

# Intelligence



What makes us intelligent

Or

Not so intelligent

The most intelligent man in  
the world

# Before we get started....

**REIFICATION**

Remember reification from the perception chapter? What was it?

- The addition of things which are not in the original image. We may even 'see' the details that are not really there.

Example:

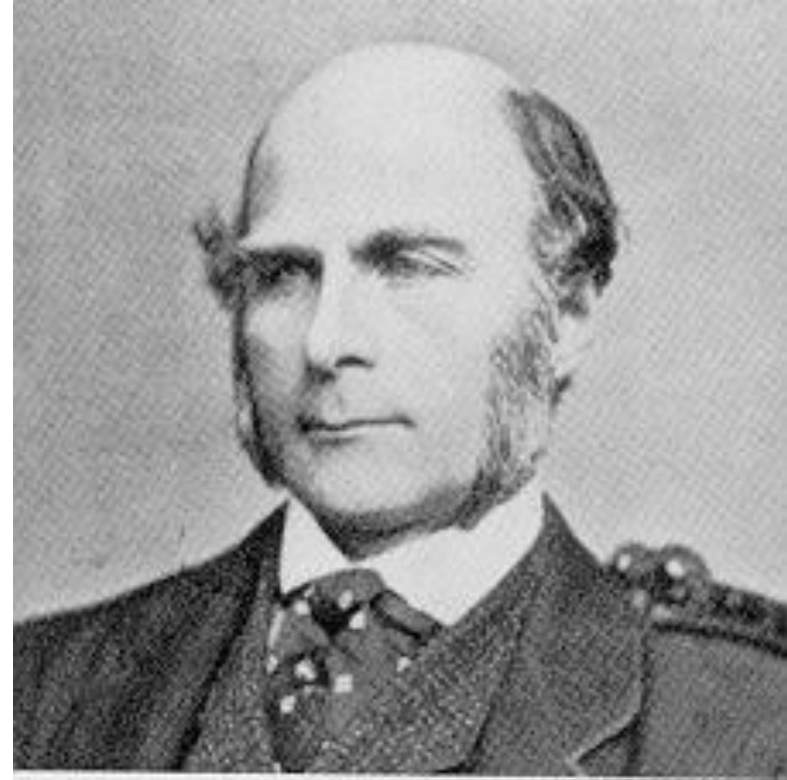
Reification occurs when *an abstract belief or concept is treated as if it was tangible or real.* (#concretetfallacy)

- Intelligence is an abstract "thing."
- We, however, talk about it as if it is concrete.
- "She has a lot of intelligence."  
- or -
- "We are going to measure your intelligence." (As if we were going to measure your height or weigh your pancreas.)



# Sir Francis Galton

- First to posit that intelligence could be quantified and measured objectively. (Reify intelligence)
- Cousin of Charles Darwin
- Posited that the size of a person's head related to intelligence
- Used the term "mental test"
- Elitist - sought to demonstrate the natural superiority of the high social class.

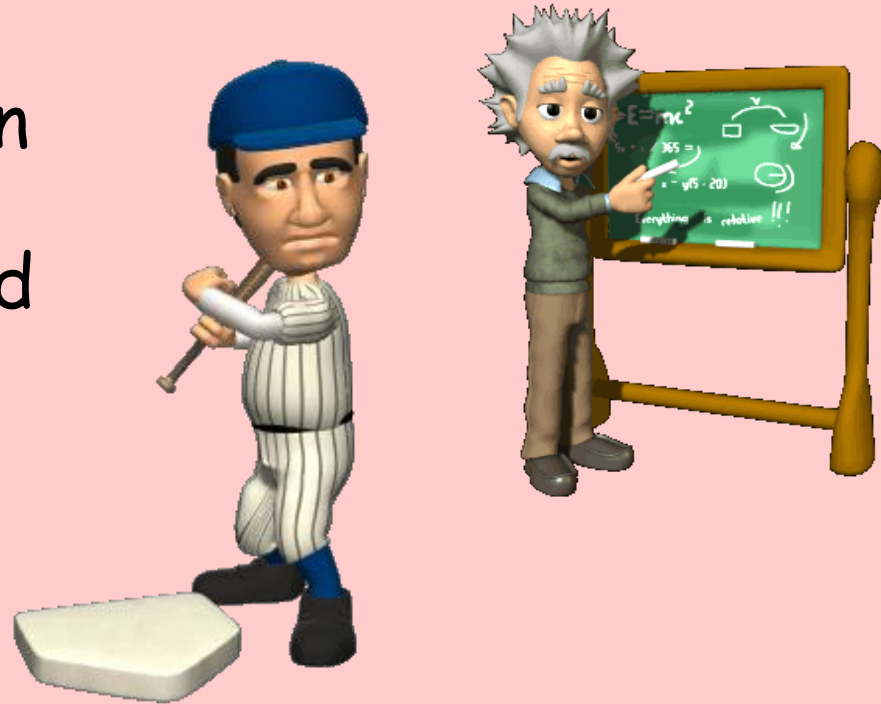


Sorry Francis, your ideas have been proven wrong on virtually every count.



# Intelligence

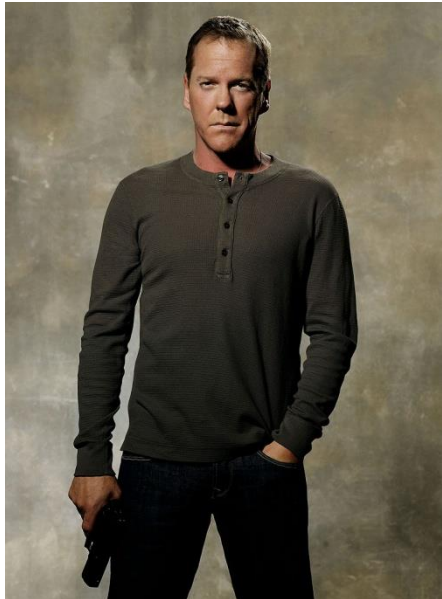
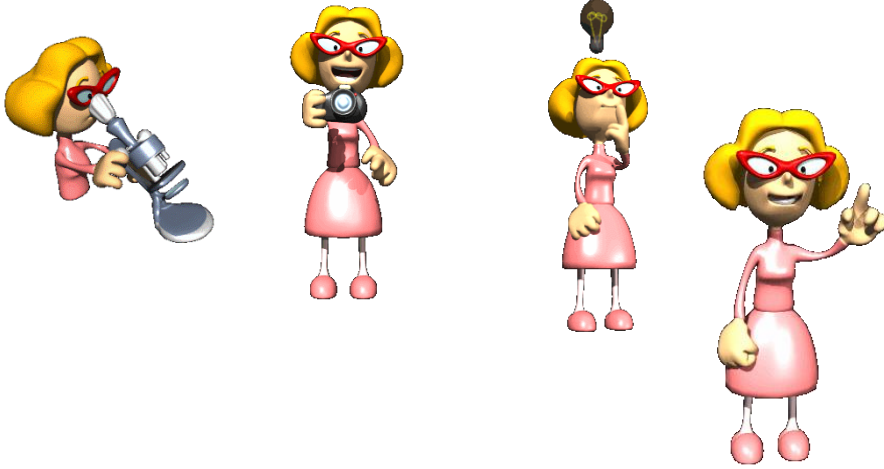
- The ability to learn from experience, solve problems, and use knowledge to adapt to new situations.
- Is socially constructed thus...  
Can be culturally specific.



Controversies we will address:

1. Is intelligence a single overall ability or several specific abilities.
2. Can we locate and measure intelligence within the brain?

# Charles Spearman and his $g$ factor



Jack Bauer is good at torturing, bomb defusing, shooting, figuring out evil plots and saving the country (and he is good looking). Is there anything he cannot do?

- Used factor analysis and discovered that what we see as many different skills is actually one **General Intelligence ( $g$ )**.
- If you are good at one subject you are usually good at many others. (Clusters)

# Kanazowa (2004) - novel or evolutionary familiar problems

- "g" evolved from a form of intelligence that helped solve novel problems.
- More common problems require a different type of intelligence.
- General intelligence scores DO correlate with ability to solve novel problems (academic and vocational situations.)
- Scores DO NOT correlate with evolutionary, common problems.

# Multiple Intelligences



- Howard Gardner disagreed with Spearman's  $g$  and instead came up with the concept of multiple intelligences.
- He came up with the idea by studying savants (a condition where a person has limited mental ability but is exceptional in one area).



# Savants

- Savant Syndrome: Individuals with remarkable, but rare talent, even though they are mentally deficient in other areas.
  - 4 in 5 are male, and many have autism
  - Skills are in many ways similar to experts without a disability



Excerpts from

Beautiful Minds  
Voyage into the Brain

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Colourfield Productions  
Dortmund Germany

# Savant Syndrome

Source:

UCLA Neuropsychiatric Institute  
& Hospital

