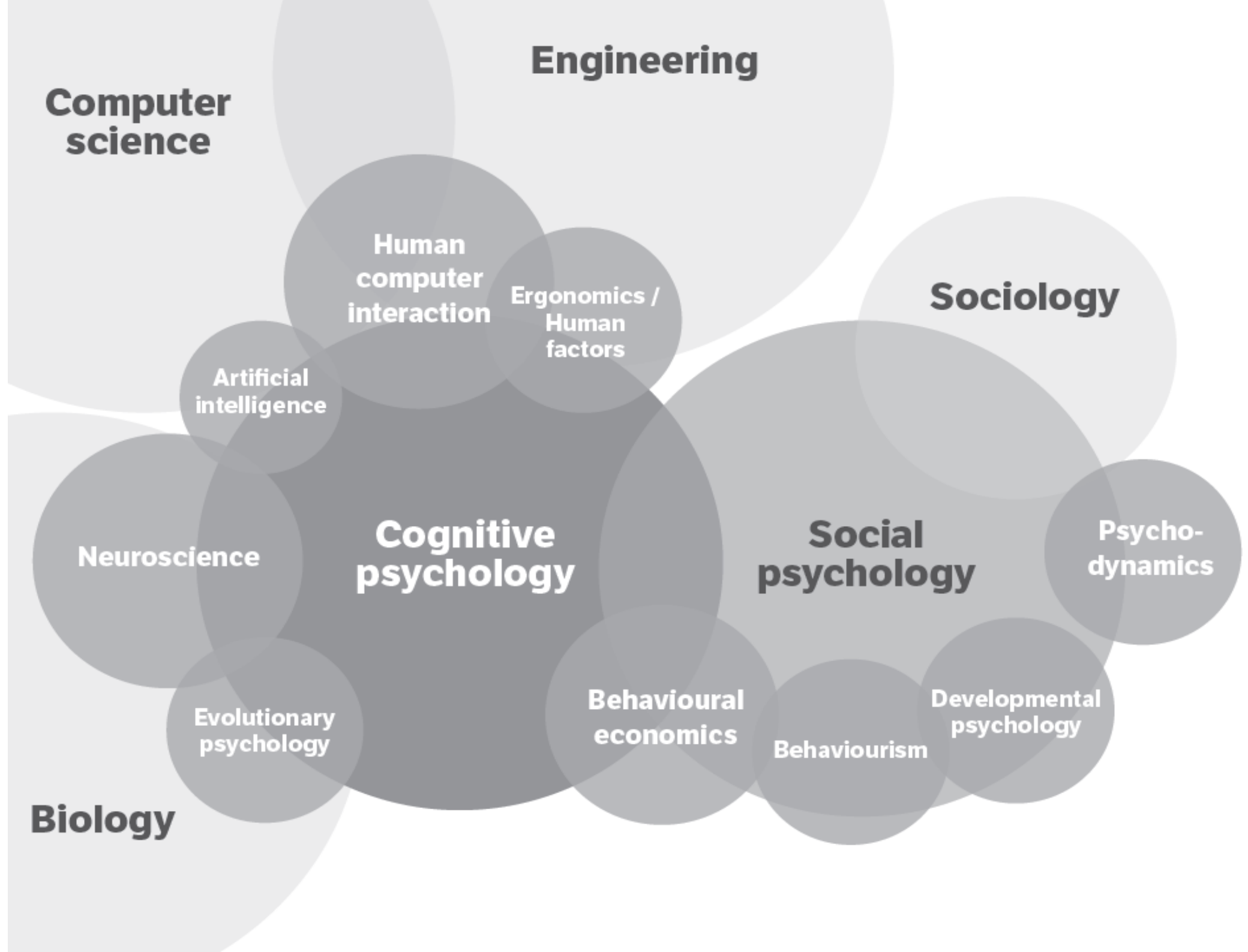


# PSYCHOLOGY II





# COGNITIVE PSYCHOLOGY

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- ° Piaget (20<sup>th</sup> Century)
  - Developmental psychologist
  - e.g. Children are not just less competent versions of adults. They, in fact, have sometimes totally different ideas
- has at its heart **process**:
  - this, then that
  - cause and effect
- sees people as nothing more than boxes connected by arrows
- sees behavior as a point from which to abstract the mental processes behind the behavior
- extends the mechanical assumptions to the mind
- it attempts to quantify psychology
  - e.g. [http://en.wikipedia.org/wiki/Hick's\\_law](http://en.wikipedia.org/wiki/Hick's_law)



# Hick's Law: Making the choice easier for users

BY MADS SOEGAARD | 23 HOURS AGO | 9 MIN READ

113

SHARES



SHARE

70



SHARE

35



SHARE

8

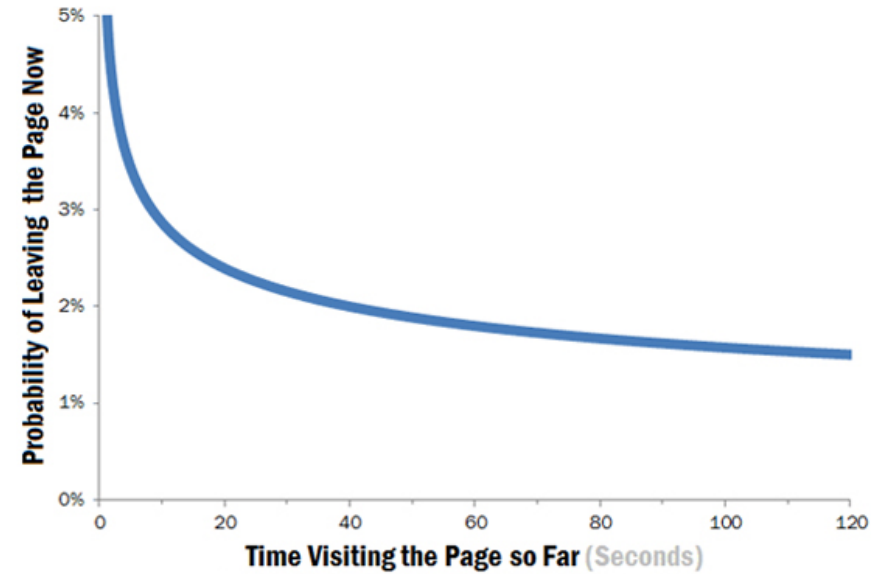
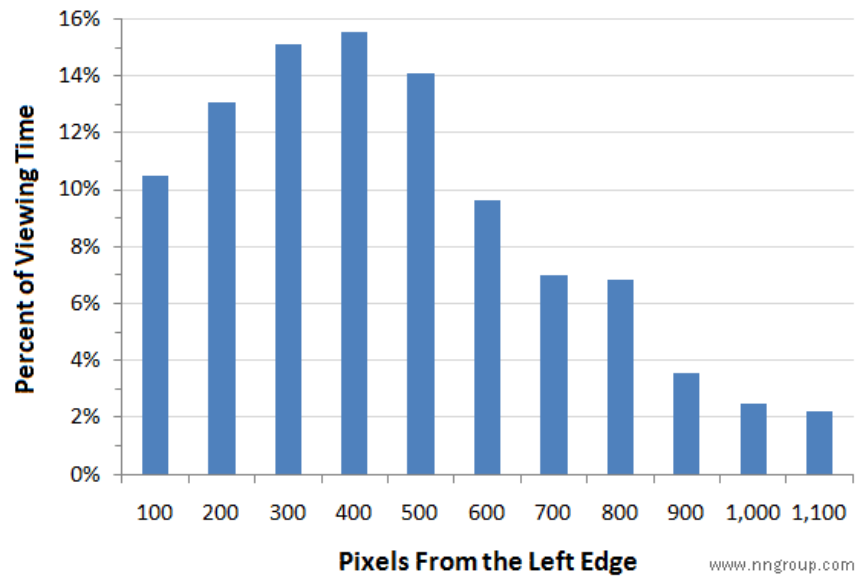
# COGNITIVE PSYCHOLOGY & ICT

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- e.g Can you change people from offline shoppers to online buyers? How?
- Interesting tests on the eye movement related to web pages
  - People spend (more than) 2/3rd of their time viewing the left half of the page and (less than) 1/3rd viewing the right half. A conventional layout is thus more likely to make sites profitable.
  - How does the eye move across a screen?  
(**Neuroscience** is a scientific approach to looking at psychology)

# SIMPLICITY SELLS

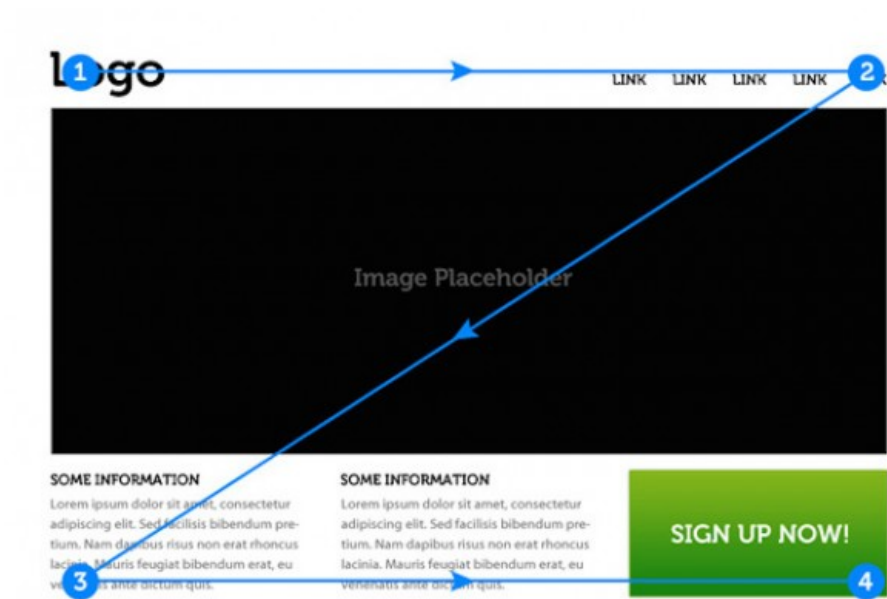
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# SCANNING WEBPAGE Z-PATTERN

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- Most people follow a Z-pattern or F-pattern
  - Z-pattern
    - Most common





# SCANNING WEBPAGE F-PATTERN

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## ➤ F-pattern:

- Sites that are heavy on text
- Indexing pages
- <http://webdesign.tutsplus.com/articles/understanding-the-f-layout-in-web-design--webdesign-687>
- **Critics:** <https://www.nngroup.com/articles/f-shaped-pattern-reading-web-content/>



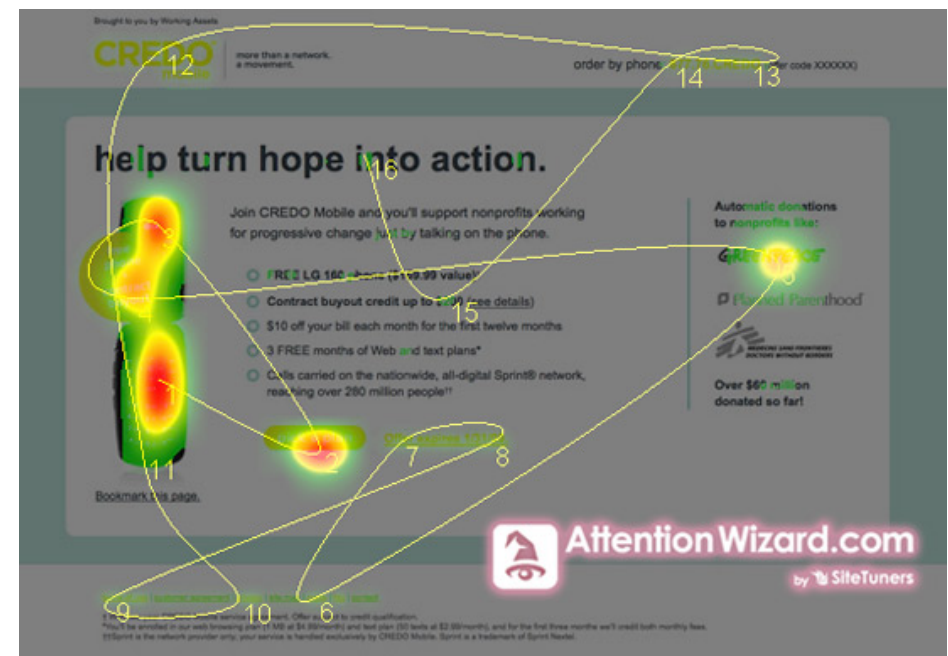
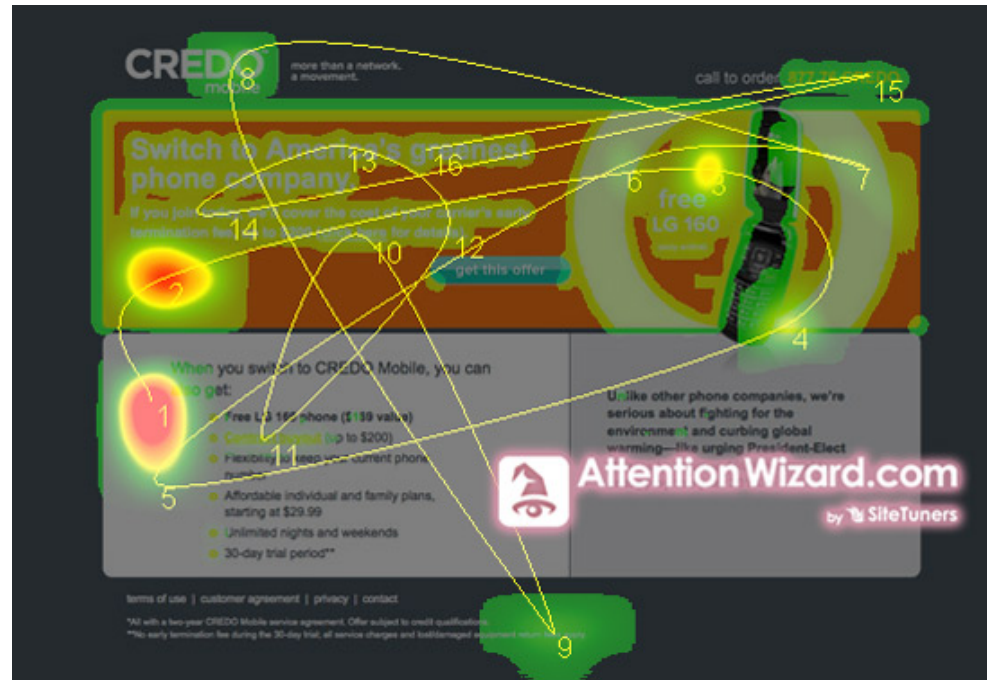


# GENERAL GUIDELINES

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- **Important** information should be placed across the **top** of the design where it will generally be read.
- **Lesser** information should be placed along the **left edge** of the design often in bullet points where little horizontal eye movement is required to take everything in.
- People don't read online. They **scan**.
- Is F-pattern a derivative of the Z-pattern?
  - Having content that doesn't fully interest and engage the reader. Sadly true of most online content.
  - Writing with an inverted pyramid style, which expects to lose readers as they move down the page.
  - People scanning to determine if they want to read more.

# A SITE: BEFORE AND AFTER



# Label Placement in Forms

By [Matteo Penzo](#)

July 12, 2006



96 Comments



23 Shares

In using eyetracking to evaluate the usability of search forms for my previous article for *UXmatters*, “[Evaluating the Usability of Search Forms Using Eyetracking: A Practical Approach](#),” we discovered much interesting data. I’ll provide an in-depth analysis of that data here.

“

We were able to subject Luke’s theories to usability testing and enrich them through the power of numeric data.

”



Settings ▾

X



# SOCIAL PSYCHOLOGY

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- We live in society and consequently people and experiences dictate our behavior. Social psychology understands that people are complicated.
- Discussion: nature vs. culture
- Does use of ICT / change of technology / social interaction change people fundamentally?
  - **Evolutionary psychology** says we are still the same 'animals' as 10000 years ago
  - **Technological determinism?**

# CROWD (OR MOB) PSYCHOLOGY

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- Crowd behavior is heavily influenced by the loss of responsibility of the individual and the impression of universality of behavior, both of which increase with the size of the crowd
- The group identity serves to create a set of standards for behavior
- **José Ortega y Gasset “The Revolt of the Masses”**

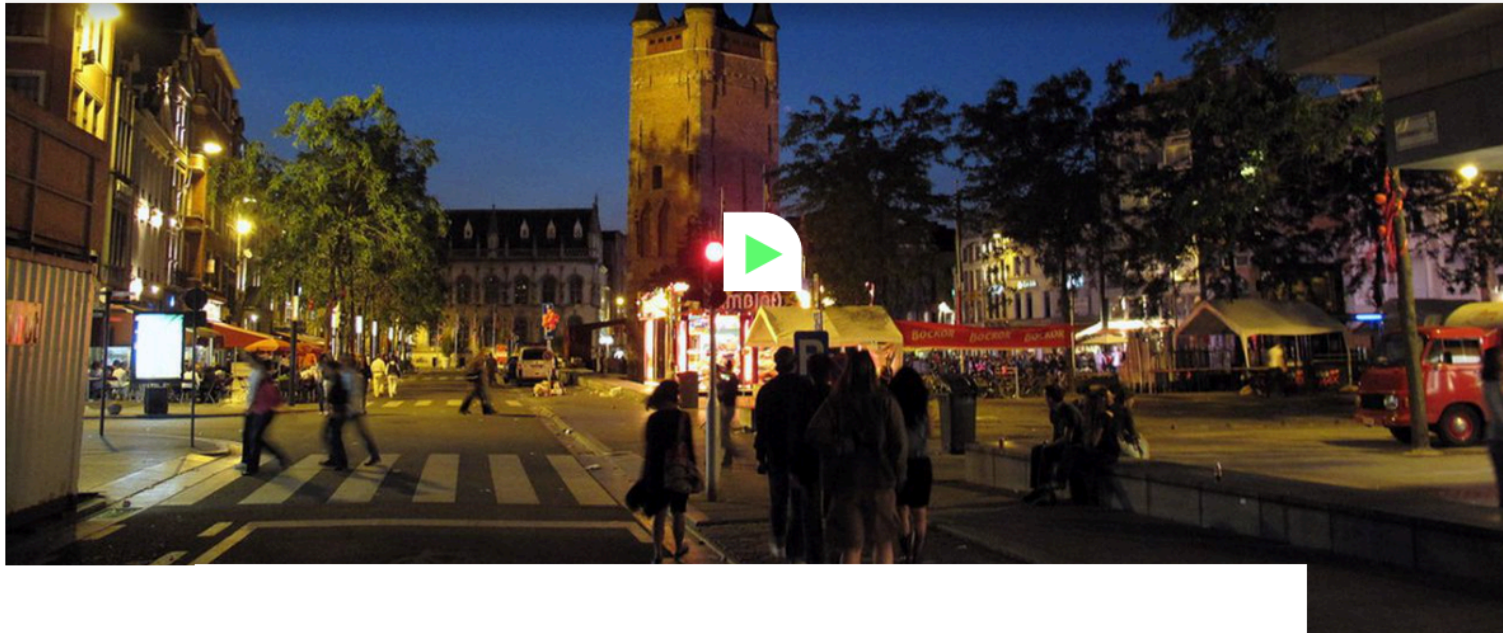
“As they say in the United States: “to be different is to be indecent.” The mass crushes beneath it everything that is different, everything that is excellent, individual, qualified and select ... ‘Everybody’ was normally the complex unity of the mass and the divergent, specialized minorities. Nowadays, ‘everybody’ is the mass alone”



# THE CURIOUS CASE OF "KORTRIJK" ...

vrtnws

Ontdek Video Audio Zoek Net binnen



Bas De Wilde, Denny Baert

wo 30 okt 12:50  
wo 30 okt 06:37

## In Kortrijk geweest afgelopen zomer? Dan gebruikt de stad uw gsm-gegevens voor datamarketing

Kortrijk meet sinds enkele maanden wie er naar stad komt en wat die bezoekers doen. Het stadsbestuur doet dat op basis van cijfers van Proximus, dat zich baseert op de gsm's die zich op een bepaald moment in de binnenstad bevinden. De eerste cijfers, van afgelopen zomer, zijn nu bekend.



### Meest gelezen

OOST-VLAANDEREN

800 skeletten gevonden onder Gentse Sint-Baafskathedraal: "De geraamtes zijn gewassen en liggen nu te drogen" 1

BUITENLAND

► Waarom moest de nieuwe voorzitter van het Britse parlement naar zijn zetel worden "gesleurd"? 2



# SOCIAL PSYCHOLOGY AND ICT

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- **Affordance**

- **Construals**

- how individuals perceive, comprehend, and interpret the world around them, particularly the behavior or action of others towards themselves
- e.g. **Primacy effect**: a subject will recall primary information better than information presented later on

- **Channel factor**

- tiny, seemingly-insignificant details about the environment that can have remarkably huge effects on actual behavior
  - a single phrase repeated twice causes cooperation rates to double
  - e.g. Students can vote (only 25% do so). Don't just tell them where the link is but show them and more will take vote

- **Social group influence**

# BEHAVIORISM

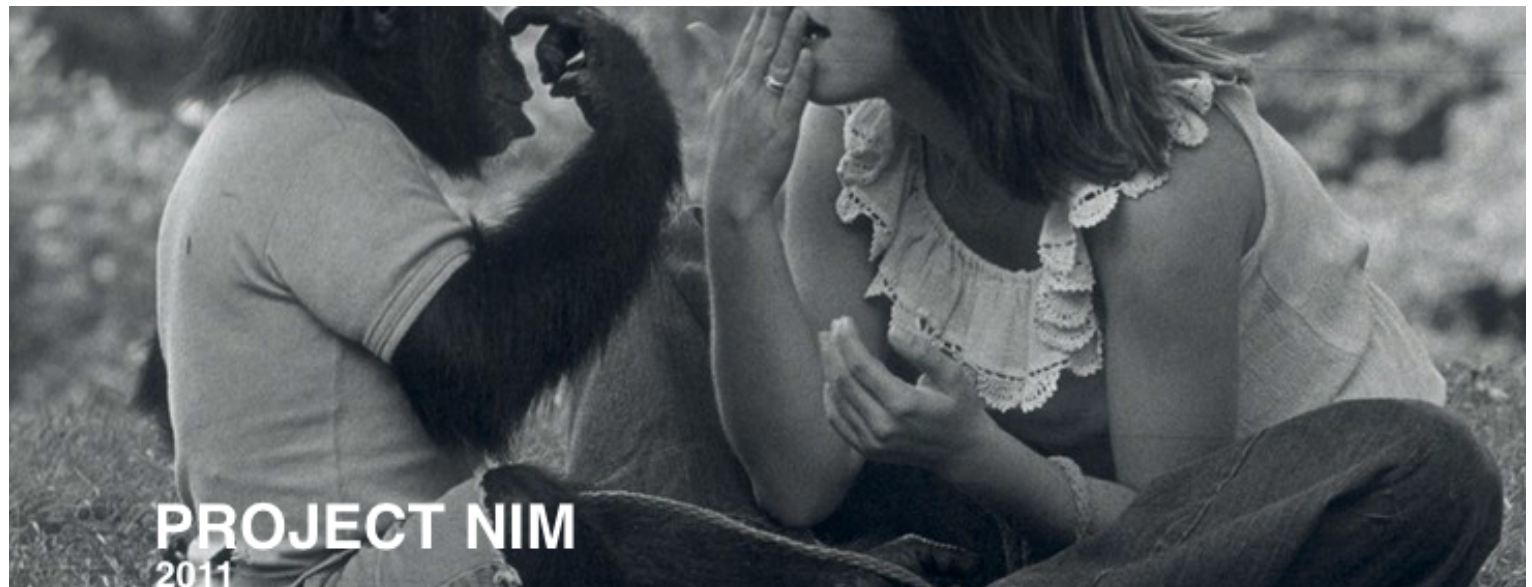
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- **Operant conditioning** was developed by B.F. Skinner in 1937 and deals with the modification of “voluntary behavior” or operant behavior
- views behavior as an irreducible consequence of environmental stimuli (mostly on animals – cf. best known: Pavlov)
- Cf. Cognitivism: They both use mechanism as a fundamental assumption
- uses the **stimulus** and **response** metaphor to interpret exhibited behavior (‘creates’ affordance)
  - all behavior, no matter how complex, can be reduced to a simple stimulus – response association

# BEHAVIORISM

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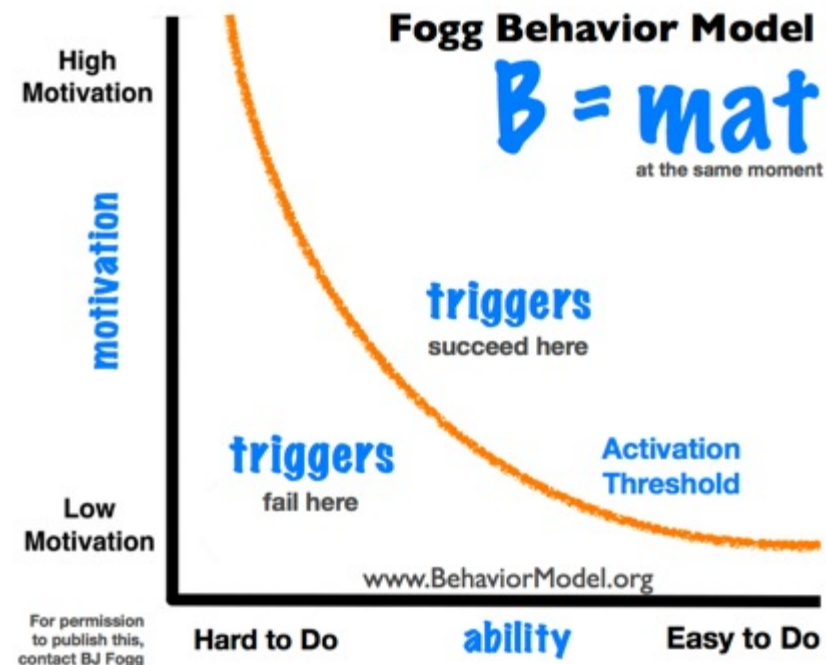
- People have no free will – a person's environment determines their behavior
  - When born our mind is 'tabula rasa' (a blank slate)
  - There is little difference between the learning that takes place in humans and that in animals. Therefore research can be carried out on animals as well as humans (cf. Project Nim)



# BEHAVIOUR & IT

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- An applied, cognitive-based niche of psychology: human-computer interaction, or HCI
  - 13 principles of display design, Christopher Wickens et al.
  - <http://www.behaviormodel.org> (<http://www.bjfogg.com>)



# BEHAVIOR WIZARD

|   | <b>Green behavior</b><br>Do NEW behavior, one that is unfamiliar  | <b>Blue behavior</b><br>Do FAMILIAR behavior  | <b>Purple behavior</b><br>INCREASE behavior intensity or duration   | <b>Gray behaviors</b><br>DECREASE behavior intensity or duration                                   | <b>Black behavior</b><br>STOP doing a behavior  |
|---|---|---|---|--|---|
| <b>Dot behavior</b><br>is done ONE-TIME                       | <b>GreenDot</b><br>Do NEW behavior one time<br><i>Install solar panels on house</i>                       | <b>BlueDot</b><br>Do FAMILIAR behavior one time<br><i>Tell a sister about eco-friendly soap</i>     | <b>PurpleDot</b><br>INCREASE behavior one time<br><i>Plant more trees and native plants</i>                         | <b>GrayDot</b><br>DECREASE behavior one time<br><i>Buy fewer cases of bottled water today</i>      | <b>BlackDot</b><br>STOP doing a behavior one time<br><i>Turn off space heater for tonight</i>     |
| <b>Span behavior</b><br>has a DURATION, such as 40 days       | <b>GreenSpan</b><br>Do NEW behavior for a period of time<br><i>Try carpooling to work for three weeks</i> | <b>BlueSpan</b><br>Do FAMILIAR behavior for a period of time<br><i>Bike to work for two months.</i> | <b>PurpleSpan</b><br>INCREASE behavior for a period of time<br><i>Recycle more of household waste for one month</i> | <b>GraySpan</b><br>DECREASE behavior for a period of time<br><i>Take shorter showers this week</i> | <b>BlackSpan</b><br>STOP a behavior for a period of time<br><i>Don't water lawn during summer</i> |
| <b>Path behavior</b><br>is done FROM NOW ON, a lasting change | <b>GreenPath</b><br>Do NEW behavior from now on<br><i>Start growing own vegetables</i>                    | <b>BluePath</b><br>Do FAMILIAR behavior from now on<br><i>Turn off lights when leaving room</i>     | <b>PurplePath</b><br>INCREASE behavior from now on<br><i>Buy more local produce</i>                                 | <b>GrayPath</b><br>DECREASE behavior from now on<br><i>Eat less meat from now on</i>               | <b>BlackPath</b><br>STOP a behavior from now on<br><i>Never litter again</i>                      |

# BEHAVIOR WIZARD

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## ➤ Caveat

### ➤ Beware of tests and numbers:

- The customer's happiness has risen 12%
- Now, 2 as fast
- Last year, there were 712 cases of [a disease], this year 952.

### ➤ Stanford experiment

### ➤ [http://en.wikipedia.org/wiki/Hawthorne\\_effect](http://en.wikipedia.org/wiki/Hawthorne_effect)

- in medical science this has 'evolved' to the double blind test (placebo effect

# ETHICS & MORALITY

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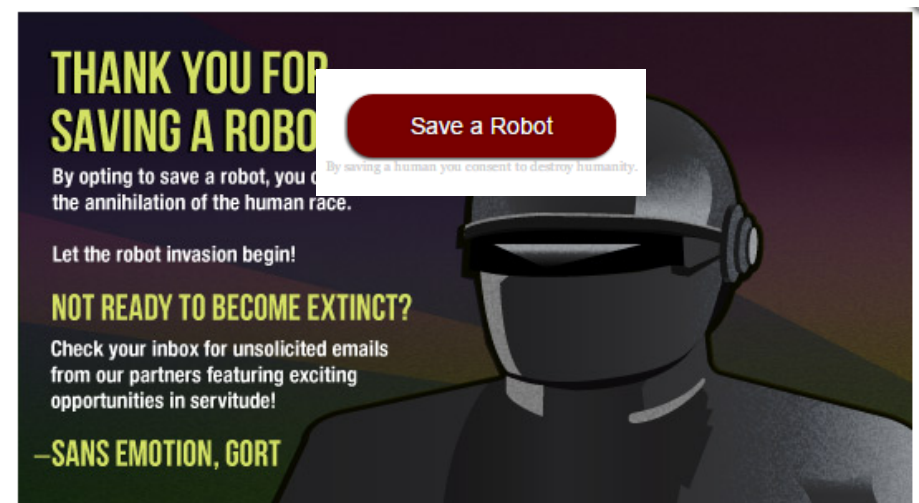
- Ethics is the branch of philosophy which addresses questions of morality = humanity
- Morality is the differentiation of intentions, decisions, and actions between those that are "good" (or right) and those that are "bad" (or wrong) = personal



# ETHICS & MORALITY

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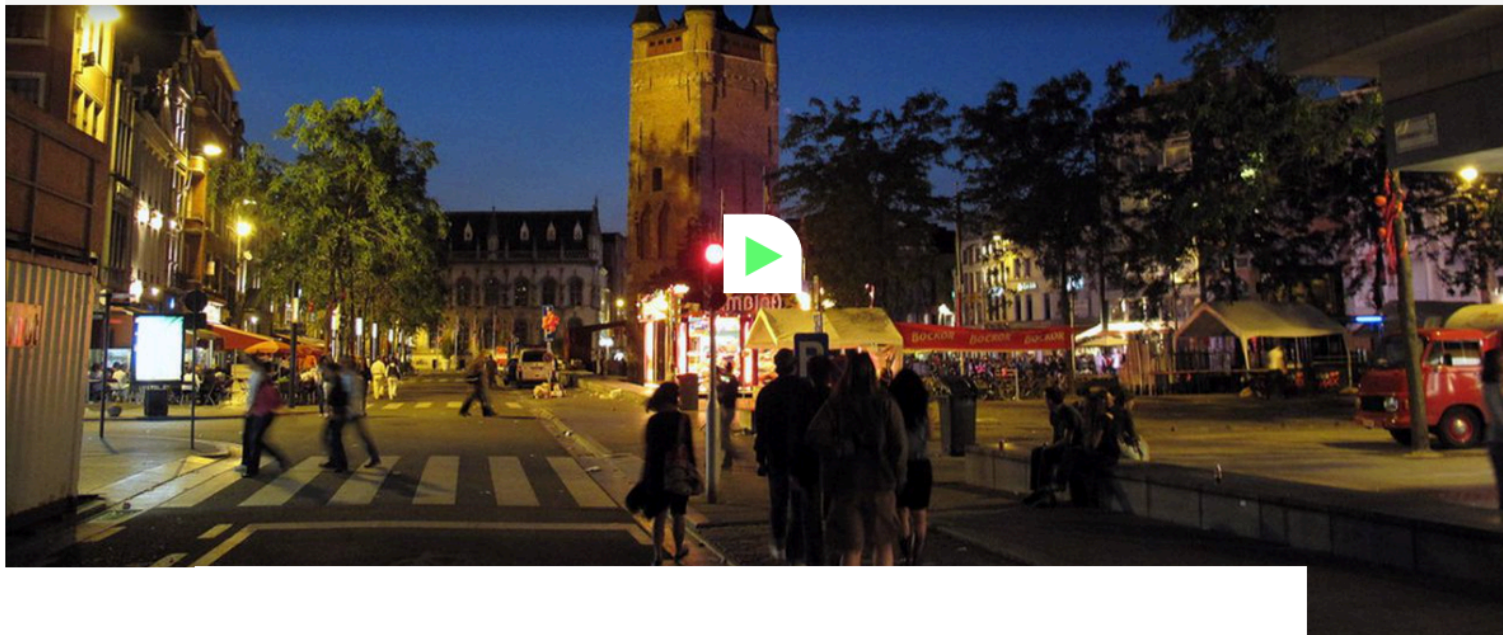
- 1. Neutrality in design
  - It's a designer's job to make decisions
  - Each decision, even based on research and observation, is about making choices → there's not really such a thing as neutral design
- 2. Influence
  - Can be internal or external
  - Always consider the affordance of the design
  - Cf. Robert Cialdini's seven universal types of influence
- Choices
  - Full freedom
  - Limited choice (becomes suggestive)
  - No choice
- Clarity of intention & expected outcome
- A designer is responsible for his actions
  - Cf. Milgram experiment



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vrtnws

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