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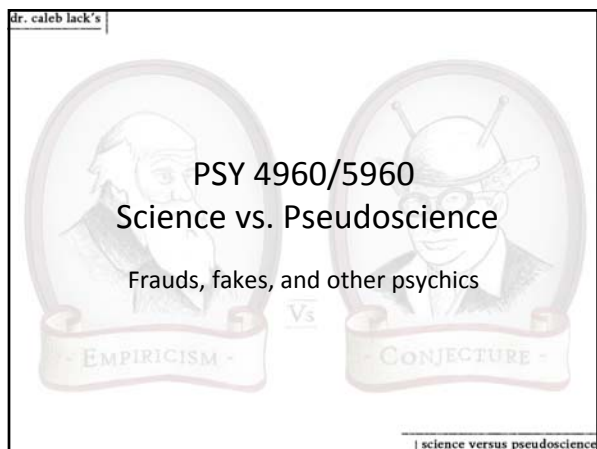
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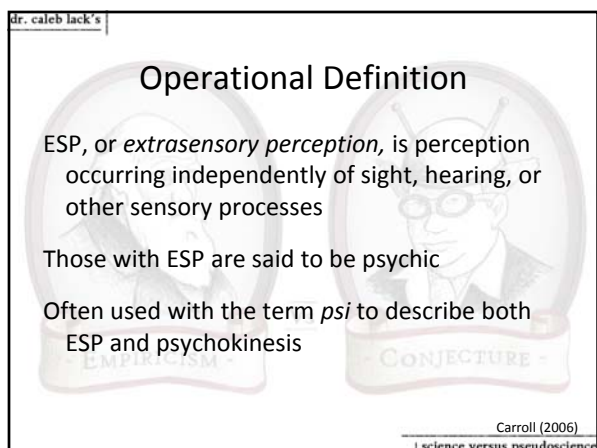
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## Types of ESP




Telepathy



Clairvoyance



Psychokinesis



Precognition

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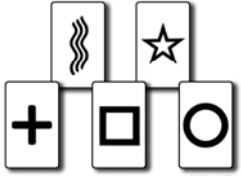
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## Testing ESP

Zener cards are often used when studying *psi* and ESP

You have to guess which cards are coming up next, or which cards someone is looking at



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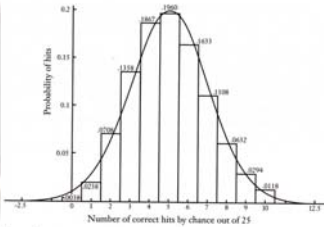
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## Testing ESP

You have to understand statistics and chance to really understand the "evidence" for ESP

Most people don't know what chance looks like



**Figure 6:** Bell curve for a test of 25 questions with 5 possible answers. If chance is operating, probability predicts that most people (79 percent) will get between 3 and 7 correct, whereas the probability of getting 4 or more correct is 10.9 percent (blue). In a group of 25, several scores in the range will always occur purely by chance; of getting 15 correct is about 1 in 90,000, of getting 20 correct is about 1 in 5 billion, and of getting all 25 correct is about 1 in 100 quadrillion.

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### JB Rhine's Results

Published data in 1934 showing that his subjects averaged 7.1 correct guesses per 25 cards, compared to 5 expected correct

Since there were almost 100,000 trials, the chances of this happening by chance are almost zero

...until you look at the conditions he conducted his research under

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### JB Rhine's Results

Results appear to be a methodological artifact

- Poor controls
- Non-random card order
- Psi-missing and decline effect

Similar methodological problems in the Soal-Goldney and Targ-Puthoff experiments

Replicability is key in science, and has not been present in the "top" *psi* experiments

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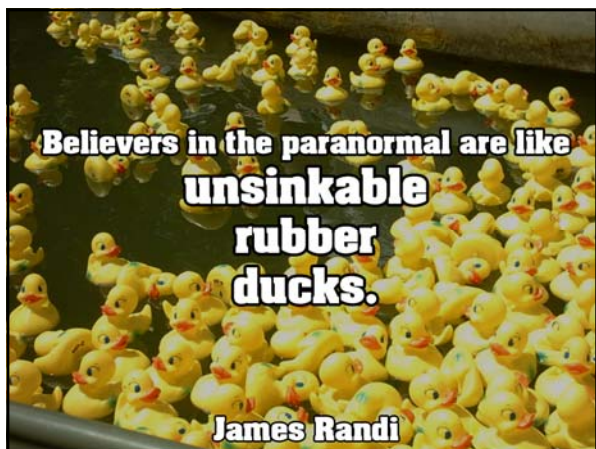
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### Why Do We Believe?

There's "evidence" all around us!

- The telephone rings and you know who it is.
- You know what someone is about to say to you before they say it.
- You get a hunch about something and it turns out to be correct.
- You get a sudden urge to go somewhere or do something, and when you do that thing, and it turns out to be the right thing that you should have done. And you are pleased.
- You get a sudden urge to go somewhere or do something, and you ignore it or don't do it, and it turns out that you should have. And you regret it.
- You can understand someone's true inner feelings even though on the outside they are hiding them.
- You sometimes hear a soft inner voice tipping you off about things happening in your life or in the life of someone else.

From the Universal Psychic Guild  
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### Why Do We Believe?

What makes for better television?

What do people *want* to believe?

What does it mean if we do believe?

What other possibilities become open if we believe in *psi*?

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### Coincidences

Odds that two people share the same birthday

- Group of 23 people – 50%
- Group of 35 people – 85%

We do not recognize chance when we see it!

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## Defrauding the Frauds

Why should we care?  
Why should we want people to not believe?  
If these powers are real, why don't more people come forward to demonstrate that they have them *in controlled conditions*?

[What's wrong with this power?](#)

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## Exercise #6

### Design an Experiment

Design a series of experiments that would conclusively, empirically test all the types of *psi* that have been discussed in class so far. Be sure and explain what types of controls would be in place to prevent fraud and what would constitute evidence for *psi*.

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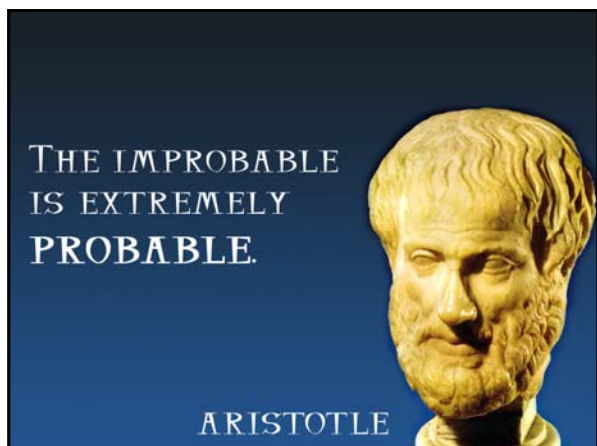
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