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The Logic of Information Design

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① **Premise**

② Information, Uncertainty, Ignorance

③ Design of Information Flows

④ The Lambda Model

⑤ Conclusion: the Politics of Uncertainty

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Logic of information design

formal or
structural aspects

information process

construction
not representation



Not about how information becomes **available** (e.g. database design), but how it becomes **accessible**.

More Shannon (communicating) than Turing (processing).

Part of *The Politics of Information*.



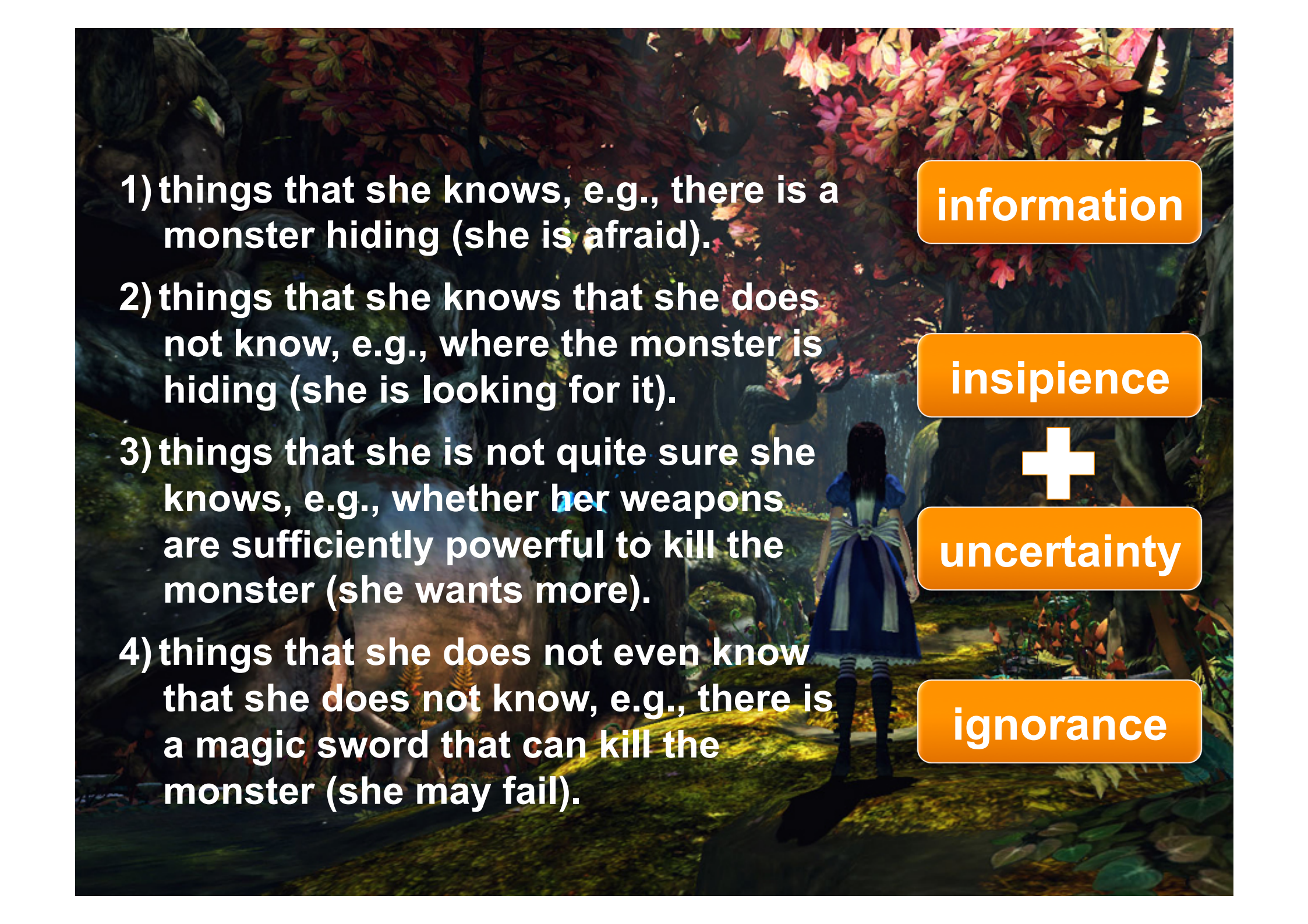
Information as answered question.



Information as answered question



Alice has Q and right A \longleftrightarrow Alice has I

A character with long dark hair, wearing a blue dress with a white bow at the back, stands on a mossy path in a forest. The trees have vibrant autumn foliage in shades of red, orange, and yellow. The scene is dimly lit, suggesting a misty or overcast day.

1) things that she knows, e.g., there is a monster hiding (she is afraid).

information

2) things that she knows that she does not know, e.g., where the monster is hiding (she is looking for it).

insipience

3) things that she is not quite sure she knows, e.g., whether her weapons are sufficiently powerful to kill the monster (she wants more).

+

uncertainty

4) things that she does not even know that she does not know, e.g., there is a magic sword that can kill the monster (she may fail).

ignorance

Alice is... informed



Alice is... uncertain



Alice is... ignorant

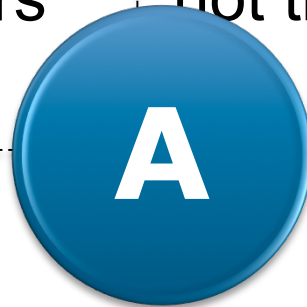


Alice's information Alice's uncertainty

available information

Alice has **access** to the questions and the answers

Alice has **access** to the questions but not the answers



Alice has **access** neither to the questions nor to the answers

information

available

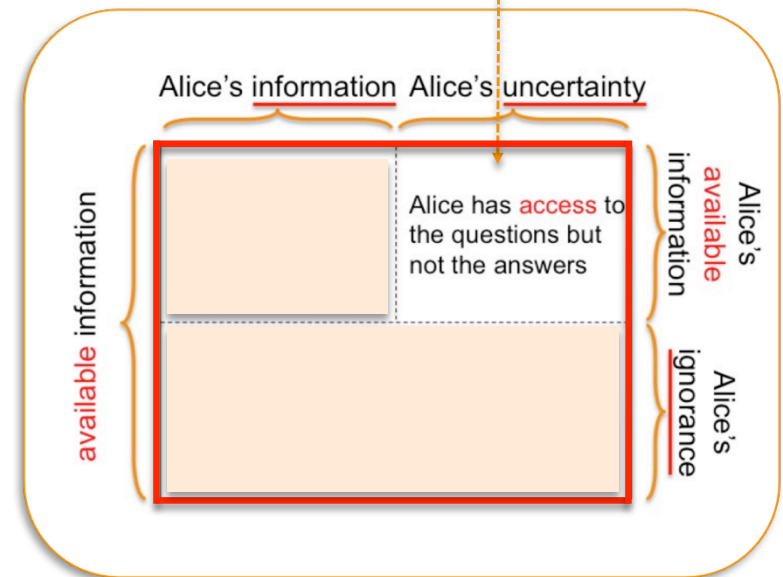
Alice's

ignorance

Alice's

$$\begin{array}{rcl}
 \text{Available Information} & - & \\
 \text{Alice's Ignorance} & - & \\
 \text{Alice's Information} & = & \\
 \hline
 \text{Alice's Uncertainty} & &
 \end{array}$$

For Alice:
 Uncertainty = questions
 available – answers
 accessible.

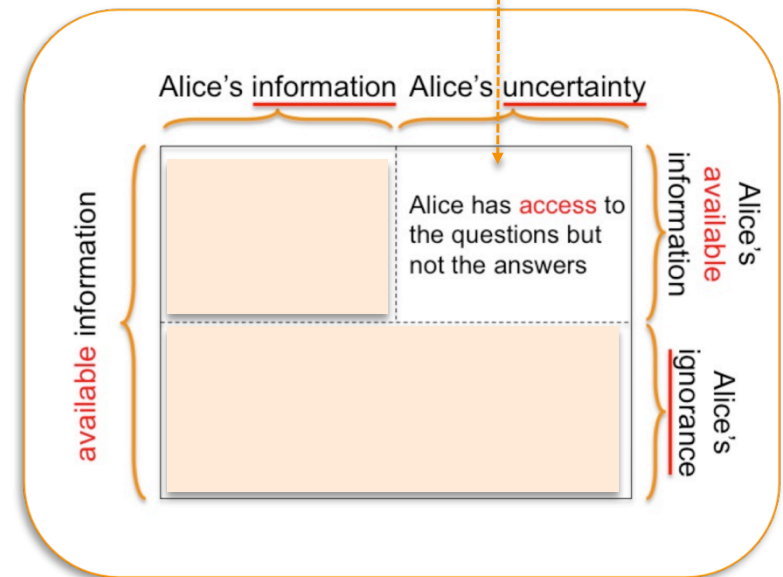


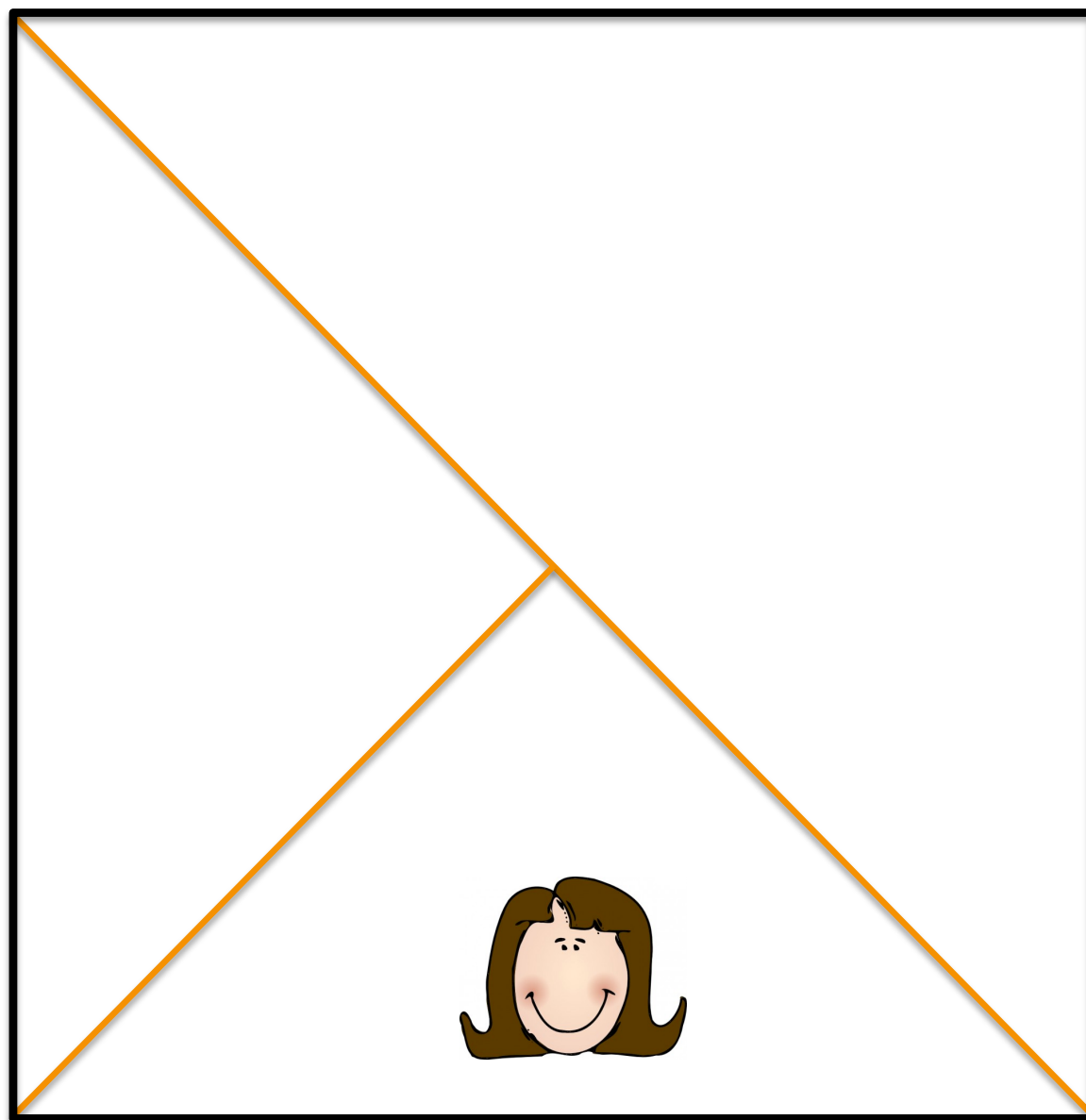
Simplest context: Alice's uncertainty is binary.

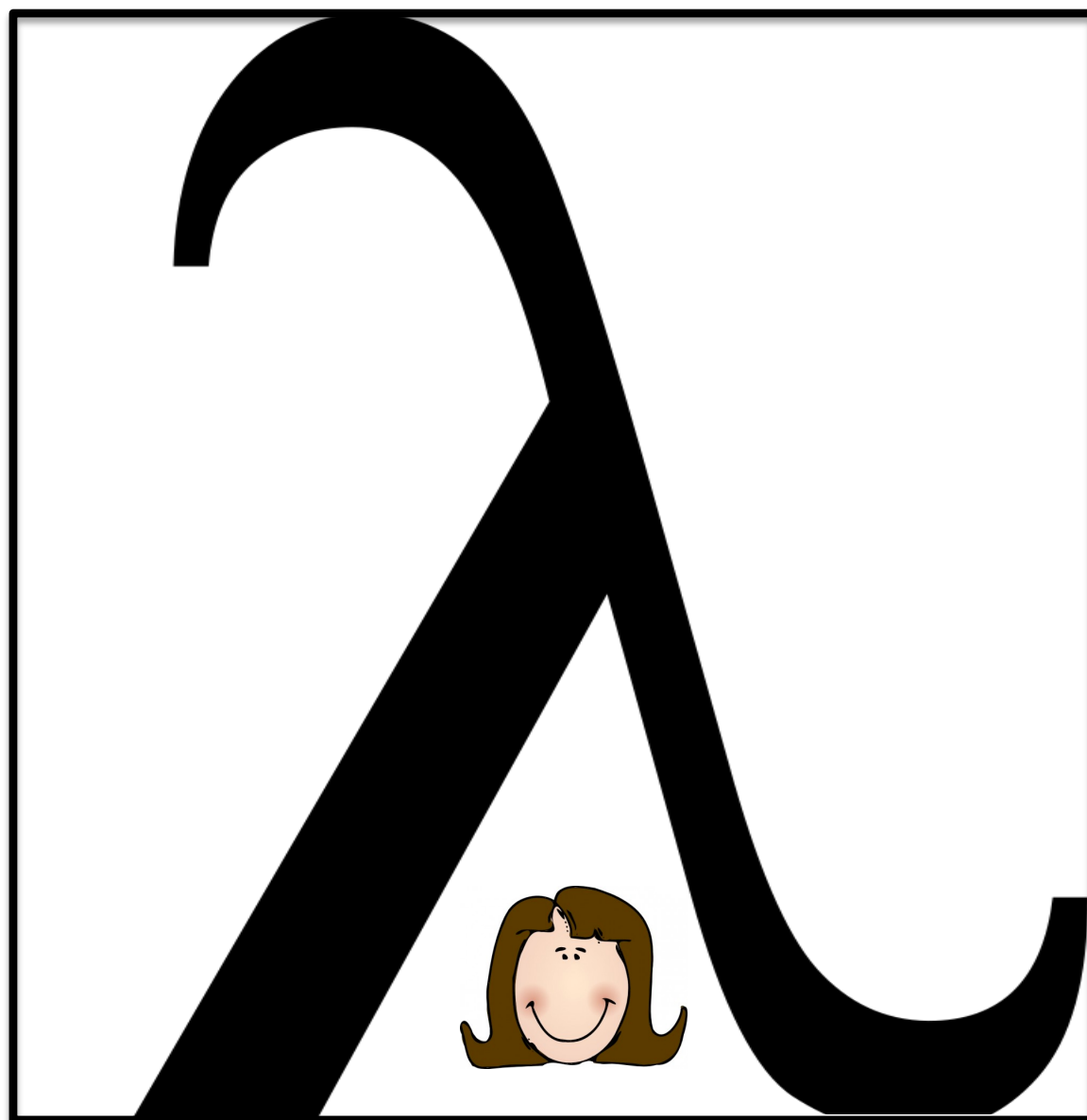
More complex contexts:
Alice's uncertainty is a matter of design.

Logic of information design

Design of the information flows regulating uncertainty



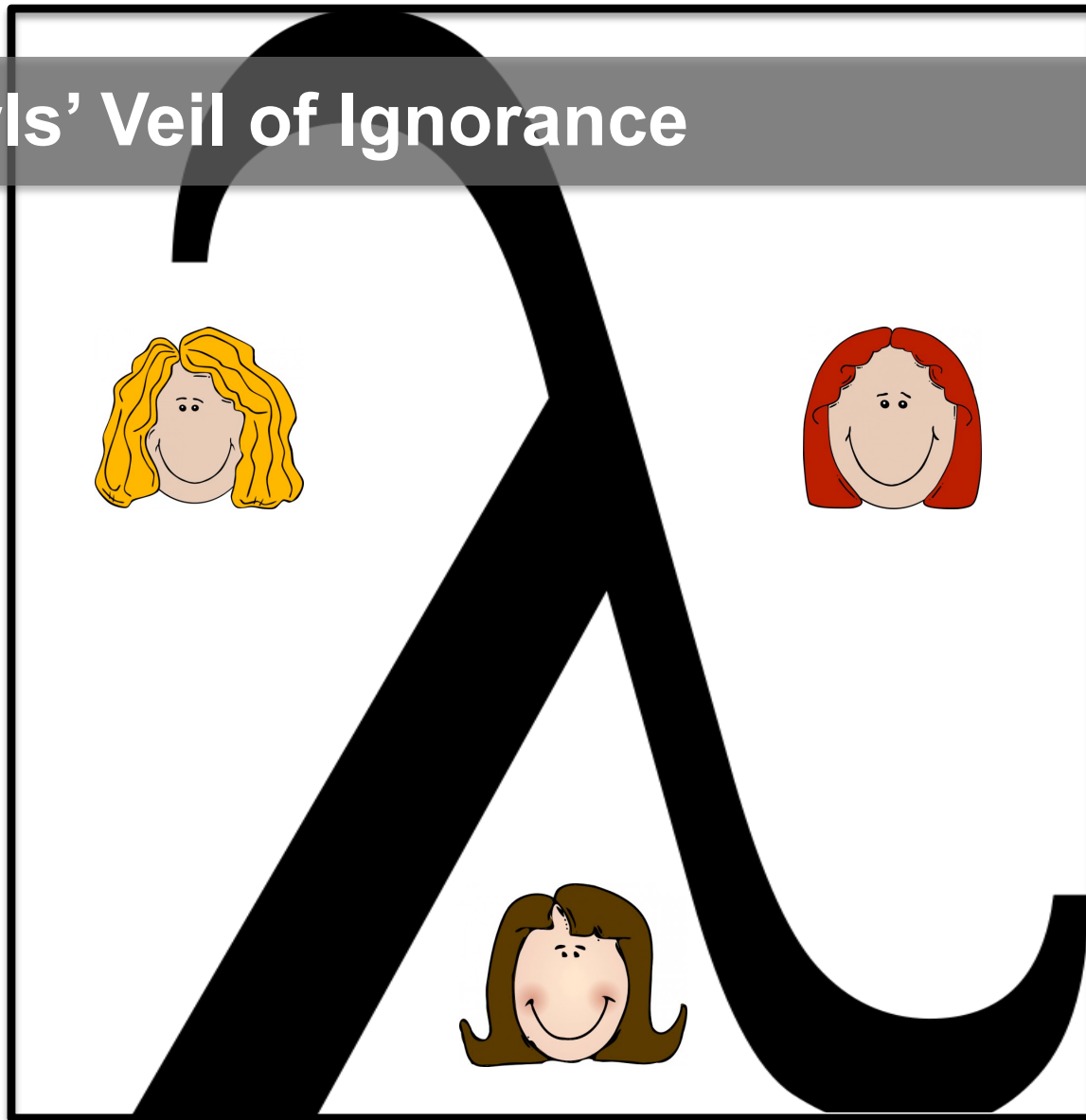




Turing's Test



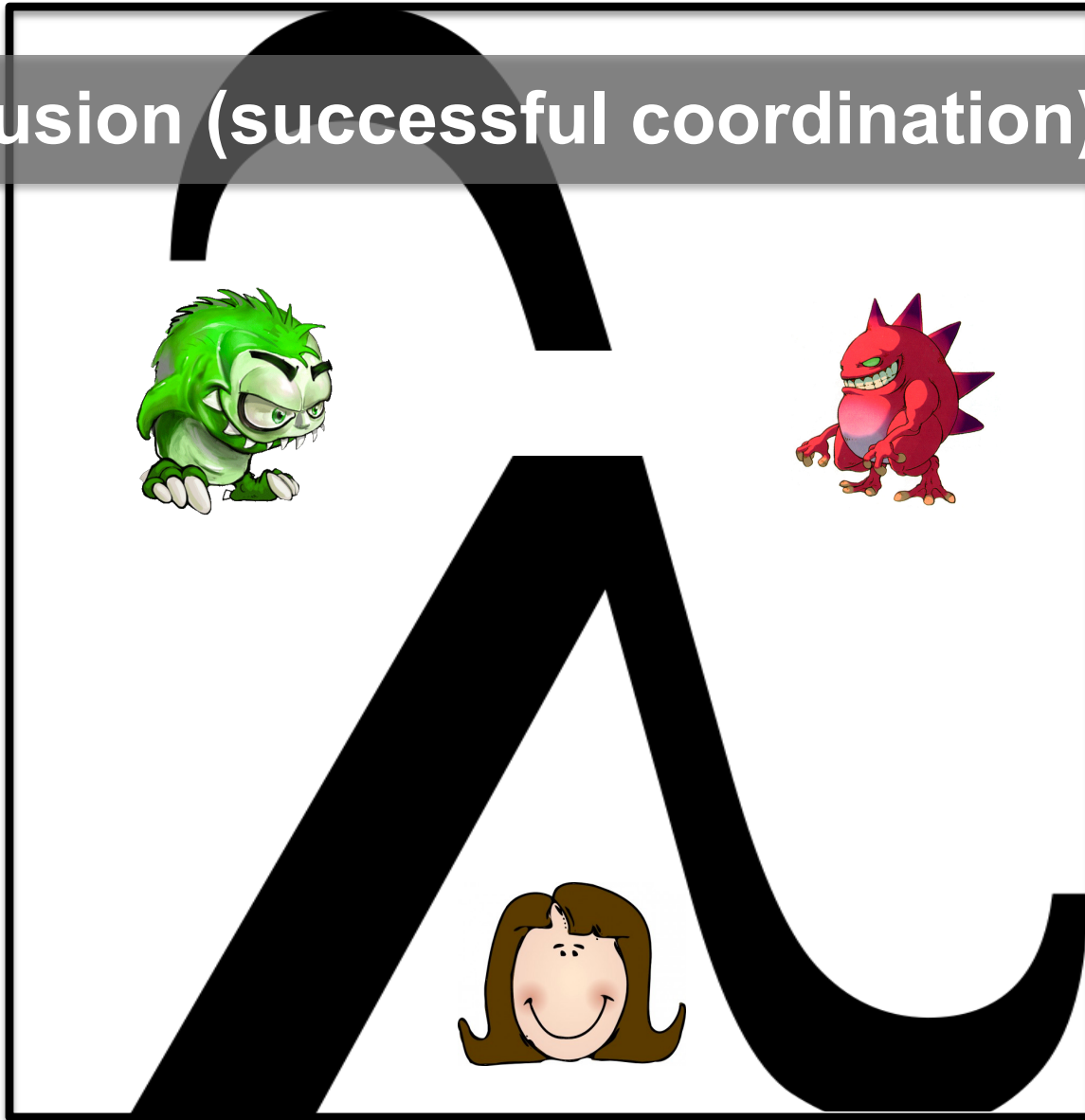
Rawls' Veil of Ignorance



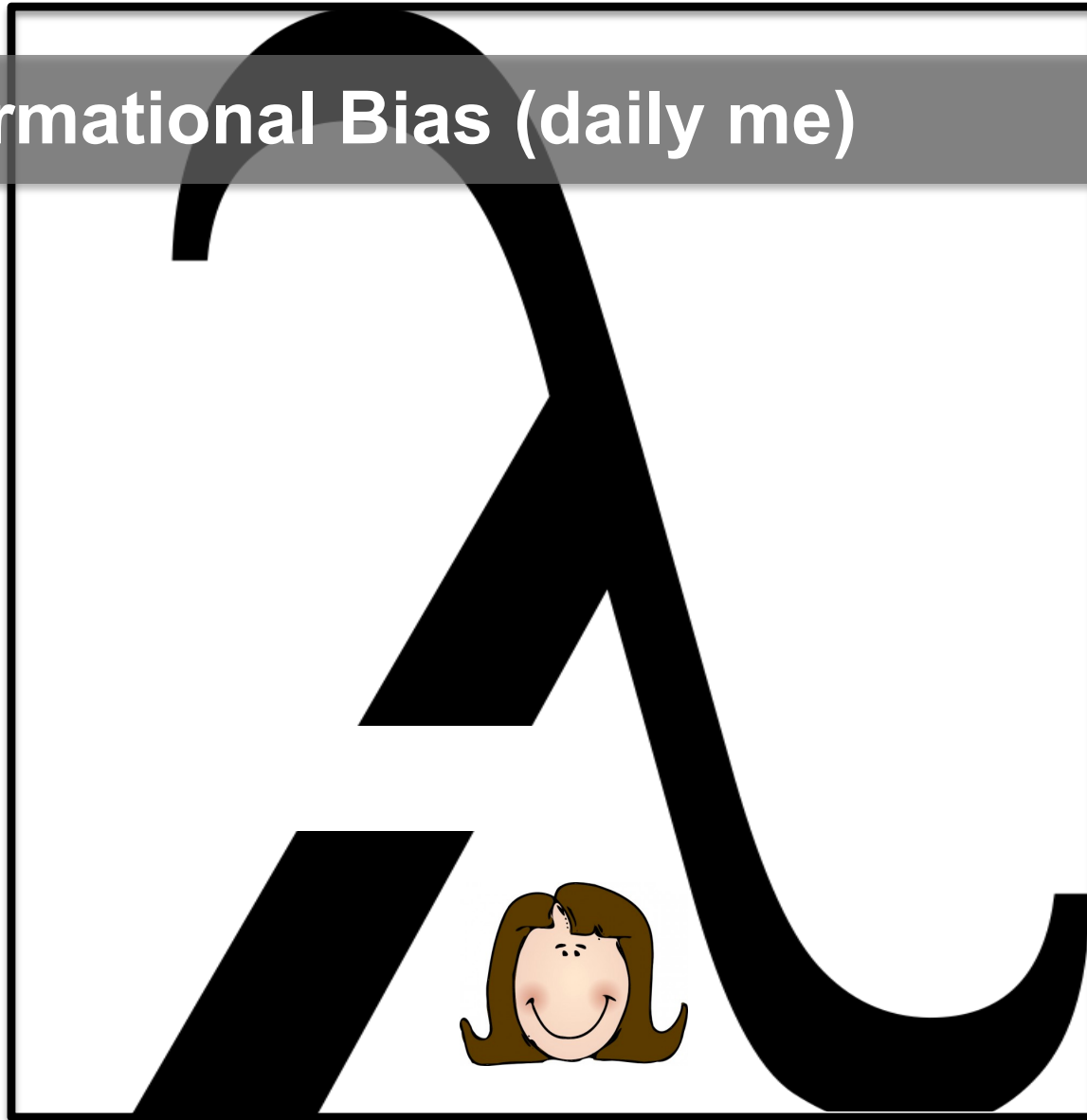
Byzantine Generals (impossible coordination)



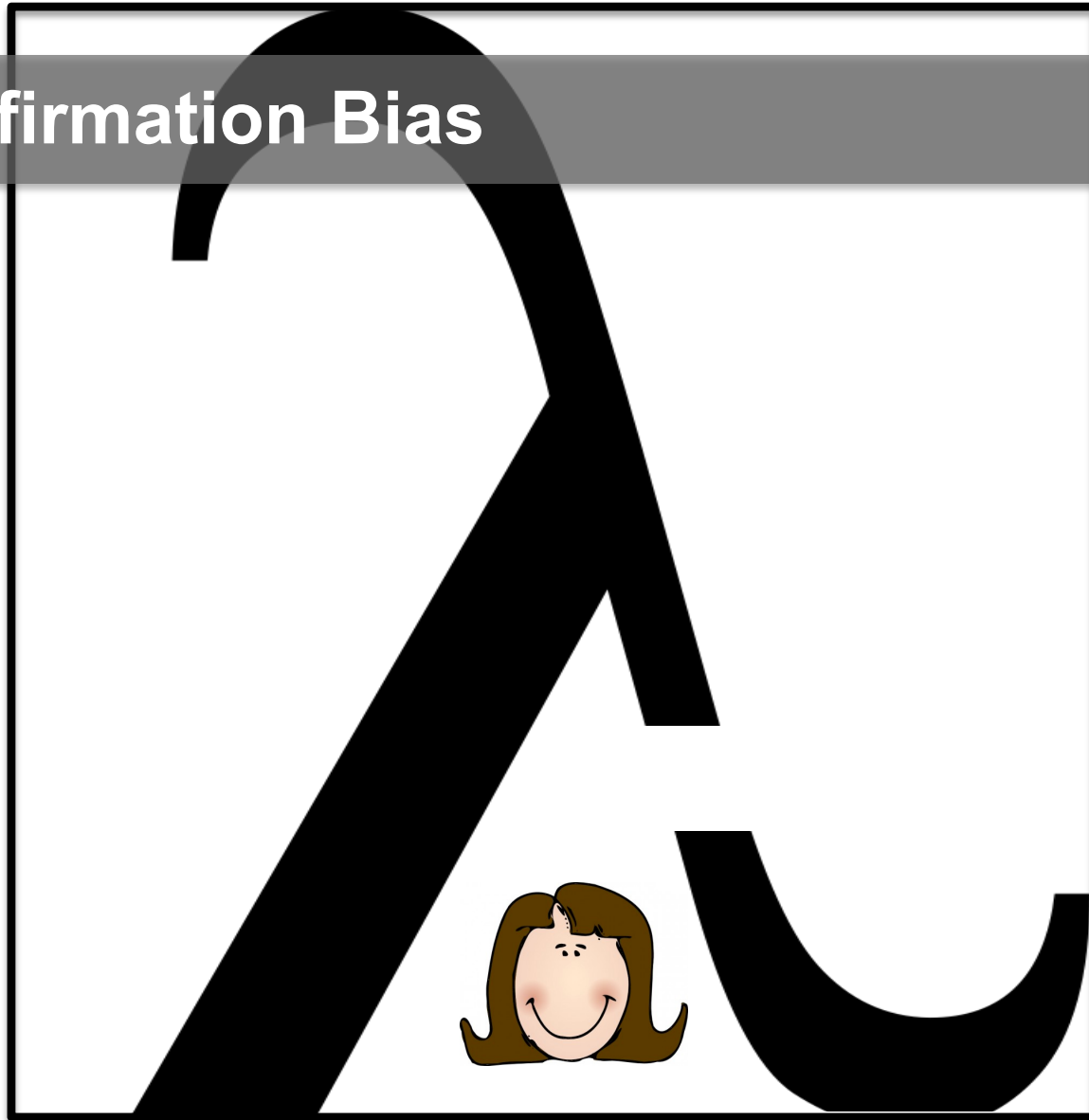
Collusion (successful coordination)



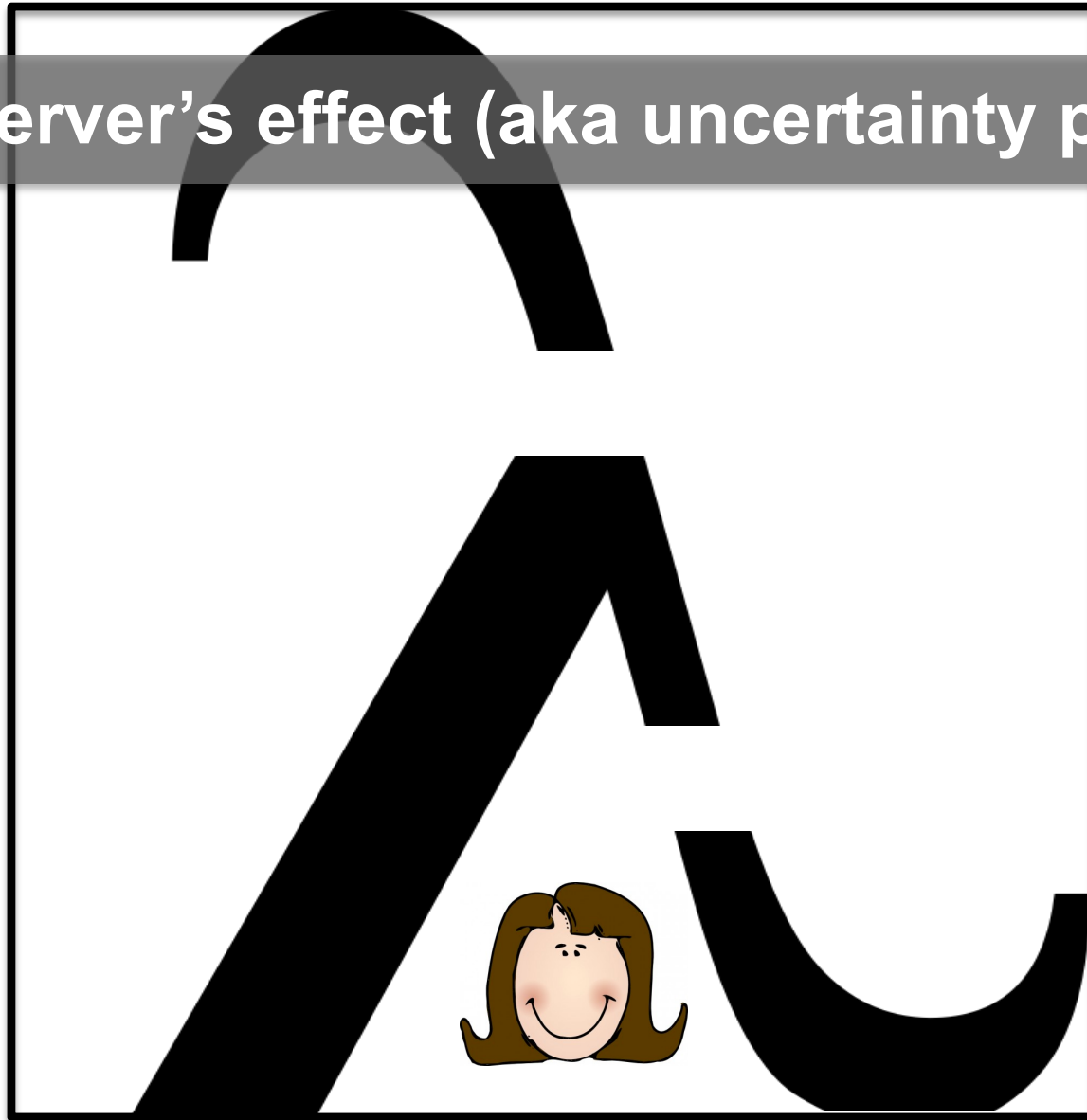
Informational Bias (daily me)



Confirmation Bias

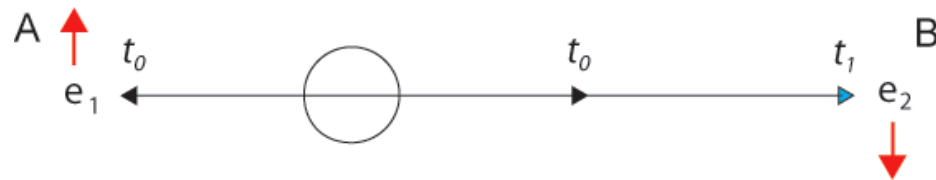


Observer's effect (aka uncertainty principle)



Observer's effect (aka uncertainty principle)

If observer A measures electron 1 with spin up at t_0 ,
electron 2 *instantly* is spin down (Ψ collapses to $|+ - \rangle$).

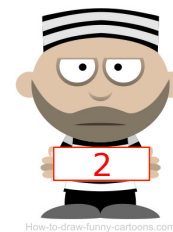


Electron 2 is then *determined* to be found with spin down
if measured by observer B at a later time t_1 .

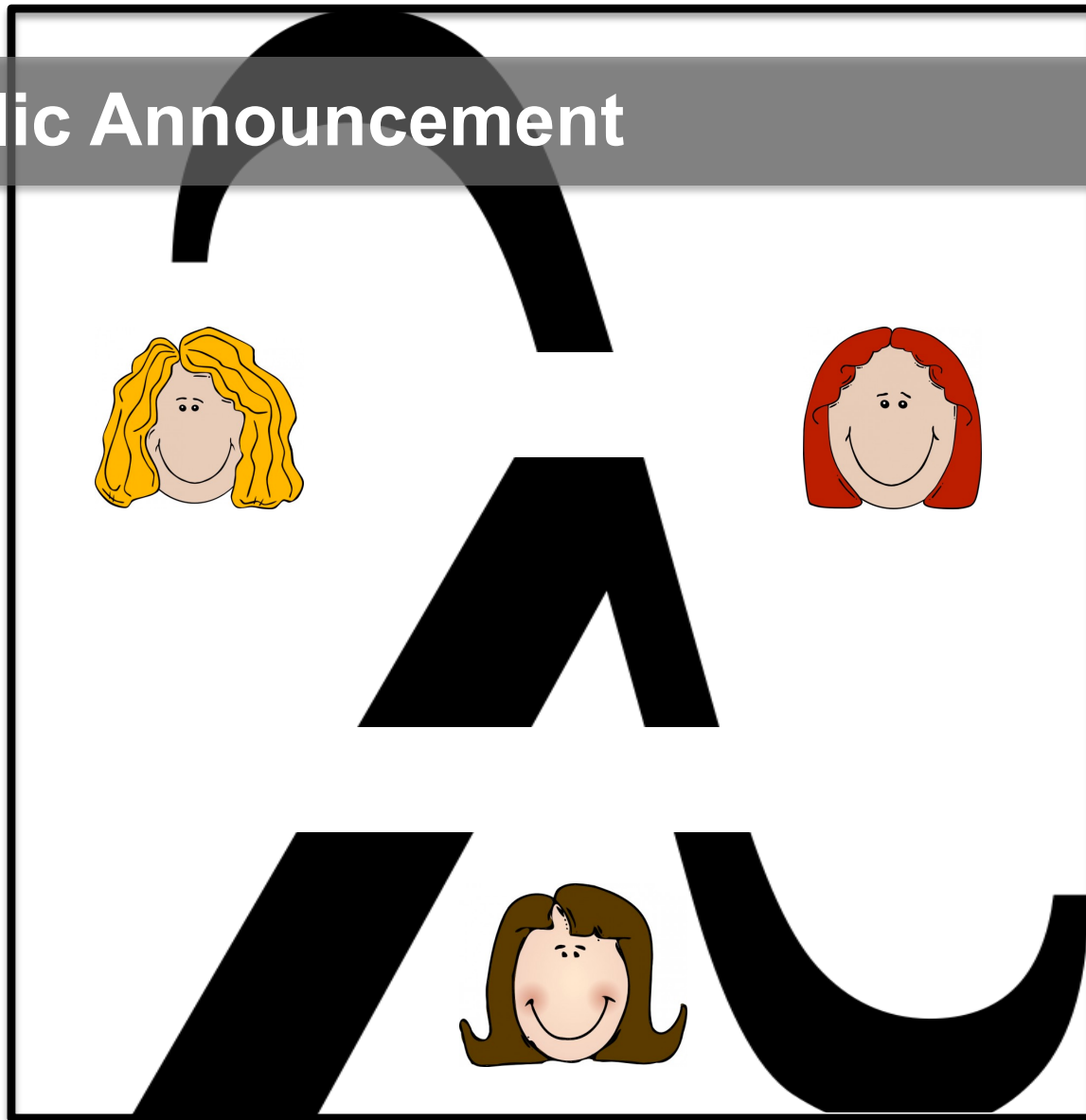
But this was not *predetermined* before A's measurement at t_0 .



Prisoner's Dilemma



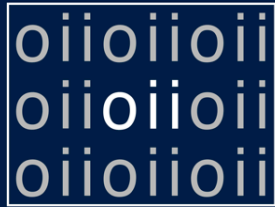
Public Announcement



Conclusion: the Politics of Uncertainty

In liberal societies, awash with information:

- power is exercised not about which questions can be asked, but about what answers can be received: transparency, privacy, right to be forgotten, freedom of speech, ownership rights
- the morphology of the flows of information is the morphology of uncertainty
- those who control uncertainty control reality.



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SOURCES. This research is partly based on *The Fourth Revolution – How the Infosphere is Reshaping Human Reality* (Oxford University Press, June 2014).

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