Human Centred Design

Prof. Joseph Giacomin

March 7th 2012
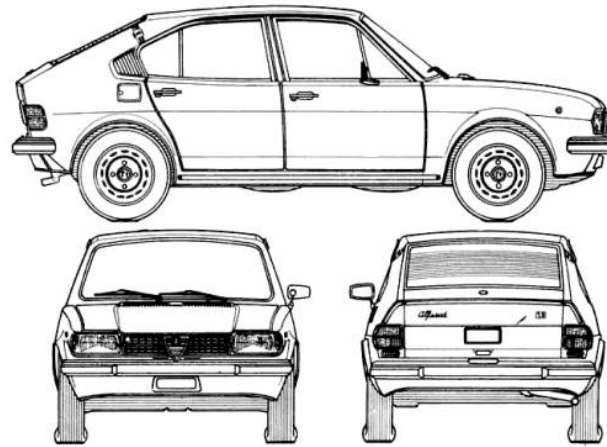
First Some Generalisations and Stereotypes about Designers

The Artist Designer

...applying knowledge of aesthetics, materials, mechanics and perception to achieve pleasant and enjoyable objects.

Ron Arad

Nikon EM 1979

Giorgetto Giugiaro

Philippe Starck

The Engineering Designer

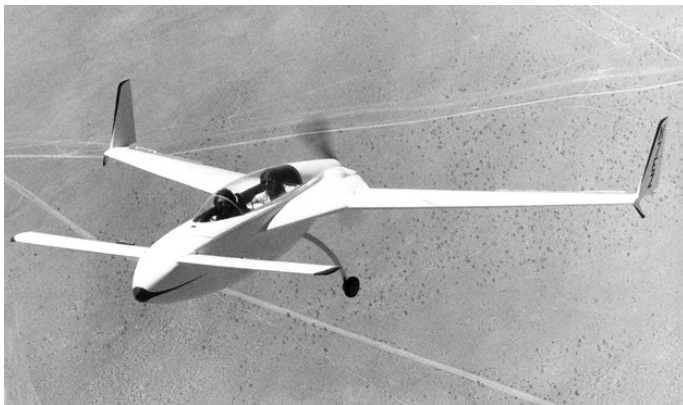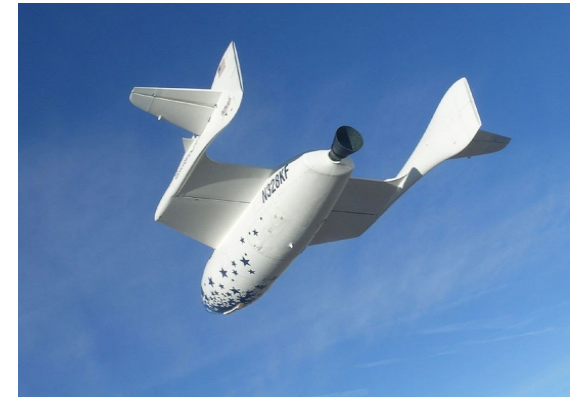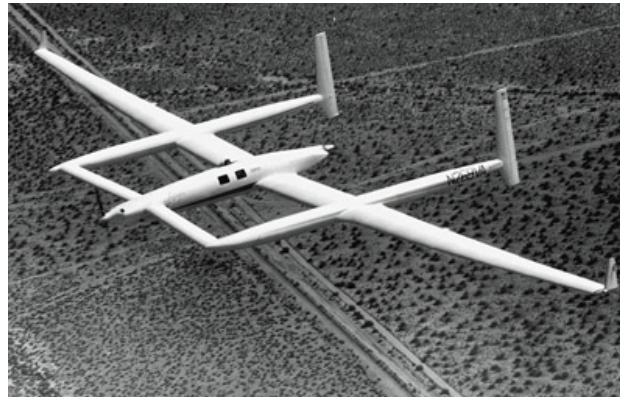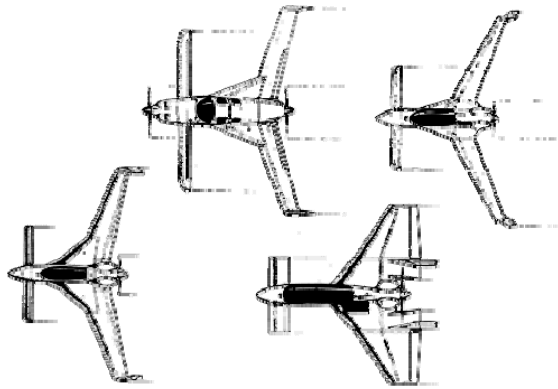...applying scientific and technical knowledge to achieve functional, efficient and affordable products.

the ball dyson

James Dyson

Andrian Newey

Burt Rutan

Human Centred Designer

A relatively transparent figure who does not impose preferences on a project, but, instead, conveys and translates the will of the people in order to empower them through the final design solution.

Human centred design involves techniques which communicate, interact, empathise and stimulate the people involved, obtaining an understanding of their needs, desires and experiences which often transcends that which the people themselves actually knew and realised.
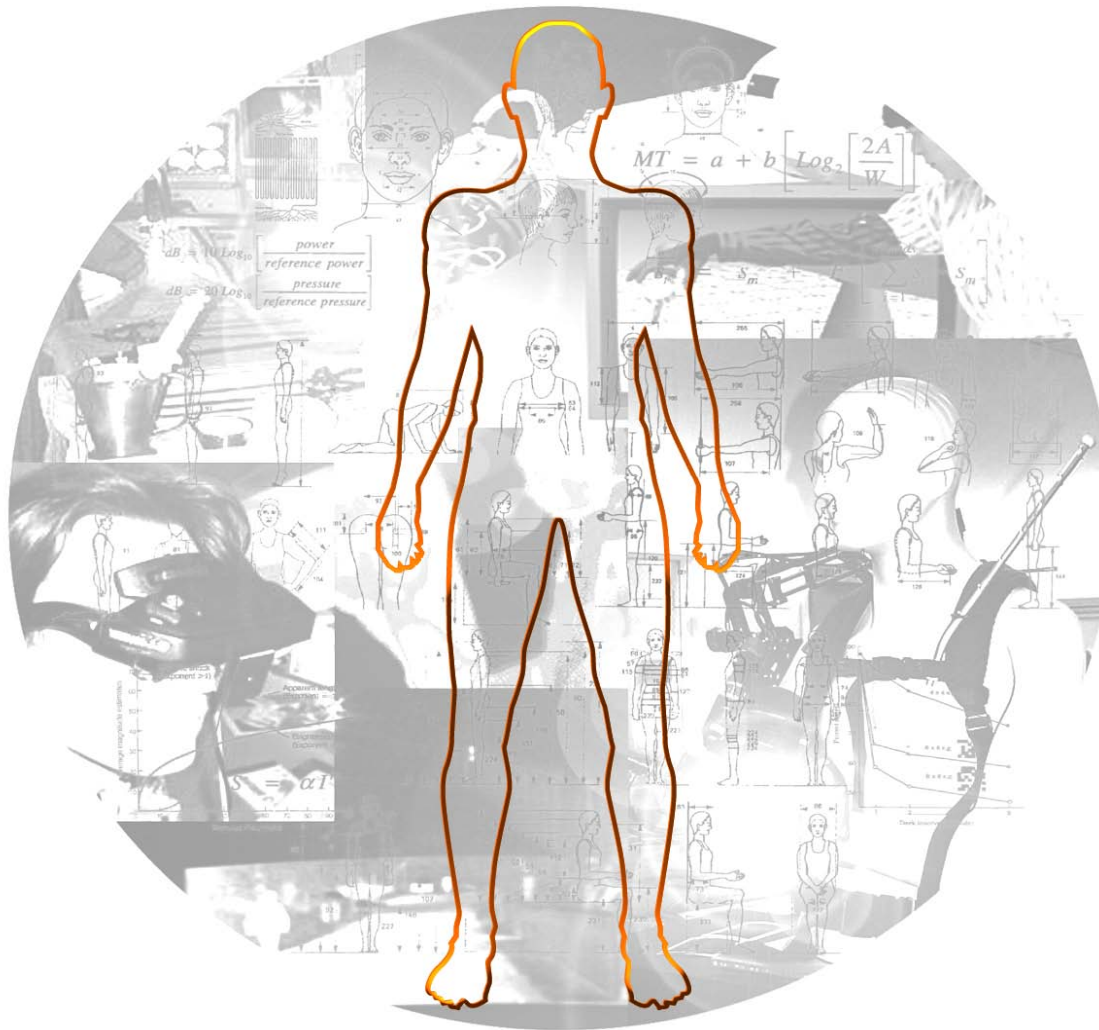
Some Human Centred Design Tools...

Ethnographic interviews
Questionnaires

Day-in-the-life analysis
Customer Shadowing
Fly-on-the-wall observation

Activity analysis
Error analysis
Cognitive task analysis

The five whys
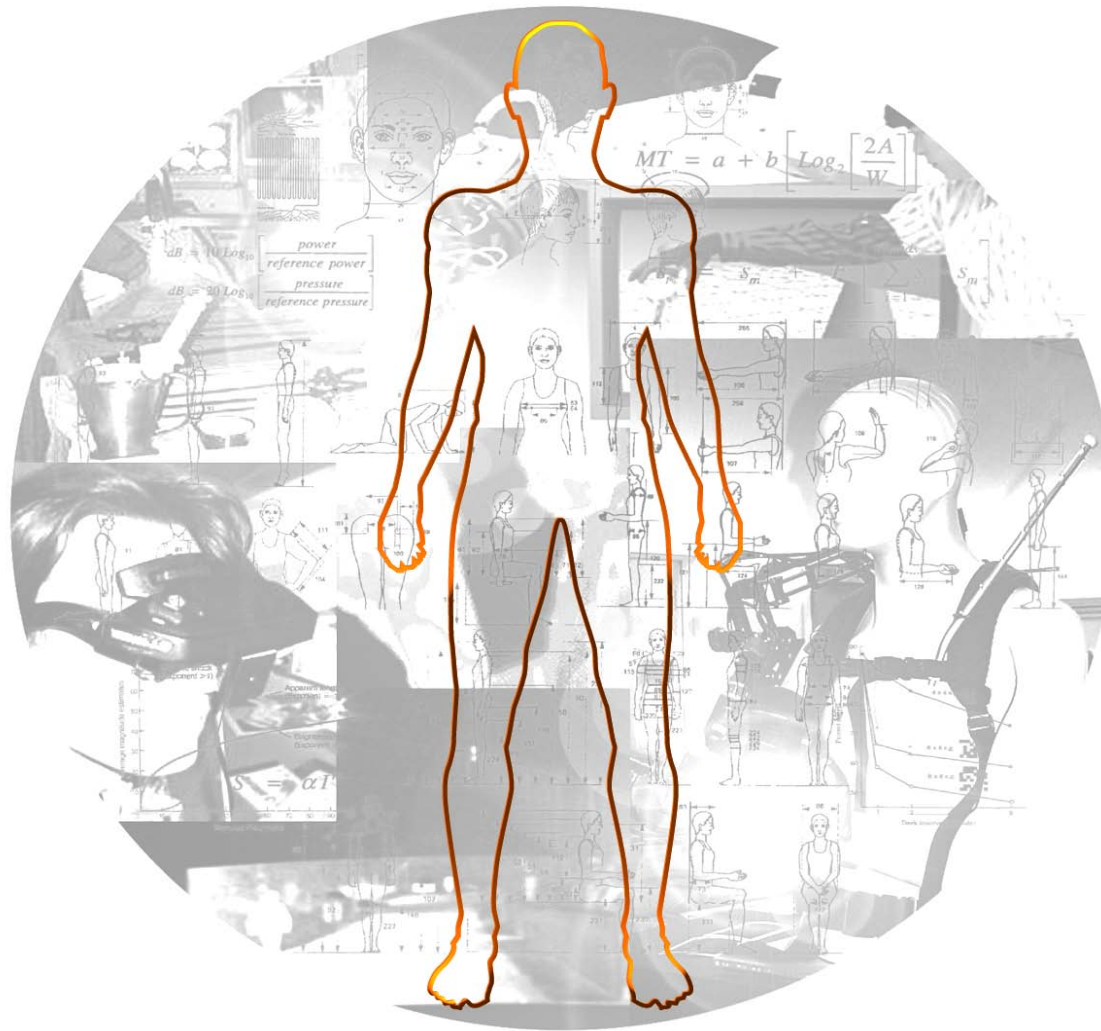Conceptual landscape

Narration
Visual journals
Cultural Probes

Be your customer
Customer journey

Personas
Scenarios

Extreme Users
Focus groups
Co-design

Human Centred Design

Combines branding, computer science, engineering, ergonomics, management, philosophy and psychology to design products, systems and services which are physically, perceptually, cognitively and emotionally intuitive.

Physically Intuitive

Sam Weller

Cosy All The Time

An energy-efficient heater built into a sealed pocket within a blanket, which is recharged by placing it over a clothes horse induction unit.
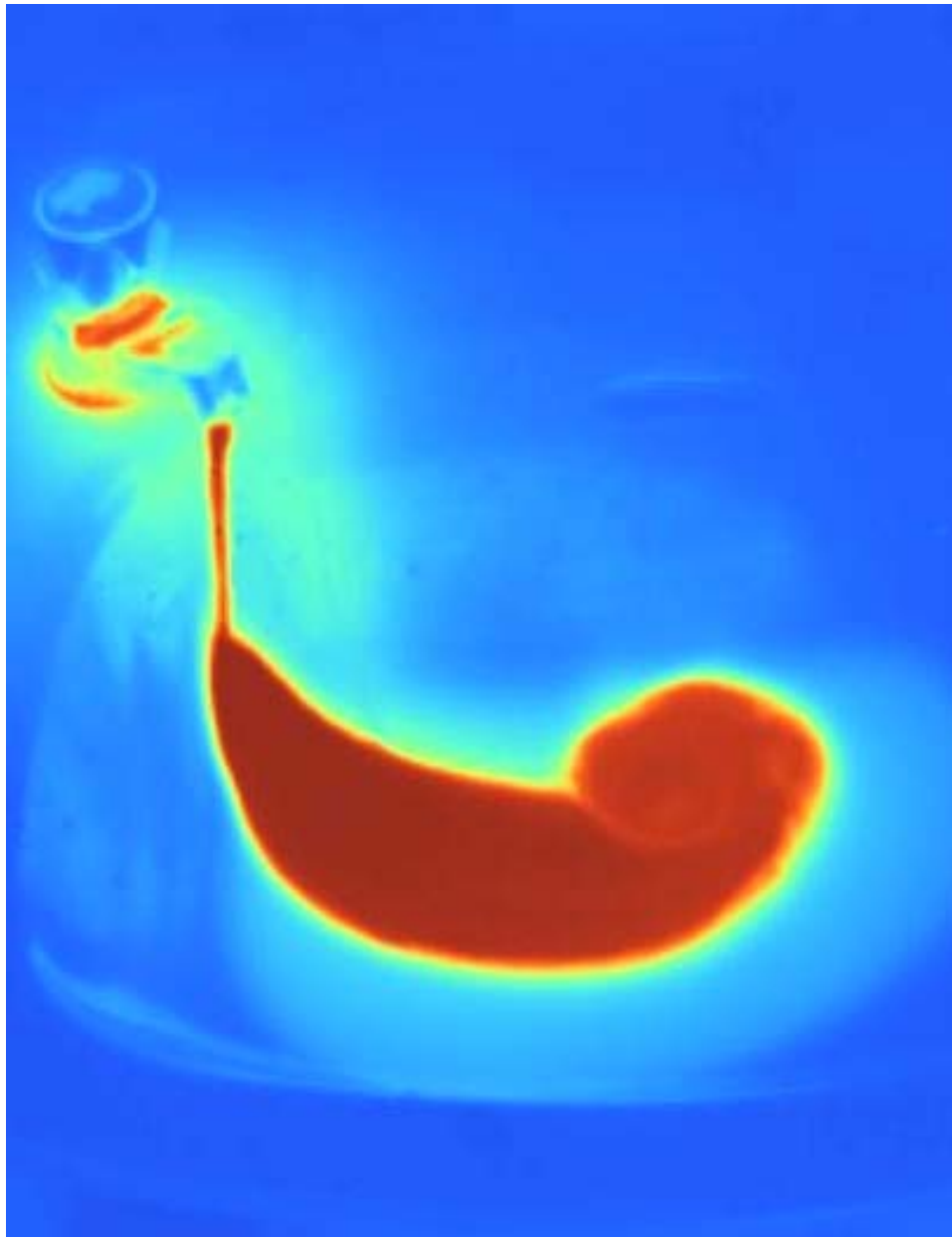
Perceptually Intuitive

Joseph Giacomin

Energy Sixth Sense

Thermal imagining display in home thermostat to help "see" the energy usage.

Cognitively Intuitive

Oliver Wooderson

Bathe Safe

Functional bath temperature monitor for helping to avoid the dangers of scalding.

Emotionally Intuitive

Tim Holley

Tio

Light switch which encourages children to reduce energy usage by becoming more expressively irritable the longer the lights are left on.

Sources of the Generalisations

The three generalisations strongly resemble the three-layered model of meaning proposed by the well known psychologist Mihaly Csikszentmihalyi.

Meaning is construction built up from dialogues with one's inner self (superego), with the external world (cosmos) and with other people (social).

Now Some Observations about Recent Business Trends

1994

1990

1985

ALESSI

amazon.com®

2001

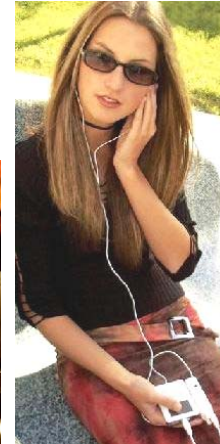**The business development was guided by the physical, perceptual, cognitive and emotional characteristics of people …**

The Three Design Paradigms

Technology Driven Design

Human Centred Design
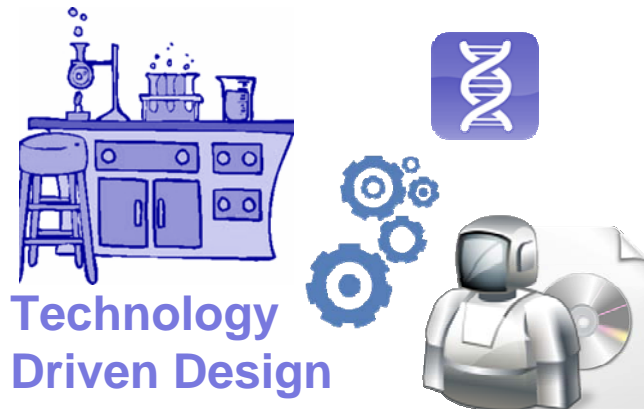
Environmentally Sustainable Design
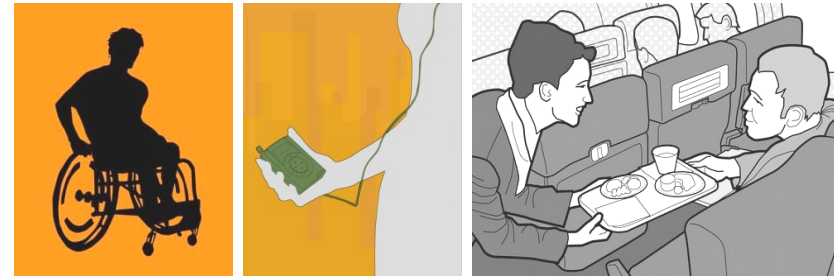
Why Human Centred Design ?

Eric Von Hippel of the MIT Business School has noted that "70% to 80% of new product development that fails does so not for lack of advanced technology, but because of a failure to understand users' needs."

Von Hippel, E. 2007, An emerging hotbed of user-centered innovation, Breakthrough ideas for 2007, Harvard Business Review, Article R0702A, February.

Why Human Centred Design ?

The importance of customer experience is clear from the economic performance of companies ranked using the Customer Experience Index.

Companies achieving high levels of customer experience (e.g. those in the index's top quartile) enjoy revenue gains of up to €70 million while companies characterised by low levels of customer experience suffer losses of up to €110 million.

Temkin, B.D., Manning, H., Melnikova, O. and Geller, S. 2008, The Business Impact of Customer Experience, Forrester Research.

Why Human Centred Design ?

21st century design is characterised by approaches such as user centred design, design for product experience, design for customer experience, design for emotion, emotionally durable design, design for pleasure, sensory branding and neurobranding which have been made possible by the recent dramatic expansion of our understanding of the human mind.

Chapman, J. (2005), Emotionally Durable Design: Objects, Experiences and Empathy, Earthscan Publishers, London.

Du Plessis, E. (2011) The Branded Mind: What Neuroscience Really Tells Us About the Puzzle of the Brain and the Brand, Kogan Page Publishers, London.

Jordan, P.W. (2000), Designing Pleasurable Products: An Introduction to the New Human Factors, Taylor & Francis, London.

Lindstrom, M. (2005), Branding cluster sheet: Brand Sense: How to Build Powerful Brands Through Touch, Taste, Smell, Sight and Sound, Kogan Page Publishers, London.

Mulder, S. and Yaar, Z. (2006), The User is Always Right: A Practical Guide to Creating and Using Personas for the Web, New Riders Publishers, Berkeley, California.

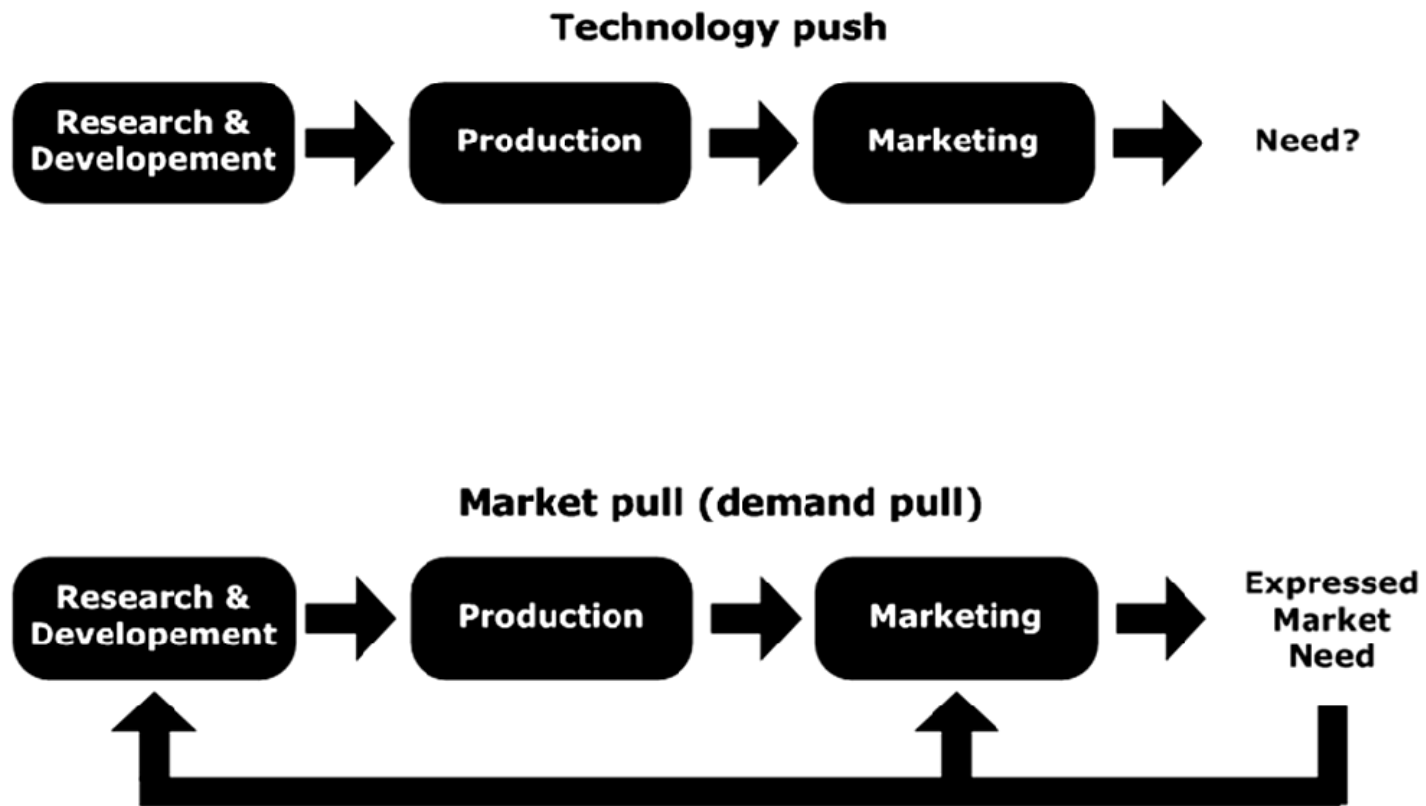Norman, D. A. (2005), Emotional Design: Why We Love (or Hate) Everyday Things, Basic Books, New York, New York.

Shaw, C. and Ivens, J. (eds) 2002, Building Great Customer Experiences, Palgrave.

Schifferstein, H.N.J. and Hekkert, P. (2007) Product Experience, Elsevier Science, San Diego, CA.

And Now Some Soul Searching Regarding Business Practice

Does Human Centred Design Require
a Change of Business Strategy ?

Technology push

Research & Developement ➡ **Production** ➡ **Marketing** ➡ Need?

Market pull (demand pull)

**Research & Developement** ➡ **Production** ➡ **Marketing** ➡ Expressed Market Need

Probably. Human centred design is a complex form of market-pull business strategy, which involves the business proposing innovative new concepts to the market and then responding quickly to the feedback.

Does Human Centred Design Require Greater Communication Within The Business ?

Yes. This is so important that designers like Gray, Brown and Macanufo have assembled tools to help to break down barriers, generate ideas and develop new strategies.

Group and game activities based on visual techniques, customer role-playing and user experience capture can be deployed across the business.
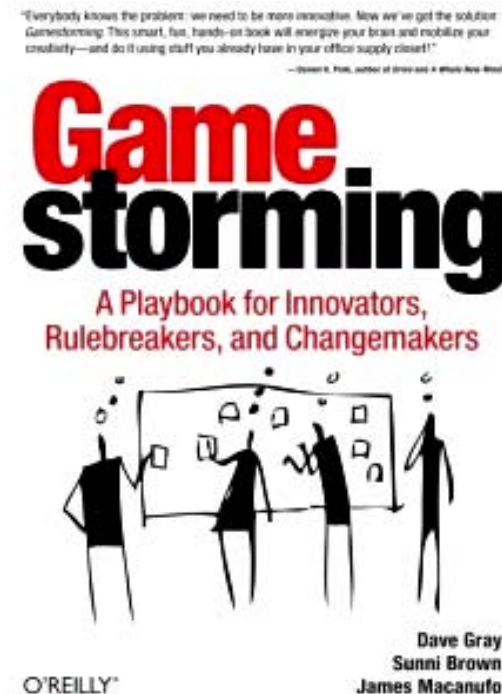
Does Human Centred Design Require Greater Interaction with The Customers ?

Yes. Eric Von Hippel suggests that products, systems and services are shaped by "lead users" who are ahead of the marketplace trends. He argues that businesses should redesign their processes so as to co-develop and co-design with customers at all stages.

Customers express their ideas, form innovation communities and sometimes even develop the new product, system or service themselves. Examples include the open source software movement and several recent products for the home.

Democratizing
Innovation

ERIC VON HIPPEL
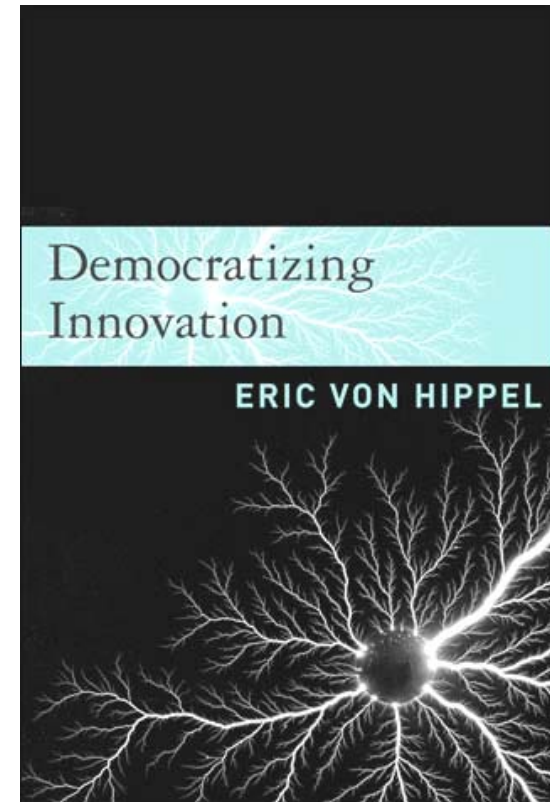
Does Human Centred Design Require Better Communication of the Vision ?

Yes. Anthony Dunne refers to "para-functionality", "conceptual design" and "real fiction" to describe ways of focussing on the interaction between the portrayed reality of an alternative design scenario and the everyday reality of people's lives.

Dunne suggests that a range of physical and virtual prototypes including acting and film can be used as "props" for people to act out experiences with, and critiques of, new meanings and lifestyles.

Yes. Roberto Verganti suggests that innovation does not occur from within the existing market, but instead from a vision about possible new meanings which customers did not ask for, but which they fall in love with once experienced.

Verganti suggests that innovation requires getting close to "interpreters", those individuals who share the vision, deeply understand it, and shape the market.

Does Human Centred Design Involve Ethical Challenges ?

Yes, many...

Not least of which deciding how much of "us" to put into the product, system or service...

Putting a little bit of us into our tools.

A clever flower pot can help to care for our floral friends.

Putting a little bit of us into our tools.

Assisted navigation takes the strain of reading the map.

THIS PATIENT HAS TYPE 2 DIABETES. DIAL 999 AND...

NAME: MR A N OTHER
CONDITION: TYPE 2 DIABETES
IN AN EMERGENCY DIAL 999 AND ASK FOR ASSISTANCE

Putting a little bit of us into our tools.

Medical devices can inform or even diagnose.

Putting a little bit of us into our tools.

ASIMO can assist with many workplace tasks.

Putting a little bit of us into our tools.

Robots work with children.

Thank you.