

# No, Your Furniture Shouldn't Drip or Burst

Plastic furniture doesn't always age gracefully. Sometimes, that's its charm. Sometimes, it just plain stinks.

By EVE M. KAHN    MARCH 2, 2018

One famous designer chair is oozing goop. Another has exploded into puffs of foam. A bookcase's shelves bubbled as gases formed within.

The culprits? Plastic. And time.

Preserving and restoring furniture from bygone eras has been a skill treasured for centuries among designers, curators and collectors alike. Every day, armies of experts are fanning out to period rooms and homes, to stabilize delicate ebony and tortoiseshell inlays and flecks of gilding on furniture made before World War II. The profusions of modern plastics, however, have created repair challenges unlike any known before.

Some of the problematic midcentury plastics used in furniture were formulated for military use. The domestic goods created from these polymers were marketed as versatile, affordable and easy to clean. Now, several of the more experimental objects are falling into mysterious decay.



A chair from the suite by Mr. Seymour. A yellowish clear liquid with “a distinctive smell” puddled at the feet of the furniture, said Susanne Graner, head of the Vitra Design Museum’s collection and archive.

Jürgen Hans/objektfotograf.ch, via Collection Vitra Design Museum

Collectors and scientists have started investigating how to stave off further damage and extend the life spans of endangered pieces designed by important innovators. In some cases, it turns out, the best solution is to maintain serenity and accept the materials' innate fragility, inevitable decline and weird odors

"Le plastique, it's fantastique, but it's toxique," said Benoist F. Drut, the owner of Maison Gerard, a furniture gallery in Manhattan. He occasionally deals in objects that hardly anyone knows how to fix, including 1960s inflatable PVC armchairs that can lose their luster when exposed to the bodies of people wearing sunscreen and that can develop holes along their folds when deflated.

Adventurous mid-20th-century designers and manufacturers set out to test the limits of new plastics, and part of the fun was that no one knew how well the materials would age. The makers came up with unprecedented forms, too, just to see what would happen.



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Robin Hill Photography

Why not, as the Italian designer Gaetano Pesce proposed in the 1960s, mold polyurethane foam lounge chairs into the shapes of the colossal marble feet on Michelangelo's David?

Dr. Al Eiber, a retired physician in Miami, acquired a Pesce foot in the 1970s and mournfully threw away its ruined remains two decades later. He and his wife, Kim Kovel, came home from a short trip to find that its filling had inexplicably burst through its pinkish outer layer.

"It was like a nuclear explosion in our living room — foam had ripped through the skin," Dr. Eiber said. The toes looked cancerous, and "the whole top of it, just boom!" He tried to donate its components to a museum for autopsy, he said, "but no one was interested." He also owns a resin and Styrofoam bookcase by Mr. Pesce, which bulged and warped as gases formed in its depths. He drilled a hole to release the pressure, and since then the shelves have supported books well. "Except for that slight irregularity, it's been great," Dr. Eiber said.



A transparent inflatable chair designed in the 1960s by Quasar Khanh. Today, these chairs must be wrapped in sheets when deflated to shield the sharp wrinkled edges from breakage. Benjamin Chelly, courtesy Albin-Michel/Galerie47

Last year, a skinless version of Mr. Pesce's foam foot went on view at the R & Company gallery in Manhattan, in an exhibition titled "SuperDesign," which explored radical Italian furniture from the 1960s and '70s. (A version of the show, minus some of the more fragile pieces, is now on view at the Istituto Italiano di Cultura in Toronto.) The foot belongs to Dennis Freedman, a creative consultant in New York, who owns about 200 pieces of modern and contemporary design.

The terra cotta-colored foam has become grooved and furrowed, which reinforces its resemblance to ancient and Renaissance sculptures. “Because it has deteriorated, the connection between the inspiration and the actual piece is so much richer,” Mr. Freedman said.

In the last decade, scientific studies have been conducted on timeworn plastic to determine how to identify ingredients and cope with decay. Marc Mineray, a design historian and dealer who owns Galerie 47 in Paris, said that specialists had learned to protect and repair the transparent inflatable seats that have been for sale at Maison Gerard. They were designed in the 1960s by the Paris-based Vietnamese inventor Quasar Khanh.



A 1960s Futuro, a white fiberglass pod made in Germany and meant to serve as a portable ski lodge, suffered damage while stationed outdoors for decades at various sites in Germany.

Tim Bechthold/The Design Museum Munich



When the Khanh chairs are deflated, they must be wrapped in sheets to shield the sharp wrinkled edges from breakage. If the surfaces end up perforated, patches can be cannibalized from other works by Mr. Khanh that are deemed unsalvageable. “You have to sacrifice one to repair the other,” Mr. Mineray said. If the PVC becomes abraded or discolored, mild soap can sometimes undo the damage, he added, but there is “no miracle to hope for.”

Museums have performed major interventions to put plastic objects on display. A restored 1960s **Futuro**, a white fiberglass pod made in Germany and meant to serve as a portable ski lodge, was installed last year alongside **Die Neue Sammlung-The Design Museum** in Munich.

The pod had suffered damage while stationed outdoors for decades at various sites in Germany. Its legs had been shortened, the shell was gouged and dirty, convex Perspex windows had been removed, and the interior had been flooded by rainwater and slathered in plaster.



The Futuro's legs had been shortened, the shell was gouged and dirty, convex Perspex windows had been removed, and the interior had been flooded by rainwater and slathered in plaster. Diverse teams of experts were required to treat the giant artifact.

Pamela Voigt/The Design Museum Munich

Tim Bechthold, the museum's senior conservator, said he enjoyed brainstorming with the diverse teams of experts required to treat the giant artifact. "That's what makes it so exciting" to be in the fast-changing field of conserving plastics, he said.

The niche subject's specialists have agreed upon a few dire diagnoses. Some 1970s versions of Verner Panton's S-shaped chairs were molded out of a thermoplastic polystyrene called Luran-S. When it shatters, the shards can be reassembled with adhesives for exhibition purposes, but no owner should hope to sit on them. "It's nearly impossible" to make them structurally sound again, Mr. Bechthold said.

Projects may also be gloomy for biodegradable works that the Berlin-based artist Jerszy Seymour made in 2007. He splashed blobs of a thermoplastic polyester, tinted in bright pinks and yellows, across sand blocks to form a suite of furniture. It belongs to the Vitra Design Museum in Weil am Rhein in Germany.



The restored Futuro was installed last year in Munich alongside Die Neue Sammlung-The Design Museum.  
Jorg Koopmann, courtesy The Design Museum Munich

Susanne Graner, the head of the museum's collection and archive, said the pieces "were stable until last year, and then they started to drip." A yellowish clear liquid with "a distinctive smell" puddled at their feet, she said.

No one knows yet what ingredients are in the ooze, or whether any treatments or storage conditions will halt the deliquescence. Mr. Seymour meant for the objects to break down someday, Ms. Graner said, but museum stewards have a responsibility "to preserve these objects as long as possible."

Mr. Seymour laughed heartily when asked about the seepage and became philosophical about "whether we need to hold onto anything from the past." He would be happy, he said, to see the furniture at Vitra devolve into "a pile of drips at the bottom of a bowl, and you can quote me on that one."



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G. Cigolini/De Agostini, via Getty Images

Furniture components with questionable futures are now pouring out of 3D printing equipment. Some polymers used in the machines are notorious for irreversibly yellowing, flaking, and turning cloudy and viscous.

Mr. Freedman, the collector, said he did not mind the marks of time already evident on his Solid C1 epoxy resin chair that Patrick Jouin made with 3D printing techniques in 2004. "It was clear when I got it, and it's turned a golden color," Mr. Freedman said. "The yellowing of the piece speaks to the fact that it was experimental at the time it was made, when its clarity could not be made stable."

Ms. Graner said that despite the problems inherent in some plastics, she still enjoys learning about contemporary artisans at play with "a free outlook on materials." In her profession, she said, a sort of "poetry that's sometimes really surprising" arises from analyzing how something was originally dreamed up, what guesses were made at its birth about how long it would last, how predictions for its life expectancy have changed, and how best to lay hands on it.

What a joyless world it would be, and how many fewer conservators there would be, she said, "if designers didn't take risks."