

Design Principle

Product Design Values & Principles of “Good” Design

Product Design and Consumer Response

- The most developed area of product design research examines the intersection of product design and consumer behavior
- Design influences consumer behavior in:
 - **Utilitarian value** - aka “rational,” “functional,” “practical”
 - **Ergonomic value** - aka “kinesthetic value” (ease of use)
 - **Emotional / Aesthetic value** (or “hedonic value”)
 - **Symbolic value** (aka “semiotic” value)

Product Design - Utilitarian Value

- **Utilitarian Value – Definition** - The utilitarian (aka “rational,” “functional,” “practical”) aspects of product design regard the characteristics of the design that ***solves consumption needs*** and ***related problems***
- Product design (e.g. form factor) can signal the functional benefits and quality of the product
- *Examples*
 - A handle may indicate to the consumer that the product is portable
 - hairdryer’s large size may suggest that it has more power than a smaller one



Dyson Cinetic Big Ball

The large turbine communicates its sucking power to effectively and efficiently get the job done.

Product Design - Ergonomic value

- **Ergonomic Value – Definition** - (aka “kinesthetic value”) is related to the utilitarian dimension.
- Where the utilitarian dimension is focused on functional benefits, ergonomics is about how the product design facilitates ease of use and comfort.
- Ergonomics convey kinesthetic experiences, which are physical interactions and experiences with an object. Kinesthesia often enhances consumer involvement and helps consumers evoke imaginary experiences, which positively influence consumer attitudes



Dyson Cinetic Big Ball

The vacuum's wand handle enables the user to clean hard-to-reach places, and the disposal bin allows the user to easily dispose of dust without making contact with it.

Product Design - Emotional/Aesthetic Value

- **Emotional/aesthetic value – Definition** - (or “hedonic value”) rests on the idea that the visual appearance of the product generates emotions within consumers
- Product design has hedonic components that can enhance consumer attitudes toward products
- Product design can also generate affective experiences beyond the visual domain, including olfactory or haptic experiences
- Consumers may find the Dyson Cinetic’s atypical form factor a source of pleasure, which leads them to purchase it.



Dyson Product Line

Consumers may find the Dyson's products atypical form factor a source of pleasure, which leads them to purchase it.

Product Design - Symbolic value

- **Symbolic value** (aka “semiotic” value) refers to “the message a product communicates to others regarding consumers’ self image on visual elements”
- Products and brands carry meanings and that consumers use these meanings to enhance their own image and augment their identity work

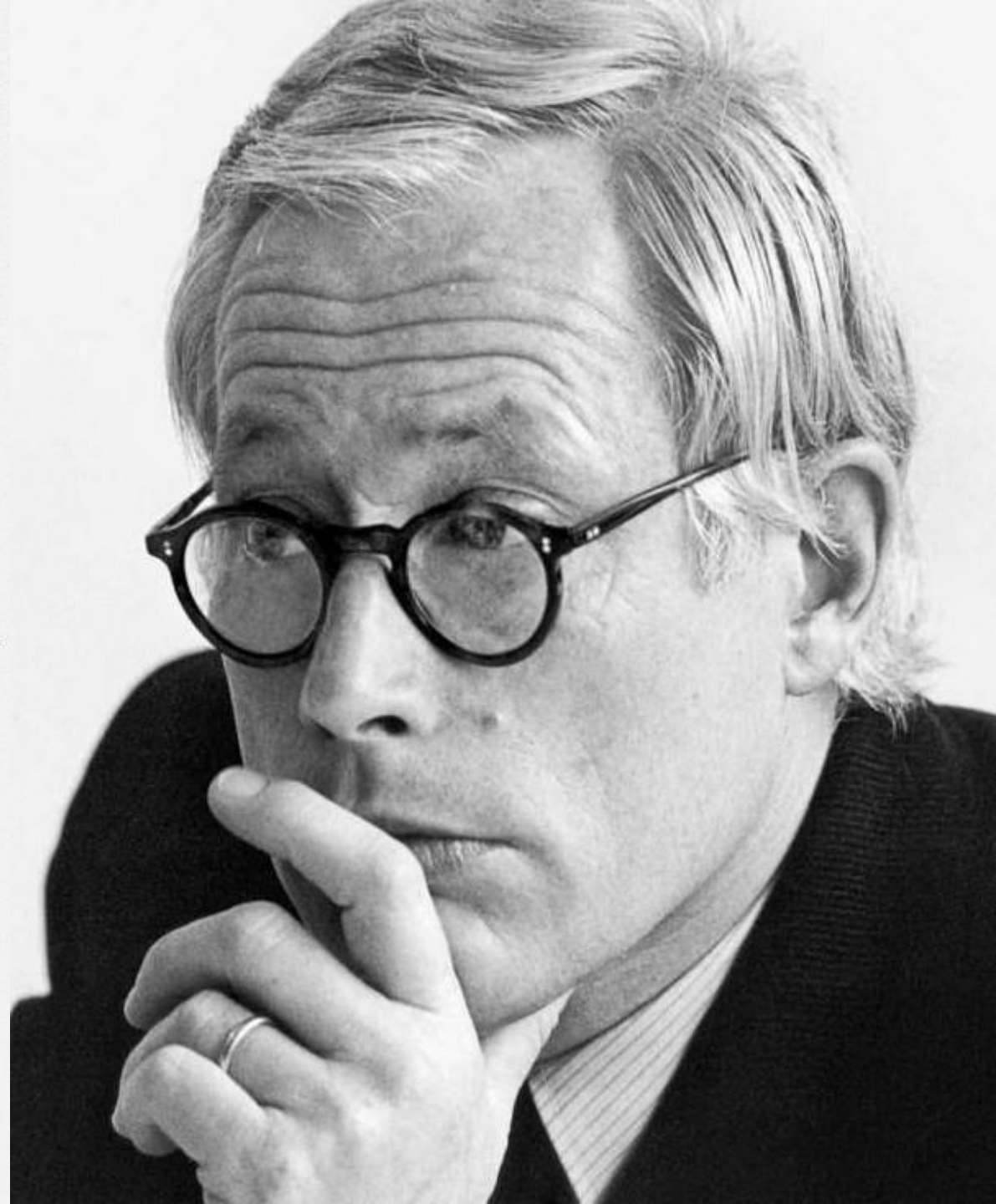


Ferrari / Subaru

Products and brands carry meanings and that consumers use these meanings to enhance their own image and augment their identity work

Minimalist Icon

Dieter Rams



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Good Design is Innovative

The possibilities for innovation are not, by any means, exhausted. Technological development is always offering new opportunities for innovative design. But innovative design always develops in tandem with innovative technology, and can never be an end in itself.



TP 1 radio/phono combination, 1959,
by Dieter Rams for Braun

Innovation

Examples

Plato Cave Allegory



[YouTube - Plato's Allegory of the Cave](#)

IPHONE: 1 TO X

A look at the evolution of the Apple gadget across key specs

WEIGHT (in gm)



135

iPhone 1



133

iPhone 3G



135

iPhone 3GS



137

iPhone 4



140

iPhone 4s



112

iPhone 5



132

iPhone 5C



112

iPhone 5S



129

iPhone 6



172

iPhone 6 Plus



143

iPhone 6S



192

iPhone 6S Plus



113

iPhone SE



138

iPhone 7



188

iPhone 7 Plus



148

iPhone 8



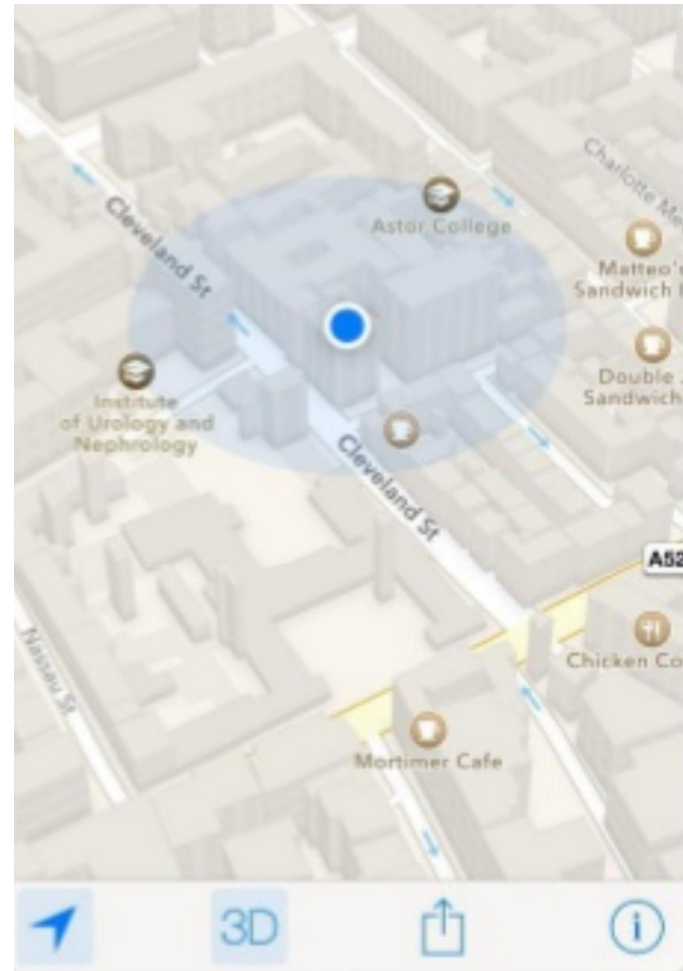
188

iPhone 8 Plus



174

iPhone X



2

Good design makes a product useful

A product is bought to be used. It has to satisfy certain criteria, not only functional, but also psychological and aesthetic. Good design emphasizes the usefulness of a product whilst disregarding anything that could possibly detract from it.



MPZ 21 multipress citrus juicer, 1972,
by Dieter Rams and
Jürgen Greubel for Braun

Usefulness

Examples





MacBook



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Good design is aesthetic

The aesthetic quality of a product is integral to its usefulness because products we use every day affect our person and our well-being. But only well-executed objects can be beautiful.



RT 20 tischsuper radio, 1961,
by Dieter Rams for Braun

Esthetics

Examples



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Good Design is understandable

It clarifies the product's structure. Better still, it can make the product talk. At best, it is self-explanatory.



T 1000 world receiver, 1963,
by Dieter Rams for Braun

Understandable

Examples





BASIC

Guide to Oper

Installation and Set
Personal Computer AT

Installation and Setup
Personal Computer AT

Guide to Operations

Guide to Operations
Personal Computer AT

Guide to Operations
Personal Computer AT

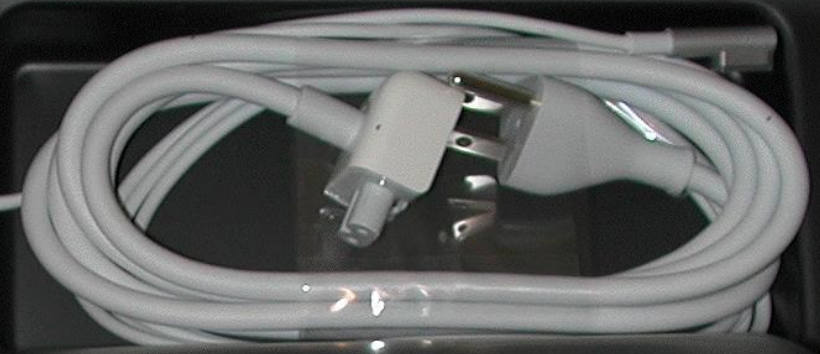
Guide to Operations
Personal Computer AT

IBM

IBM

IBM

IBM



Everything Mac

Everything else

5

Good Design is unobtrusive

Products fulfilling a purpose are like tools. They are neither decorative objects nor works of art. Their design should therefore be both neutral and restrained, to leave room for the user's self-expression.



Cylindric T 2 lighter, 1968,
by Dieter Rams for Braun

Unobstractive

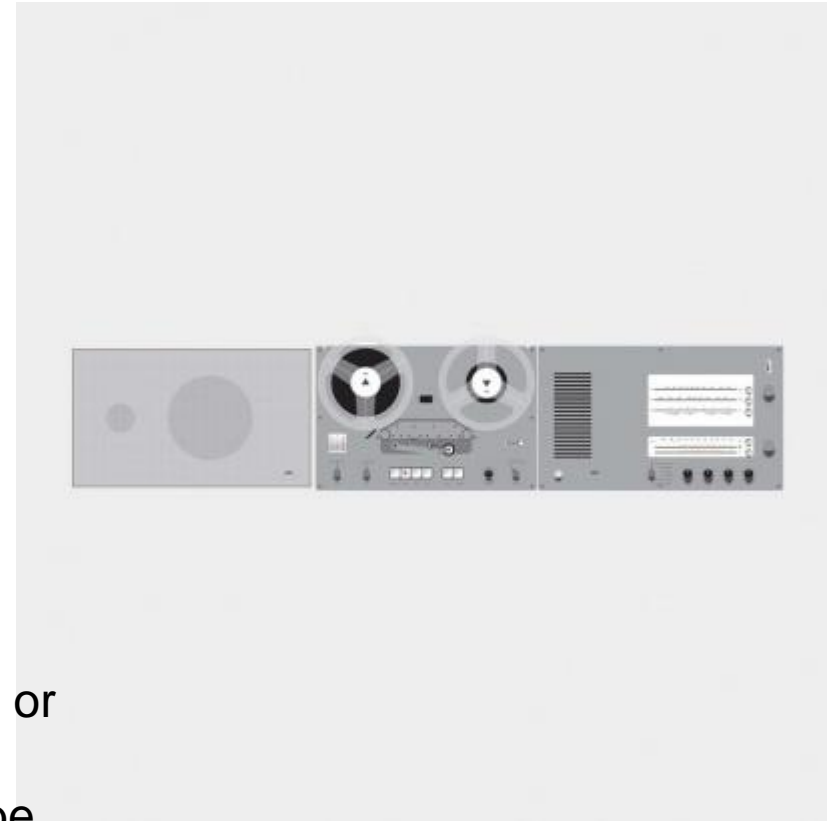
Examples



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Good Design is honest

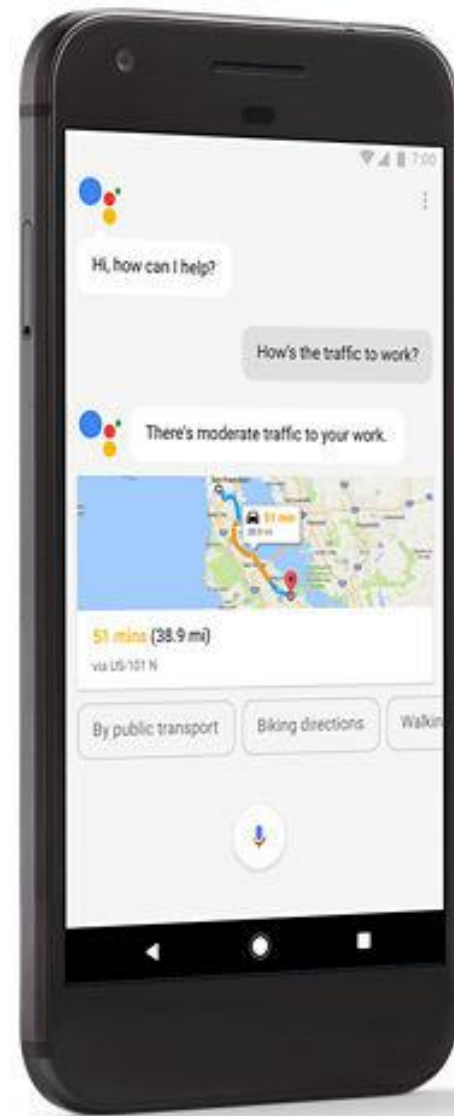
It does not make a product more innovative, powerful or valuable than it really is. It does not attempt to manipulate the consumer with promises that cannot be kept.



L 450 flat loudspeaker,
TG 60 reel-to-reel tape recorder and
TS 45 control unit,
1962-64,
by Dieter Rams for Braun

Honest

Examples



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Good Design is long-lasting

It avoids being fashionable and therefore never appears antiquated. Unlike fashionable design, it lasts many years – even in today's throwaway society.



620 Chair Program, 1962,
by Dieter Rams for Vitsœ

Long Lasting

Examples

iSeeCars Cars Most Likely to Reach 200,000 Miles by Make		
Rank	Model	% of Cars Over 200k Miles
1	Toyota	1.7%
2	Honda	1.5%
3	GMC	1.4%
4	Chevrolet	1.2%
5	Ram	1.1%
6	Ford	1.0%
Average for All Models		0.8%
7	Acura	0.6%
8	Subaru	0.6%
9	Dodge	0.6%
10	Cadillac	0.5%
11	Volvo	0.5%
12	Jeep	0.5%
13	Chrysler	0.5%
14	Nissan	0.5%
15	Lincoln	0.4%

iSeeCars Longest-Lasting Cars to Reach 200k Miles		
Rank	Model	% of Cars Over 200k Miles
1	Toyota Sequoia	7.4%
2	Chevrolet Suburban	5.0%
3	Ford Expedition	5.0%
4	GMC Yukon XL	4.0%
5	Toyota 4Runner	3.9%
6	Chevrolet Tahoe	3.8%
7	Toyota Highlander Hybrid	3.1%
8	Honda Ridgeline	3.0%
9	GMC Yukon	2.8%
10	Toyota Tacoma	2.6%
11	Toyota Tundra	2.6%
12	Toyota Avalon	2.5%
13	Honda Odyssey	2.5%
14	Lincoln Navigator	2.2%
Average for All Models		0.8%

<https://www.iseecars.com/longest-lasting-cars-study>



Toyota Sequoia

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Good Design is thorough down to the last detail

Nothing must be arbitrary or left to chance. Care and accuracy in the design process show respect towards the user



ET 66 calculator, 1987,
by Dietrich Lubs for Braun

Thorough

Examples



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Good Design is Environmentally friendly

Design makes an important contribution to the preservation of the environment. It conserves resources and minimizes physical and visual pollution throughout the lifecycle of the product.



606 Universal Shelving System, 1960,
by Dieter Rams for Vitsœ

Environmentally Friendly

Examples







Plastic garbage patches around the world

Circular ocean currents (gyres) collect floating plastic rubbish and microplastics

North Pacific
"Great Pacific
Garbage Patch"

80
thousand tonnes
of ocean plastic

In thousand tonnes

are floating
inside
an area of

1.6 million km²
the size of Iran
or Mongolia

North Atlantic
51.3

gyre

Microplastics



8%
of total mass

About 80% of ocean plastics
come from land-based sources

5 cm

75%
larger than 5 cm

11.6
South Atlantic

19.1
South Pacific

53.6
Indian Ocean

HOW BIG OF A PROBLEM IS PLASTIC POLLUTION?

17 PERCENT OF OCEAN PLASTIC ENDS UP ON BEACHES

17 PERCENT OF OCEAN PLASTIC ENDS UP FLOATING ON OR JUST BELOW THE SURFACE

66 PERCENT OF OCEAN PLASTIC ENDS UP ON THE SEAFLOOR

PLASTIC MAKES UP
80
PERCENT
OF LITTER FOUND IN
THE OCEANS TODAY

15 MILLION METRIC TONS
ESTIMATED AMOUNT OF
PLASTIC ENTERING THE
WORLD'S OCEANS
EACH YEAR

BY WEIGHT, THAT'S EQUIVALENT TO
DUMPING MORE THAN
10 MILLION MIDSIZE CARS
INTO THE OCEAN ANNUALLY



40 PERCENT
INCREASE
IN THE NUMBER OF MARINE SPECIES
HARMED BY PLASTICS BETWEEN
1997 AND 2012

\$75
BILLION

NATURAL CAPITAL COSTS OF
PLASTIC USED ACROSS THE
GLOBAL CONSUMER GOODS
INDUSTRY
ONE-THIRD
OF THIS COST IS ASSOCIATED
WITH PLASTIC PRODUCTION

\$13
BILLION

DAMAGE TO GLOBAL MARINE
ECOSYSTEMS ANNUALLY,
INCLUDING FINANCIAL LOSSES
SUCH AS THOSE INCURRED BY
FISHERIES AND LOST TOURISM



1

Good Design is as little design as possible

Less, but better – because it concentrates on the essential aspects, and the products are not burdened with non-essentials.

0



L 2 speaker, 1958,
by Dieter Rams for Braun

Minimalism

Examples



References

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- Videos