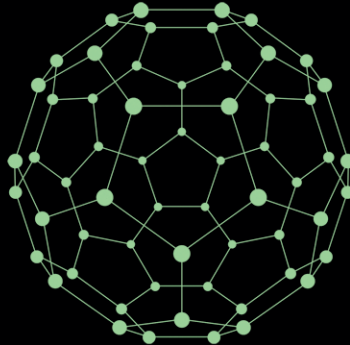


MIKE STEAD - ANTICIPATION CONFERENCE 2015

SPIMES AND SPECULATIVE DESIGN: SUSTAINABLE PRODUCT FUTURES TODAY



M.STEAD1@LANCASTER.AC.UK

COMMERCIAL PRODUCT DESIGN BACKGROUND



SIGG⁺
DEEP HYDRATION



RUN!



REHYDRATE!

A black and silver SIGG water bottle is shown next to a pair of red and black athletic shoes. Two inset images show a hand holding the bottle and a person drinking from it, with blue banners reading 'RUN!' and 'REHYDRATE!'.

THE **Deco Echo**[™]
BY **Tivoli Audio**



A brown, rectangular speaker with a gold-colored circular grille and a digital display showing '20:02'. The display also shows 'SIC & PUSC - LOUIS CHABLES' and '1974 - LOUIS BOUTY (BY SLO AND PI)'. The Tivoli Audio logo is visible at the bottom right.



balance
your
living
space
with

equilibrium

multi-
purpose
shelving
from



MAGIS

A collection of modular shelving units in white and green, arranged in various configurations. A purple lamp and decorative objects are placed on the shelves.



energy saving ergonomic plugs

standby indicator

personal & collective energy monitoring



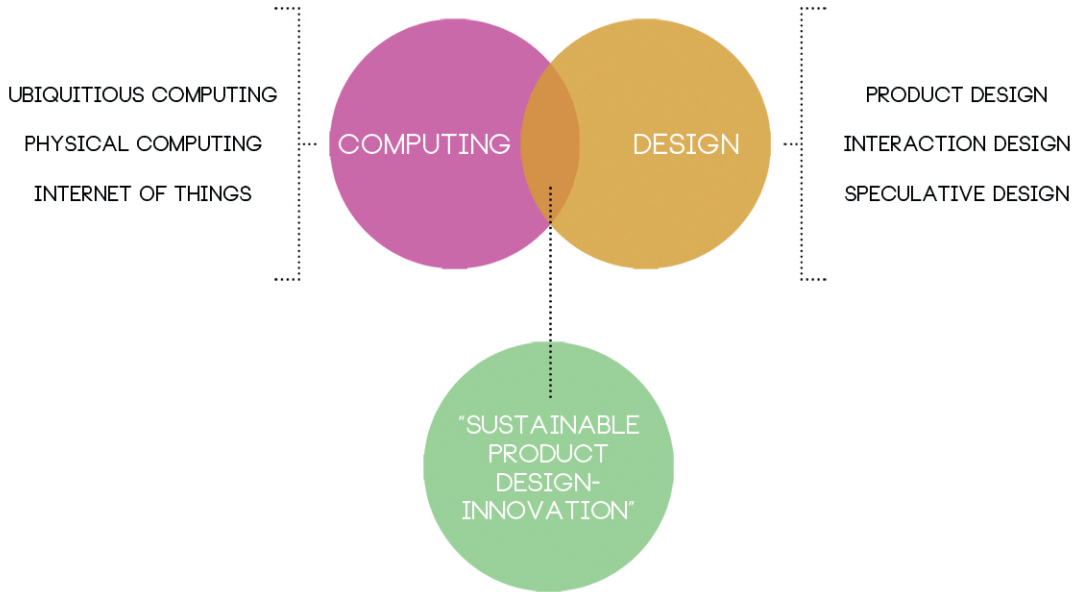
EDF
ENERGY

project
green house
2020

A green arrow pointing upwards contains images of energy-saving plugs and a standby indicator. To the right is the EDF Energy logo and the text 'project green house 2020'.



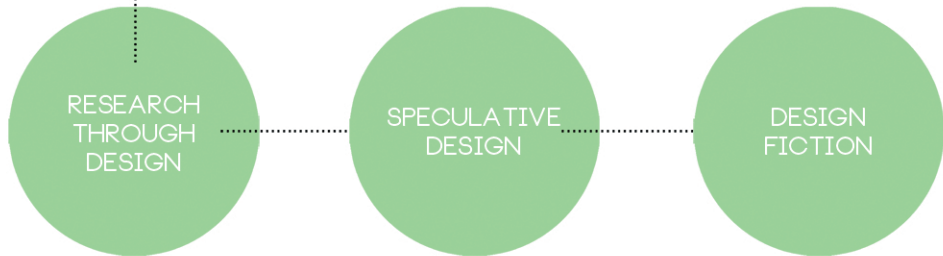
CROSS-DISCIPLINARY RESEARCH



RESEARCH THROUGH DESIGN METHODOLOGY

FRAYLING (1993)

GAVER (2012)



THE UNSUSTAINABLE PRESENT



E-WASTE IN THE UK



ON AVERAGE, EACH PERSON IN THE UK BUYS 3 NEW ELECTRONIC DEVICES PER YEAR

AROUND 170 MILLION DEVICES ARE PURCHASED IN THE UK ANNUALLY



ONLY 30% OF THOSE DEVICES ARE CURRENTLY RECYCLED - 70% ARE SENT TO LANDFILL IN THE UK OR ABROAD

OVER HALF OF ITEMS SENT TO LANDFILL ARE STILL WORKING OR COULD BE EASILY REPAIRED



E-WASTE IS A COMPLEX MIX OF MATERIALS. MANY ARE VALUABLE & CAN BE HARVESTED FOR NEW APPLICATIONS. E.G. AN IRON CAN CONTAIN ENOUGH METAL TO PRODUCE 13 STEEL CANS



SMART PHONES AND GAMES CONSOLES HAVE GOLD, PLATINUM & PALLADIUM COMPONENTRY ALONGSIDE OTHER RECYCLABLE MATERIALS



HAZARDOUS MATERIALS LIKE ARSENIC, CADMIUM & MERCURY ARE ALSO ABUNDANT AT LANDFILL. SUCH SUBSTANCES CAN CONTAMINATE SOIL & WATER SUPPLIES ENDANGERING WILDLIFE & EVEN HUMAN HEALTH



MOORE'S LAW & UBIQUITIOUS COMPUTING

1 The accelerating pace of change ...



2 ... and exponential growth in computing power ...

Computer technology, shown here climbing dramatically by powers of 10, is now progressing more each hour than it did in its entire first 90 years

COMPUTER RANKINGS

By calculations per second per \$1,000



Analytical engine
Never fully built, Charles Babbage's invention was designed to solve computational and logical problems



Colossus
The electronic computer, with 1,500 vacuum tubes, helped the British crack German codes during WW II



UNIVAC I
The first commercially marketed computer, used to tabulate the U.S. Census, occupied 943 cu. ft.

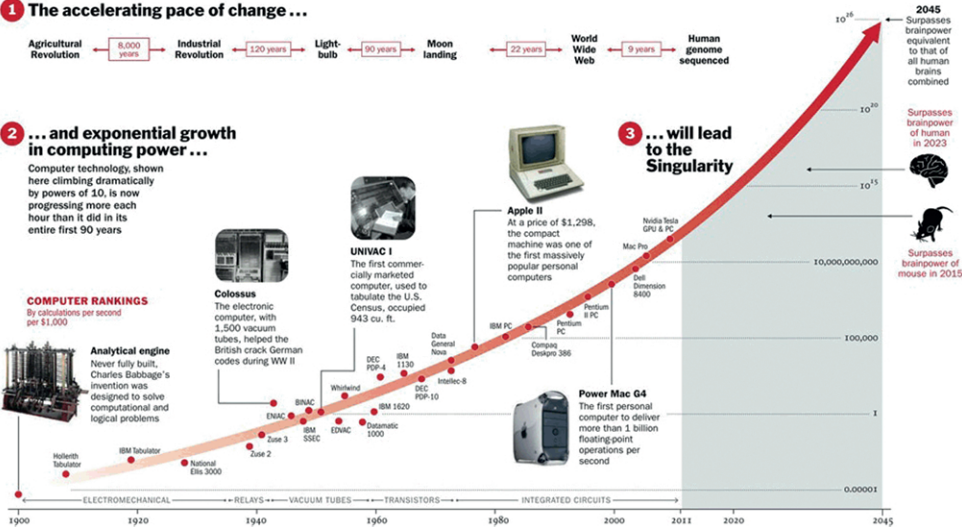


Apple II
At a price of \$1,298, the compact machine was one of the first massively popular personal computers



Power Mac G4
The first personal computer to deliver more than 1 billion floating-point operations per second

3 ... will lead to the Singularity



[HTTPS://HUMANSWORLD.FILES.WORDPRESS.COM/2014/01/MOORES-LAW-GRAPH-GIF.PNG](https://humansworld.files.wordpress.com/2014/01/moores-law-graph-gif.png)



GROWING ISSUES ON A GLOBAL SCALE



THE INTERNET OF THINGS (IOT)

PEBBLE WATCH



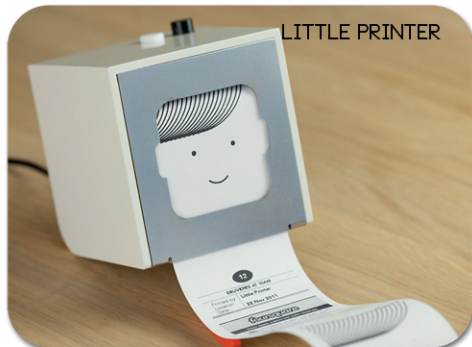
NAZBAZTAG RABBIT



ROOMBA VACUUM



LITTLE PRINTER



THE RHETORIC OF THE IOT

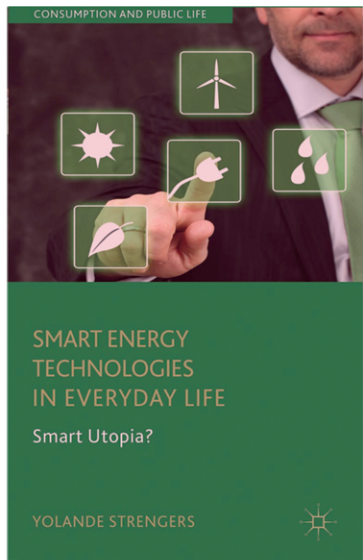
"A TRANSFORMATIVE DEVELOPMENT [WITH] THE POTENTIAL TO HAVE A GREATER IMPACT ON SOCIETY THAN THE FIRST DIGITAL REVOLUTION"

THE UK GOVERNMENT'S BLACKETT REVIEW (2014)



THE 'SMART AGENDA'

- 'SMART OBJECTS'
- 'INTELLIGENT OBJECTS'
- 'ENCHANTED OBJECTS'
- 'HYPERLINKED OBJECTS'



(2013)



THE MATERIALITY OF THE IOT

APPLE IPHONE 6 -

"SALES OF 74.5 MILLION HANDSETS IN THREE MONTHS RESULTED IN THE BIGGEST QUARTERLY PROFIT EVER MADE BY A PUBLIC COMPANY"

(BBC, 2015)

- 'DEMATERIALISATION'?

- 'DIGITISATION'?



CAN WE SCAN? ANTICIPATE? EVEN PREVENT
UNSUSTAINABLE FUTURES?

...RATHER THAN DEAL WITH UNFORESEEN
CONSEQUENCES IN RETROSPECT?



SPIMES - A PREFERABLE FUTURE?

Copyrighted Material



SHAPING THINGS

THIS BOOK IS ABOUT CREATED OBJECTS and the environment, which is to say, it's a book about everything. Seen from sufficient distance, this is a small topic.

The ideal readers for this book are those ambitious young souls (of any age) who want to constructively intervene in the process of technosocial transformation. That is to say, this book is for designers and thinkers, engineers and scientists, entrepreneurs and financiers, and anyone else who might care to understand why things were once as they were, why things are as they are, and what things seem to be becoming.

by

BRUCE STERLING

O R K

Copyrighted Material



SO WHAT EXACTLY ARE SPIMES?

STERLING (2005) DESCRIBES SPIMES AS...

"MATERIAL INSTANTIATIONS OF AN IMMATERIAL SYSTEM... THEY ARE DESIGNED ON SCREENS, FABRICATED BY DIGITAL MEANS AND PRECISELY TRACKED THROUGH SPACE AND TIME THROUGHOUT THEIR EARTHLY SOJOURN."

"SPIMES ARE INFORMATION MELDED WITH SUSTAINABILITY... THEY HAVE THE CAPACITY TO CHANGE THE HUMAN RELATIONSHIP TO TIME & MATERIAL PROCESSES, BY MAKING THOSE PROCESSES BLATANT & ACHIEVABLE."

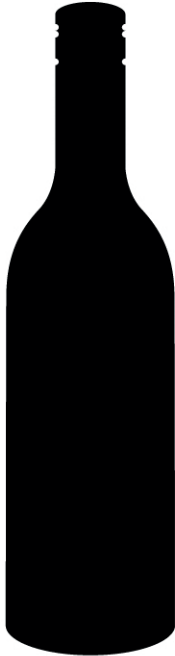
"SPIME IS A SET OF RELATIONSHIPS FIRST AND ALWAYS, AND AN OBJECT NOW AND THEN"

TAYLOR & HARRISON (2008)...

"THE IMPORTANCE OF A SPIME IS NOT SO MUCH THE PHYSICAL MATERIAL OBJECT. IT IS THE PROVENANCE, HISTORY AND SUPPORT SYSTEM THAT IT CREATES."



SPIMES AND THE KNOWN PRESENT



STAGE 1.

- YOU SEE SPIME BOTTLE OF WINE AS A 'DIGITAL INSTANTIATION' ON A WEBSITE.
- DIGITAL SPIME IS LINKED TO ITS 'MATERIAL INSTANTIATION' I.E. ENGINEERING TOLERANCES / MATERIAL SPECS.

STAGE 2.

- YOU PURCHASE ONE BOTTLE ONLINE.
- TRANSACTION RESULTS IN THE MANUFACTURE OF ITS PHYSICAL, 'MATERIAL INSTANTIATION'.
- SPIME DETAILS AUTO ADDED TO YOUR PERSONAL SPIME MANAGEMENT INVENTORY SYSTEM.
- YOU CAN NOW MANAGE YOUR SPIME THROUGHOUT ITS LIFESPAN.

STAGE 3.

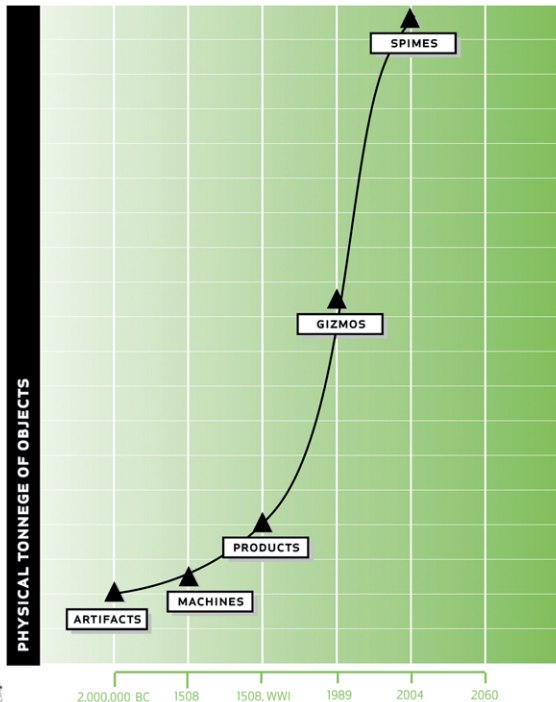
- YOUR BOTTLE IS DELIVERED TO YOUR ADDRESS.
- IT IS LOCATION-AWARE, ENVIRONMENT SENSING, SELF-DOCUMENTING AND GEOGRAPHICALLY TRACKABLE
- A MATERIAL OBJECT THAT IS 'INFORMATION RICH' AND WHICH CONTINUALLY STORES AND TRANSMITS DIGITAL DATA ABOUT ITS ENVIRONMENT AND ITS LIFECYCLE.

STAGE 4.

- YOU FINISH THE BOTTLE.
- THIS ITERATION OF YOUR SPIME HAS NOW REACHED THE END OF ITS USEFUL, MATERIAL LIFE.
- YOU DISPOSE OF THE BOTTLE - IT IS DEACTIVATED, DISASSEMBLED AND, RECYCLED BACK INTO THE MANUFACTURING STREAM FOR FUTURE SPIME OBJECT.
- THE DATA IT GENERATED DURING ITS LIFESPAN IS SAVED AND REMAINS AVAILABLE ONLINE FOR HISTORICAL ANALYSIS BY YOU AND ANY OTHER INTERESTED PARTIES.



SPIMES ARE NOT THINGS



1) ARTEFACTS -
HAND MADE FARMERS TOOLS

2) MACHINES -
EARLY AUTOMATED OBJECTS

3) PRODUCTS -
MASS-PRODUCED
CONSUMABLES

4) GIZMOS -
UNSUSTAINABLE CONNECTED
DEVICES
WE ARE STILL DESIGNING
PRODUCTS IN THIS SPACE!

5) SPIMES -
SUSTAINABLE
TECHNOLOGICAL PRODUCT
FUTURES



SEVEN CLASSIFYING DESIGN CRITERIA FOR SPIMES

- 1) CONTEXT
- 2) TECHNOLOGY
- 3) SUSTAINABILITY
- 4) TEMPORALITY
- 5) METAHISTORY
- 6) SYNCHRONCITY
- 7) WRANGLING



SPIMES AS A LENS FOR SPECULATION & REFLECTION

THE TOASTER FOR LIFE SEEKS TO EMBODY THE THREE SPIME DESIGN CRITERIA IN ORDER TO HELP BROAD AUDIENCES - NOT JUST ACADEMIC OR DESIGN LITERATE AUDIENCES - IN CONSIDERING THE UNSUSTAINABLE PEOPLE-PRODUCT RELATIONSHIPS WHICH DEFINE PRESENT DAY BEHAVIOUR, AND ALSO AID THE AUTHOR IN REFLECTING UPON THE SPECULATIVE DESIGN PROCESS ITSELF.



WHAT IS DESIGN FICTION?



- NOT CONCERNED WITH FINISHED PRODUCTS OR 'SOLUTION PRODUCTS'
- FREE OF NORMATIVE CONSTRAINTS
- "DIEGETIC PROTOTYPES" USED TO OPEN UP DISCURSIVE SPACE I.E. DEBATE/DIALOGUE ABOUT POTENTIAL PRODUCT/SERVICE FUTURES
- AND RELATIONSHIP OF POTENTIAL FUTURES TO CURRENT STATUS QUO - THE PRESENT
- DIEGESIS = USE OF NARRATIVE / STORYWORLDS / WORLD-BUILDING
- NOT SCI-FI, FANTASTICAL, LONG-TERM FUTURES
- PROTOTYPES FRAMED IN THE MUNDANE, EVERYDAY, NEAR FUTURES

USING DESIGN FICTION TO DESIGN A SPIME PRODUCT

a toaster for life is...

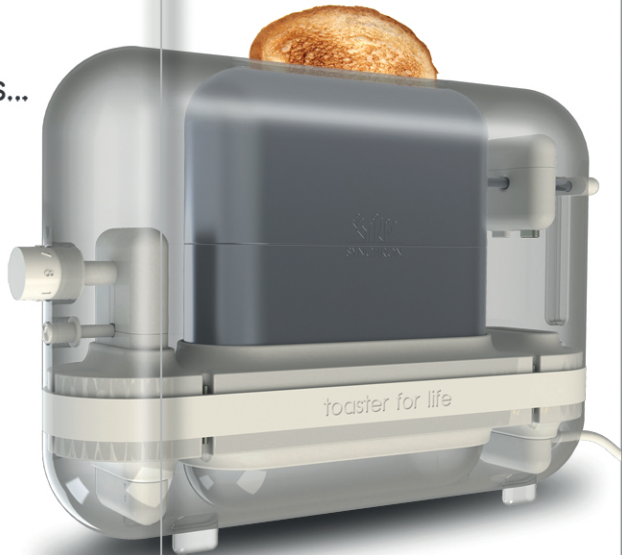
reparable

upgradeable

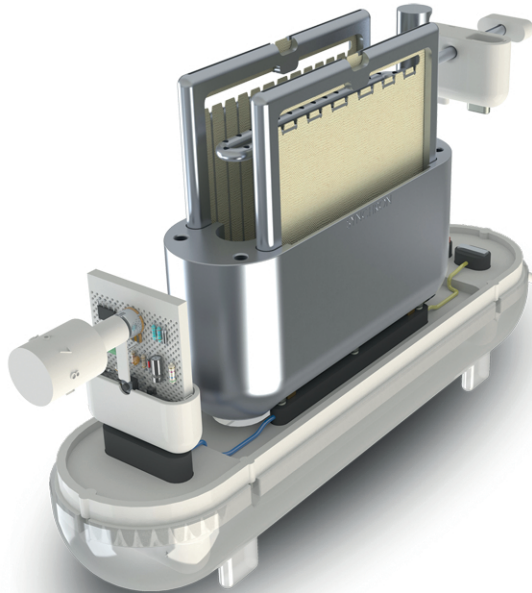
customisable

trackable

recyclable



SPIME CRITERIA - TECHNOLOGY & SUSTAINABILITY



I) RFID TAGS - SMALL, INEXPENSIVE MEANS OF REMOTELY AND UNIQUELY IDENTIFYING A SPIME OBJECT OVER SHORT RANGES.

II) GPS - A MECHANISM TO PRECISELY LOCATE A SPIME OBJECT ON EARTH.

III) INTERNET SEARCH ENGINE - SEARCH FUNCTIONALITY AFFORDING A FRONT END TO MINE THE ENORMOUS AMOUNTS OF DATA THAT A SPIME OBJECT IS CONSTANTLY COLLECTING AND TRANSMITTING.

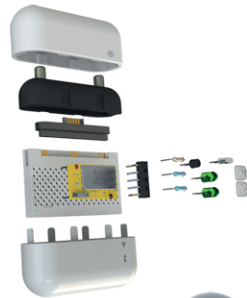
IV) CAD SOFTWARE - TOOLS TO DIGITALLY CONSTRUCT AND MANIPULATE ENDLESS ITERATIONS OF A SPIME OBJECT.

V) 3D PRINTERS - SOPHISTICATED, AUTOMATED AND ROBUST MEANS TO RAPIDLY FABRICATE A 'DIGITAL INSTANTIATION' OF A SPIME OBJECT INTO A 'MATERIAL INSTANTIATION'.

VI) ECO-MATERIALS - MATERIALS WHICH ARE ECOLOGICALLY SAFE AND DURABLE BUT ALSO HIGHLY VERSATILE. WHEN A SPIME OBJECT IS NO LONGER REQUIRED, THEY CAN BE CHEAPLY RETURNED INTO THE PRODUCTION PROCESS AS A RAW MATERIAL FOR FUTURE SPIME OBJECTS.



SPIME CRITERIA - TEMPORALITY



'TIMELESS'?

'ATEMPORAL'?



IN SUMMARY...

- VIEWED SIMPLY, STERLING'S CONCEPT OF SPIMES ARE A CLASS OF NEAR FUTURE, SUSTAINABLE, MANUFACTURED OBJECTS DESIGNED TO MAKE IMPLICIT THE IMPACTS OF A TECHNOLOGICAL PRODUCT'S ENTIRE LIFESTYLE MORE EXPLICIT TO PRODUCTS POTENTIAL USERS.
- THIS PAPER ARGUES THAT WHEN PROPERLY UNDERSTOOD, SPIMES ACT AS A RHETORICAL DEVICE THAT CAN BE USED AS A LENS THROUGH WHICH DESIGNERS CAN SPECULATE AND REFLECT UPON SUSTAINABLE TECHNOLOGICAL PRODUCT FUTURES WHILST ALSO CRITIQUING THE UNSUSTAINABLE PRODUCTION AND CONSUMPTION PRACTICES THAT DEFINE OUR CURRENT LIFE STYLES.
- FURTHERMORE, I ARGUE THAT SPIME-BASED DESIGN FICTIONS CAN ALSO BE USED TO HELP BROAD AUDIENCES CONSIDER THE UNSUSTAINABLE PEOPLE-PRODUCT RELATIONSHIPS THAT DEFINE PRESENT DAY BEHAVIOUR.

GRAZIE!

