responsible for the preservation of polymers, which often requires the specific knowledge of a specialist. Thus, even renowned institutions find themselves in need of external assistance, prompting the distinguished Getty Conservation Institute, for instance, to coordinate its approach with other specialist institutions. Thus, the Getty's Preservation of Plastics Project is integrated in the Modern and Contemporary Art Research Initiative, and collaborates with various partners from Europe, notably The Netherlands and Germany<sup>23</sup>. The ICOM's Committee for Conservation established a working group dedicated to modern materials, aiming to attract attention to the subject<sup>24</sup>, e.g. with the 1991 conference *Saving the Twentieth Century. The Conservation of Modern Materials*, held in Ottawa<sup>25</sup>, and other initiatives such as *Modern Art: Who Cares?*, a symposium organized in Amsterdam<sup>26</sup>.

Most design museums, however, are small in scale and modest in infrastructure. Curating collections that follow the history of plastics applications from the 19<sup>th</sup> century, they obtain a huge quantity of objects of which the assessment (meaning, value and condition), conservation (preventive and remedial) and use (storage and presentation) form a real challenge<sup>27</sup>. The new phenomenon of 'plastics-only' collections also belong to this fragile group. Yet collecting plastics requires knowledge of the material. Without experts competent to deal with its possible degradation, threats and needs, the risk of losing part of the collection is real. In this context, and notwithstanding advances in research and numerous initiatives, at the end of the 2000s design museums still lacked an overall, viable vision on the conservation of modern materials, and plastics in particular. To remediate this, the Conservation Department of the Neue Sammlung Design Museum in Munich decided to open a platform to encourage discussions and knowledge transfer in the field, and in 2009 started the conference format FUTURE TALKS for interdisciplinary discussions and experience exchange on the conservation of modern materials. Important issues were the interdisciplinary dialogue between conservators, conservation scientists, engineers, designers and producers, and the practicability of conservation treatments<sup>28</sup>. Significantly, in its first edition, almost all lectures dealt with issues related to plastics<sup>29</sup>. The edition of 2019 testifies to a deepening of the subject and focussing on specialist topics. The proposition of the 2019 Future Talks was 'Modern Surfaces', called the 'ultimate challenge'<sup>30</sup> for the modern heritage conservator<sup>31</sup>. Experiments and research by museums presented in the Future Talks subsequently formed the basis for the Plastic Identification Tool or PIT<sup>32</sup> created by the Cultural Heritage Agency of The Netherlands, which in 2017 led to 'Project Plastics'. This project aimed to help museums identify the polymers in their collection pieces. The tool called PIT-kit, which promised optimal results, was developed as a DIY method for museum staff. It includes a questionnaire and a sample case for comparison<sup>33</sup>, and shows that identifying plastics need not always be expensive<sup>34</sup>.

## FROM EXHIBITION TO MUSEUM: PLASTICS IN BELGIAN MUSEUM COLLECTIONS

Belgium started to develop a consciousness of plastic items in museum collections in the first decade of the 21<sup>st</sup> century. FARO, since 2008 the Flemish fulcrum for cultural heritage<sup>35</sup>, recognized the necessity of urgent support for museums in the conservation of plastics. In 2013, its periodical, the *FARO Journal on Cultural Heritage (FARO tijdschrift voor cultureel erfgoed)*, spread the word on the major topics regarding collecting and conserving plastics, such as storage conditions, depot facilities, identification

and conservation<sup>36</sup>. By writing about the history and existing collections, initiatives at S.M.A.K Ghent (City Museum for Contemporary Art), FOMU (Photo Museum) in Antwerp as well as major museums such as Die Neue Sammlung, FARO paved the way for greater consciousness and expertise on the issue<sup>37</sup>.

The Belgian region of Flanders has its own Design Museum in Ghent, with a comprehensive collection of applied art and design objects, some of which are partially or entirely made from plastics. Although plastics do not form the focus of the museum, its plastic objects collection - dating from the late 19<sup>th</sup> century to the present - does require specific conservation know how and strategies. That is why the museum actively takes part in a project dedicated to the identification and care of plastics in museum collections called Save the Plastics!<sup>38</sup>. It is a joint-venture between the Design Museum Gent and S.M.A.K., supported by the Flemish regional government, to make an inventory of the plastics in their collections. The two museums jointly own about 4,000 items containing plastic.

The Design Museum Brussels on the other hand, was launched at a time when the position of plastic objects in design history was already established [FIGURE 02, FIGURE 03]. That one man's obsession with and collector's urge for plastic objects can turn into a fully-fledged design museum in the capital of Europe is proof of the steady development of both the cultural perception of plastics and the design museums' efforts to broaden and professionalise in sync with the evolutions in the design field. Originally developed around a private collection of some 2,500 plastic items, the museum opened its doors in December 2015, seven years after the MoDiP in Bournemouth and just two years

after the FARO Journal's special issue on plastics [FIGURE 04].

The project for a design museum in Brussels featuring a large plastics collection was developed by the Atomium organisation. The Atomium, a 102 m-high scale model of an iron atom, built for Expo 58 (the first world exposition held after WWII), is a major landmark and tourist attraction in Brussels<sup>39</sup>. After its restoration in 2006 and the celebration of its 50<sup>th</sup> anniversary two years later, the organisation looked to expand its programme around the core themes of modernity and progress<sup>40</sup>. The seed was sown by a unique private collection of plastic objects, including the Golden Sixties, Philippe Decelle's 'Plasticarium', to which the Atomium dedicated an exhibition entitled "Orange dreams. Le plastique c'est fantastique"<sup>41</sup>. The project prompted the Atomium to acquire the collection with the intention of exhibiting it at a new location nearby. This eventually gave rise to the plan to establish a museum of design in Brussels.

The development became possible thanks to a coincidence of opportunities. First, Decelle wished to sell his collection. The Atomium organisation saw this as an opportunity to save a local collection from being auctioned off, and to provide the proper conditions for its conservation and public presentation in the city where it was created. Moreover, it was an opportunity to strengthen the touristic attractiveness of the Atomium area, located on the edge of the city centre, and even to give the capital a design museum worthy of its status. Around the same time, the nearby former Brussels International Trade Mark (BITM) building, a late-modernist project from 1975 designed by John Portman, was in need of a new tenant. This offered a unique chance to display the collection in something else than a series of temporary "cabinets of curiosities", but



04 Front of the Design Museum Brussels. © C. Licoppe 2020, DesignMuseumBrusselsLiophotography

instead to create a fully-fledged design museum around a solid permanent collection of cult design objects, which reflected the optimism of the 1958 Expo. The BITM building was adapted for re-use by the Brussels architectural firm Lhoas & Lhoas<sup>42</sup>, based on principles such as making use of the available qualities, organising functions around existing structures, creating a simple and adaptable exhibition system and integrating stock in the building. To provide a specific entrance to the museum, independent from the BITM building, an eye-catching exterior staircase designed by Jean Nouvel was added [FIGURE 04]. The collection was completed with loans from international public collections, galleries and private collectors to form a comprehensive history of plastics<sup>43</sup>. The result is an inventory in excess of 2500 objects, consisting of landmark design pieces, prototypes, consumer objects and artworks.

Rather than presenting objects in chronological, thematic or chromatic order, a more relevant conceptual, social and even philosophical organisation was defined. It bases the scenography both on relevant questions and on connections with other disciplines<sup>44</sup>. In scholarly and museal terms, the main role of the museum is to showcase the importance of plastics in design and to contribute to the academic discussion on the theme. Design Museum Brussels also developed an educational area called the 'Plasticotek'<sup>45</sup>. Organized in a separate space, it offers the opportunity to discover various plastics types and their technical properties [FIGURE 05]. It is of course related to the collection and it contributes to the varied exhibition program of the museum.

At the time of the establishment of the museum it executed a preventive conservation study of the Decelle collection items and found the collection generally in good shape. But this was temporary. Aware of the fragility of such a collection, the museum immediately started working on problems with PVC-p and natural latex in individual objects<sup>46</sup>. For the fashion section of the collection a preservation plan was worked out for the 2017-2018 period, consisting of a chemical degradation study and various conservation interventions, ranging from the creation of a transport box to a discreet and resistant exhibition stand, including performing tests and formulating the limitations of the intervention. From 2019 onward the museum follows a three-year plan for the preservation of the entire collection. For this program they joined the above mentioned PIT Project initiated in The Netherlands and recently adopted by the Design Museum of Ghent with a cleaning research action for the year 2021<sup>47</sup>. This means that, despite the museum's small scale and limited staff, Design Museum Brussels accomplishes its own preventive and curative conservation plan. As a small organisation, and thereby different from larger state or privately owned institutions equipped with conservation departments, some of



05 Radical Design Section of the Design Museum Brussels. © C. Licoppe 2020, DesignMuseumBrusselsLiophotography

them even part of ICOM, such as the Getty Conservation Institute or The Netherlands Cultural Heritage Agency<sup>48</sup>, Design Museum Brussels depends on partnerships with central initiatives and laboratories for the necessary expertise. This typical problem for museums lacking a laboratory, was addressed in the 2017 Future Talks edition on the possibilities of the so called Plastic Project 1, which identifies preventive measures for large parts of plastic collections<sup>49</sup>. This initiative can be considered the inspiration for the Save the Plastics! project in Flanders and Brussels. It allows monitoring to be done by in-house personnel, but conservation of objects is entrusted to external specialists. The most important of these is KIK-IRPA, the Brussels based Royal Institute for Cultural Heritage, which carries out interdisciplinary research on materials and techniques used in artworks and cultural artefacts and on the materials and methods used in conservation and restoration<sup>50</sup>. Furthermore, in the academic year of 2020-2021 a project was started in collaboration with two Brussels universities, the ENSAV-La Cambre (conservation-restoration section) and the Haute Ecole Lucia de Brouckère (chemical and bio-chemical engineers section), to conduct research on the identification of adhesives. The project includes research on the cleaning challenges for this specific museum collection. Thanks to these initiatives, the specific plastics conservation assignments of the Design Museum Brussels could be entrusted to a network of external professionals.

As the novel avenues of post-war every-day life and domesticity became the subject matter of hundreds of studies in numerous fields, the importance of plastics in specific disciplines, ranging from art, architecture and design to chemistry, history, sociology and museology, was laid bare. As design museums developed expertise, they became conscious of hitherto unknown problems in the preservation of plastic objects. While there are plenty of students interested in restoration studies of traditional materials, the restoration of plastics is a niche specialisation for which the interest is not on par with the sheer amount of material present in collections, which are still growing in size and number.

Thanks to the consciousness of its importance, one aficionado's personal plastics collection became the core of a museum dedicated to the history of Belgian design. This was only possible thanks to substantial investments in an inspiring but decaying material, once adored for expressing progress and optimism, now damned for polluting the environment.

## CONCLUSION

The conservation policy of the Design Museum Brussels and the evolution of its collection, which started as a private collection of design objects and furniture, is a good case study to show how an open, collaborative and interdisciplinary approach can be developed in a short time-span and even in a small organisation. Such an approach is essential to make progress in the knowledge of plastics, their deterioration processes and conservation methods and materials. Our brief analysis also reveals that it is necessary to give plastics conservation a more explicit place in higher education courses across related fields. This would benefit the collection, conservation and presentation of our common plastics heritage, which is an irrevocable part of modern cultural history.

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## ENDNOTES

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