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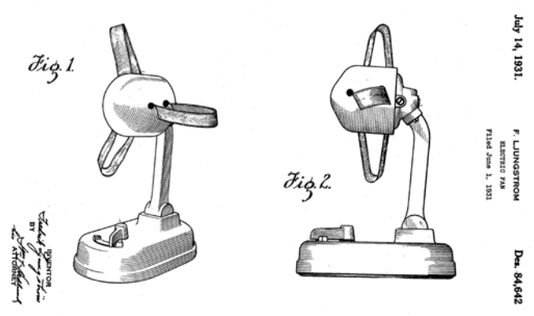
Charlotte & Peter Fiell

# Plastic Dreams

## Synthetic Visions in Design

**Ribbonaire**
table fan, 1931


Designer: **Fredrik Ljungström** (Swedish 1875–1964)
Materials: Bakelite/phenol-formaldehyde (PF), ribbon
Manufacturer: Singer Sewing Machine Company, New York (NY), USA/Diehl Manufacturing Company, Elizabeth (NJ), USA (a division of Singer)
Measurements: 26 cm high

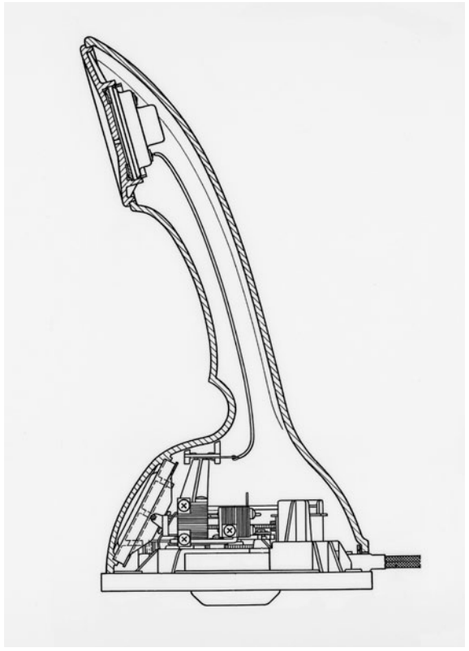




The Swedish inventor Frederik Ljungström designed and patented the *Ribbonaire* table fan in 1931, and then subsequently licensed its manufacture to the Singer Sewing Company in the United States. Prior to this, he had also developed an 'improved' bicycle with his brother, Birger. They put it into mass production with the help of investment funding from Alfred Nobel, who wrote of the siblings: 'It is fun to work with persons of such substantial ability and such true unpretentiousness.' The brothers also invented various high-pressure steam boilers as well as a steam turbine, known as the Ljungström turbine, which was patented in 1894. Like these earlier inventions, the two-speed *Ribbonaire* fan was a highly progressive design. It was considerably safer than other designs on the market, eliminating the risk of injury with its use of looped ribbons rather than metal blades. In addition, the ribbon could be sprayed with pine essence or perfume to delicately scent a room.
The design's many advantages were marketed in the following terms: 'Quiet: Will not disturb your sleep or conversation; Comfortable: Moves a substantial amount of air without a draft; Economical: Uses no more current than an ordinary electrical light bulb.' The fan's shock-proof, dark brown Bakelite housing was made from five separate mouldings, seamlessly joined together to provide an elegantly unified Art Deco-style streamlined form. Although manufactured by the Singer Sewing Company, its subsidiary, the Diehl Manufacturing Company, also produced the *Ribbonaire*.

**Patent application, 1931**

# Ericofon
telephone, 1954

Designers: **Hugo Blomberg** (Swedish, 1897–1994), **Ralph Lysell** (Swedish, 1907–1987) and **Gösta Thames** (Swedish, 1916–2006)
Materials: acrylonitrile-butadiene-styrene (ABS), polyamide (PA/nylon), rubber
Manufacturer: L.M. Ericsson, Stockholm, Sweden
Measurements: 21 cm high

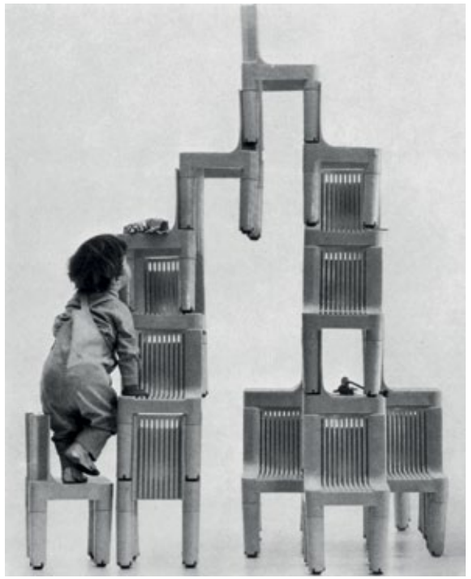


**Engineering drawing for the *Ericofon* telephone showing internal layout, c.1954**

A truly revolutionary design, the *Ericofon* was the first telephone to integrate earpiece, mouthpiece and dial into a single sculptural unity. In the late 1940s, the Swedish telephone company L.M. Ericsson assembled an in-house design team headed by an engineer, Gösta Thames, with the idea of creating a small, lightweight telephone that would be easier to use than existing models. After working on a number of prototypes, and filing a patent in 1947 for a streamlined single-piece phone, the design team eventually came up with the *Ericofon*'s distinctive, cobra-shaped form. The design of the *Ericofon* incorporated a new lightweight material – shiny ABS plastic – and also benefited from the increasing miniaturisation of technology. Production commenced in 1954. Initially, however, the telephone was marketed for institutional use only. In fact, it seemed to be 'just what the doctor ordered', selling especially well to hospitals, as it was easy for bed-confined patients to use. Two years later, though, the sculptural phone, offered in an array of attractive colours, began to be produced for domestic markets in Europe and Australia, where it became an instant success. The first production models employed a two-piece moulded plastic shell. Around 1960, however, Ericsson made some minor design modifications which, in conjunction with a new manufacturing technique, allowed the casing to be produced as a single moulding. About the same time, the phone also began to be marketed in America, where demand soon exceeded manufacturing capacity by an astonishing 500%. Eventually, production for the US market was transferred to the North Electric Company, which advertised the Ericofon with the by-line: 'Elegance... for eloquence.' Around 1967, a new version with a touch-tone dial was introduced; and, in 1976, Carl-Arne Breger designed the more angular *Ericofon 700* to commemorate Ericsson's centenary.

# Model No. 4999
stacking child's chair, 1960

Designers: **Marco Zanuso** (Italian, 1916–2001) and **Richard Sapper** (German, 1932–)
Materials: from 1964: high-density polyethylene (HDPE)/from 1975: polypropylene (PP)
Manufacturer: Kartell, Noviglio, Italy
Measurements: 49 cm high, 28 cm wide, 28 cm deep



Kartell publicity photograph showing the way the *Model No. 4999* chair could be used to make children's forts, c.1964

Designed by Marco Zanuso and Richard Sapper, the *Model No. 4999* was the first chair in the world to be made entirely of injection-moulded plastic. The important precedent it set within seating design was acknowledged through the award of a Compasso d'Oro in 1964. Initially, this stacking child's chair was moulded in high-density polyethylene – a resilient thermoplastic with a good strength-to-weight ratio and excellent chemical resistance. It was still relatively difficult to injection mould larger items during the 1960s, and for this reason the chair's ribbed seating section was fabricated separately from its four cylindrical legs, which then slotted into the seat. The designers conceived the chair almost as a lightweight building block, so that a number of chairs could be stacked one on top of the other, or reappropriated by children to construct forts or dens. Produced in either gleaming red, yellow, blue or white plastic, the *Model No. 4999* chair was a radical departure from existing children's seating, typically little more than miniaturised versions of adult-sized chairs. By contrast, Zanuso and Sapper's innovative design was a colourful plaything that invited interaction and imaginative exploration. Weighing just 2.24 kg, the *Model No. 4999* chair could also be scrubbed clean, and its inherent water resistance made it ideal for outdoor use. As a Kartell advertisement emblazoned with child's writing noted, it is 'a beautiful chair that is good for us'. An accomplished, child-centred product, it chimed with Sapper's humanistic design agenda, marked by his desire to make emotional connections and to 'give form meaning'. Its pioneering use of plastics, which shifted from polyethylene to polypropylene in 1975, was consistent with Zanuso's lifelong creativity with materials, and his extraordinary skill in forming them into stylish and groundbreaking objects that were functionally innovative and aesthetically refined.

# **iMac**
computer, 1998

Designer: **Jonathan Ive** (British, 1967–) and the **Apple Design Team** (American)
Materials: polycarbonate (PC), other materials
Manufacturer: Apple, Inc., Cupertino (CA), USA
Measurements: 38.1 cm high, 38.1 cm wide, 43.2 cm deep

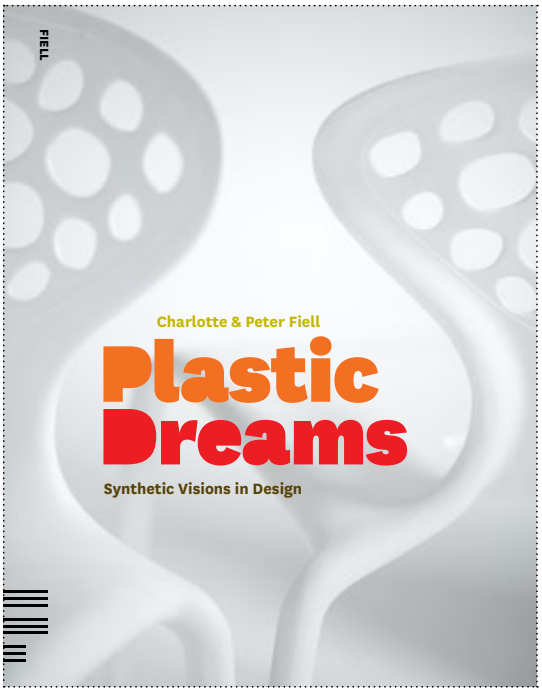
At the launch of the first *iMac* in 1998, Steve Jobs, the co-founder of Apple, enthusiastically introduced this revolutionary computer as follows: 'the whole thing is translucent, you can see into it, it is so cool, we've got stereo speakers on the front, we've infrared right up here… we've got the coolest mouse on the planet… around the back we've got a really great handle here, the back of this thing looks better than the fronts of the other guys… this is incredible compared to anything else out there, it looks like it's from another planet, a good planet, a planet with better designers.' For once, it was a product that lived up to and beyond the marketing hype, and Jobs was correct that the *iMac* marked an absolute paradigm shift in computer design, with its seductive, unified gumdrop form. Before the *iMac*, computer housings were box-like in form, and were made of ABS in either matt beige or pale grey, both of which were visually boring and often became grubby after only just a few months of use. In contrast, the sleek yet friendly *iMac*, with its bright, two-tone colour combination of gleaming opaque and translucent polycarbonate, had a visual freshness that massively differentiated itself from the stale aesthetic of virtually all other personal computers. The success of the *iMac* not only dramatically rescued the declining fortunes of Apple, but heralded the departure of the computer industry as a whole from the prevailing aesthetic of the dull, lifeless box. The design's impact was such that it also influenced a host of other products. For instance, Artemide even manufactured *iMac*-inspired task lights, produced in brightly-coloured translucent polycarbonate – a thermoplastic material that also offered excellent durability along with its vibrantly glossy surface. Above all, the *iMac* showed that if manufacturers spent a little more on design and development, and maybe a fraction more on materials and manufacturing, then they could create a premium product with an emotive quality that not only captured people's imaginations, but also the money in their pockets. By using plastics in an intelligent and thoughtful way, Jonathan Ive and the Apple Design Team eloquently illustrated that office equipment made of synthetic materials could be beautiful as well as logical. Crucially for Apple, once the emotional connection had been forged between an *iMac* and its user, the latter was far more likely to buy other Apple products too, thereby demonstrating that pioneering design and carefully selected materials have the power to transform a company's fortunes.

**Apple Inc. publicity photograph for the first *iMac* computer, 1998 – showing the various colour options available**

# Melissa + Zaha Hadid
shoes, 2008

Designers: **Zaha Hadid** (Iraqi/British, 1950–) and **Patrik Schumacher** (German, 1961–)
Materials: polyvinyl chloride (PVC)
Manufacturer: Melissa, Farroupilha, Brazil
Measurements: various sizes

Zaha Hadid's shoes, designed for the Brazilian company Melissa, powerfully demonstrate the extraordinary ability of polymeric compounds to generate abstract organic forms. In fact, the term plastic derives from the Greek word *plastikos*, which means to mould or shape, and certainly these materials are unrivalled for the moulding of complex forms. An internationally renowned architect known for her use of multifaceted and flowing shapes, Hadid's extraordinary shoes, with their soft, rounded forms and strategically placed cutouts, were inspired by the fluid movements of the human body. As she explains, 'The fluidity of our design combined perfectly with the plastic technology used by Melissa, injecting pieces without closures or seals', while the use of asymmetry gave, 'an inherent sense of movement to the design, evoking continuous transformations.' A technically challenging project for both designer and manufacturer, the resulting products are perfect expressions of Hadid's dynamic and daring approach to design and architecture. This project for Melissa allowed Hadid to move into a completely new area of design, and she clearly relished the opportunity to work on a different scale, within different functional parameters and with different materials. The latter, in this case, involved injection-moulded Melflex™ – a patented non-toxic, hypoallergenic and recyclable PVC specially developed by Melissa – which is soft enough to be comfortably supple, yet sufficiently rigid to provide the necessary support. The resulting limited-edition shoes, with their generous openings and sloping straps, are highly sculptural as well as versatile, practical and comfortable. Beyond this, though, the shoes are true objects of desire – spectacular designs in plastic that fully exploit the form-giving potential of the medium and which, to all intents and purposes, can be seen as wearable pieces of avant-garde architecture.




**Target audience:**
Design-conscious consumers
Collectors of vintage objects
Dealers of design artifacts
Industrial Designers
Design students & design teaching institutions
Anyone in the plastics industry
Material scientists

# Plastic Dreams: Synthetic Visions in Design

Charlotte & Peter Fiell

Flexi-cover with flaps
Format: 27 × 21 cm (10 ⅝ × 8 ¼ in.)
288 pages, 400 illustrations
Recommended Retail Price:
£24.95 | €29.95 | $45.95
Single Language text
English edition – ISBN 978-1-906863-08-1
French edition – ISBN 978-1-906863-14-2
German edition – ISBN 978-1-906863-15-9

**April 2010**

**About the authors**
Charlotte and Peter Fiell are leading authorities on 20th and 21st century design and have written and edited over 30 internationally bestselling books on the subject. They have just founded their own design-led publishing company, FIELL, to publish their own books as well as other titles by other specialist authors.

## An essential guide to the material world

This book traces the development of plastics through a wide range of product types, while highlighting the extraordinary form-giving potential of these wondrous materials. *Plastic Dreams* is an essential guide to material culture and a must-have publication for all lovers of plastic and design aficionados.

## Plastic fantastic

*Plastic Dreams* is a lavishly illustrated reference work that raises the aesthetic perception of plastics and celebrates their nobility as materials by bringing together an exquisite and highly curated survey of landmark product designs in plastics, from Bakelite in the 1920s to the latest techno-polymers today.

## The future's plastic

*Plastic Dreams* features over 120 landmark designs, from Wells Coates' iconic AD 65 radio to Konstanin Grcic's MYTO stacking chair, that reveal a breathtaking profusion of colours and forms as well as inventive imaginations fuelled by utopian aspirations. The accompanying introductory essay also traces the fascinating history of plastics and assesses their crucial and influential role in industrial design, while the extensive glossary of materials and processes will help sort out your Jaxonite and Xylonite from your Polyethylene and ABS.

## Comes with a specially designed slipcase by Edson Matsuo of Melissa