Foundations: Part 2

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Outline

- National Intelligence Estimate

- Knowledge, Defeaters, and Stakes

- Deductive, Inductive, and Abductive Arguments

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1991 Gulf War

- In 1990, Iraq invaded Kuwait and leveraged weapons of mass destruction during the invasion, e.g. chemical weapons

- In 1991, a coalition of nations led by the U.S. liberated Kuwait

- Sanctions were imposed on Iraq; in particular, the government was required to cease research and development of weapons of mass destruction
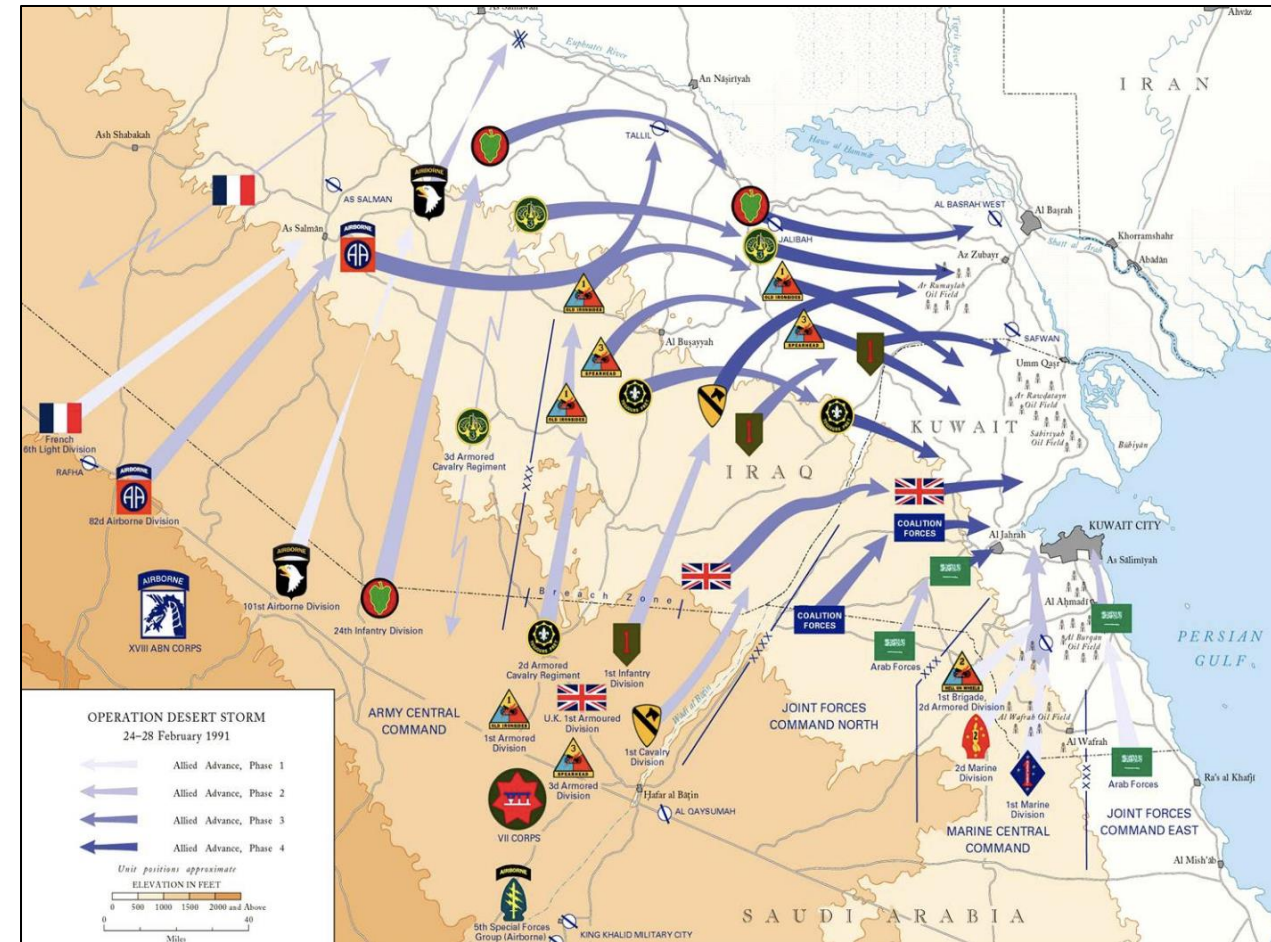
2003 Invasion of Iraq

- Preceding 9/11, there had been concerns over the extent to which Iraq **was or was not conducting R&D** on weapons of mass destruction

- Following 9/11, the U.S. declared war on Iraq on the pretext that the government **was conducting such research** and had been involved in the attacks

- Justification was based on a U.S. *National Intelligence Estimate*

National Intelligence Estimate (NIE)

- Considered to be among the **most authoritative intelligence analysis** documents that can be produced

- Involves expert intelligence analysis input from **all U.S. government intelligence agencies**; is indeed signed by the directors of each agency

- An NIE was produced on the topic of Iraq's potential R&D regarding weapons of mass destruction

National Intelligence Estimate (NIE)

- Despite stating intelligence agencies had **limited information** about the potential counter-intelligence in Iraq at the time, **tentative conclusions** were drawn that Iraq continued its weapons of mass destruction programs

National
Intelligence
Estimate

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Iraq's Continuing Programs
for Weapons of Mass Destruction

2003 Invasion of Iraq

- Secretary of State Colin Powell presented the U.S. case to the United Nations in the interest of garnering support

"My colleagues, every statement I make today is backed up by sources...What we're giving you are facts and conclusions based on solid intelligence...Saddam Hussein has chemical weapons...and Saddam Hussein has no compunction about using them again — against his neighbors, and against his own people."

Intelligence Failure

- The U.S. and coalition forces toppled the Iraq regime led by Saddam Hussein within a week; no weapons of mass destruction were found

- In 1991, **Hussein lied about weapon manufacturing**, but following sanctions **he closed down such operations**

- However, **he did not tell the Iraqi people or his cabinet** because he did not want to appear weak; he assumed U.S. intelligence was so good it would know

Intelligence Failure

- They did not

- Intelligence analysts in the U.S. believed that because Hussein had lied about weapons of mass destruction before the Gulf War, he was likely lying again

- They **were right that he was lying**, but wrong about what he was lying about

Explanation

- The content of the NIE justifying war supported multiple conclusions, some of which suggested Hussein was engaged in relevant R&D, some of which suggested otherwise

- The Bush administration took a strong stand on the former conclusion, despite conflicting intelligence

- Putting political motivations aside, the job of the intelligence analysts in this case were – as they often are – **challenging**

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IT IS WORTH EXPLORING WHY

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Knowledge

- "**Knowledge**" is spoken of in many ways

- One might be said to know *that* something is true; this is **propositional knowledge**

  John knows that the Sun is a star.

- One might be said to know *how* to do something; this is **knowledge how**

  John knows how to drive an automobile

For JTB

- Knowledge seems to involve:

    - **Belief** – If S knows P, then S believes P is true
    - **Truth** – If S knows P, then P is true
    - **Justification** – If S knows P, then S has justification for believing that P is true

- But knowledge cannot be defined solely in terms of justified true belief

Knowledge is More than JTB

Suppose Sam sees the time on a grandfather clock in a hall in the morning reads '8:20'. On this basis, Sam believes it is 8:20 a.m. Suppose it is 8:20 a.m. Now, Sam usually comes downstairs in the morning about this time and this clock has been very reliable for many years. Sam has no reason to think that it is faulty. Sam is thus justified in believing the clock is correct. Suppose, however, the clock stopped 24 hours earlier, so that Sam is now forming his justified true belief by looking at a stopped clock.

Intuitively, Sam lacks knowledge in this case even though it is 8:20 am, he is justified in believing it is 8:20 am, and he believes it is 8:20 am. Ultimately, Sam's accuracy in this case is a matter of luck.

Upshot

- This is just to say that when evaluating whether someone has knowledge, it is not enough to show they have justified true beliefs

- One must also be able to rule out **matters of luck**, of the sort just described

- Which itself is neither an easy thing to formalize nor an easy thing to determine outside of the classroom

For our Purposes

- Of course, knowledge in such a robust sense might be too far a goal for the purposes of intelligence analysis

- Analysts must more often inhabit a world of uncertainty

- Even so, the components of knowledge – **justification**, **belief**, and **truth** – are relevant to intelligence analyst tasks

- Of particular importance then is how beliefs may be **defeated**

Epistemic Defeaters

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- An **undercutting defeater** for P is evidence against P but not evidence for ~P, e.g. the belief that it is not snowing would be undercut by recognition that one had ingested psychodelics

Even More Complications...

- It seems plausible **that your environment** may affect whether you know or are in a position to know or have justified belief in some content

- **Pragmatic Encroachment** is a thesis in epistemology that maintains differences in pragmatic environment may constitute differences in knowledge

Low Stakes

Hannah and her wife Sarah are driving home on a Friday afternoon. They plan to stop at the bank on the way home to deposit their paychecks. It is not important that they do so, as they have no impending bills. But as they drive past the bank, they notice that the lines inside are very long, as they often are on Friday afternoons. Realizing that it wasn't very important that their paychecks are deposited right away, Hannah says, "I know the bank will be open tomorrow, since I was there just two weeks ago on Saturday morning. So we can deposit our paychecks tomorrow morning".

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Hannah seems to know the bank will be open

High Stakes

Hannah and her wife Sarah are driving home on a Friday afternoon. They plan to stop at the bank on the way home to deposit their paychecks. Since they have an impending bill coming due, and very little in their account, it is very important that they deposit their paychecks by Saturday. Hannah notes that she was at the bank two weeks before on a Saturday morning, and it was open. But, as Sarah points out, banks do change their hours. Hannah says, "I guess you're right. I don't know that the bank will be open tomorrow".

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Hannah does not see to know the bank will be open

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Evidence & Valid Arguments

- Among the goals of intelligence analysis is to provide **justification** for conclusions **drawn** from investigations

- Justification is often tied up in argumentation; broadly speaking we can distinguish three major types of argument

Deductive Arguments

Inductive Arguments

Abductive Arguments

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Deductive Arguments

- **Deductive arguments** are arguments that aim to draw a conclusion from premises via logical consequence

- A valid argument is a deductive argument such that if the premises are true then so is the conclusion
  1. If John is a human being then John is a mammal
  2. John is a human being
  3. Hence, John is a mammal

- There is no way for 1 and 2 to be true and 3 to be false

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  DEDUCTIVE ARGUMENTS ARE RARE

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Evidence & Risky Arguments

- Intelligence analysts, like most of us, more frequently encounter inductive or abductive arguments, which you might think of as "risky"

- **Inductive arguments** involve conclusions that may be **likely** given the premises

Inductive Examples

(1) There are 20 oranges in this bag
(2) 12 oranges have been inspected and are delicious
(3) Hence, **most** of the other 8 oranges in the bag will be delicious

(1) There are 20 oranges in this bag
(2) This randomly chosen orange is delicious
(3) Hence, **most** of the remaining 19 oranges will be delicious

Proportions

- We can be more precise…

- **What does "most" mean in "most of the oranges in the bag will be delicious"**

>90% ?

>80% ?

>50% ?

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Proportions

(1) There are 20 oranges in this bag
(2) 12 oranges have been inspected and are delicious
(3) Hence, > 6 remaining oranges in the bag will be delicious

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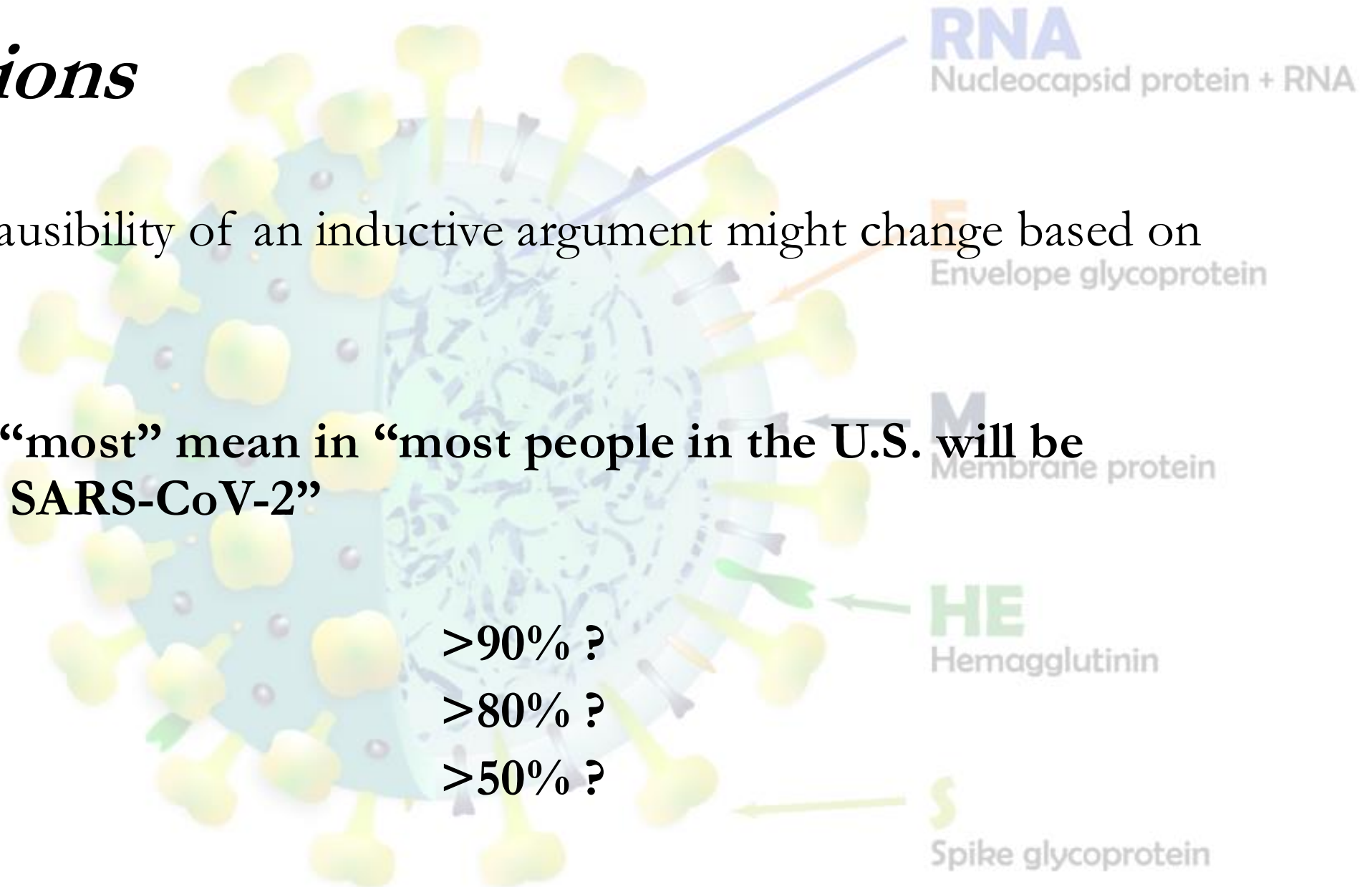
Proportions

- Note, the plausibility of an inductive argument might change based on context

- **What does "most" mean in "most people in the U.S. will be infected by SARS-CoV-2"**

  >90% ?

  >80% ?

  >50% ?

Proportions

(1) There are 20 people in this community
(2) 12 people have tested positive for COVID-19
(3) Hence, most of the other 8 will test positive for COVID-19

(1) There are 20 people in this community
(2) This randomly chosen person is positive for COVID-19
(3) Hence, most of the remaining 19 will test positive for COVID-19

Proportions

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AGAIN, NEITHER CONCLUSION IS GUARANTEED TO FOLLOW

NIE Revisited

- Throughout the NIE justifying war with Iraq, intelligence analysts were only able to offer "risky" inductive arguments

- An NIE must be signed by the heads of all intelligence agencies, which suggests there is a common understanding of the arguments...

We assess that Baghdad has begun renewed production of mustard, sarin, GF (cyclosarin), and VX; its capability probably is more limited now than it was at the time of the Gulf war, although VX production and agent storage life probably have been improved.

Iraq possesses ballistic missiles with a likely range of hundreds of miles—far enough to strike Saudi Arabia, Israel, Turkey, and other nations—in a region where more than 135,000 American civilians and service members live and work. We've also

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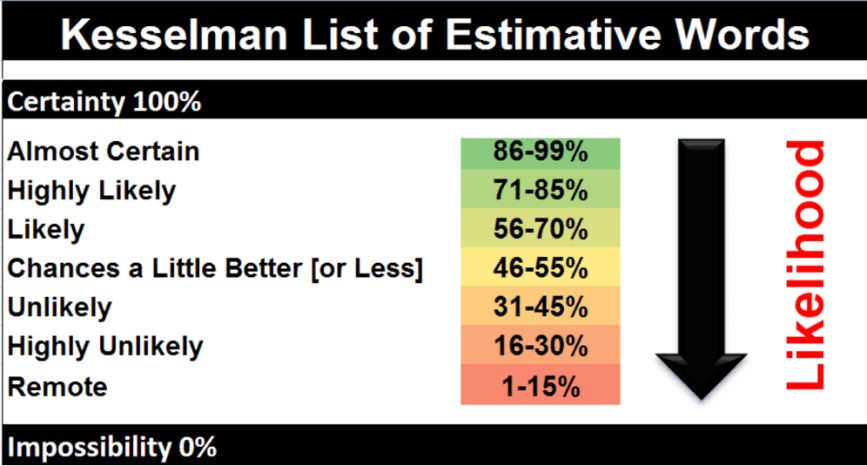
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Table 2.1: Comparison of Respondent and NWS Assigned Probabilities

Term	Survey Mean	Probability
slight chance	19.7%	10%, 20%
Few	28.0%	10%
Ending	31.7%	80%, 90%, 100%
Isolated	34.0%	10%
scattered	34.0%	30%, 40%, 50%
widely scattered	34.3%	20%
Chance	41.8%	30%, 40%, 50%
areas of	43.1%	80%, 90%, 100%
Occasional	50.9%	80%, 90%, 100%
Developing	52.9%	80%, 90%, 100%
Periods of	56.0%	80%, 90%, 100%
Likely	62.5%	80%, 90%, 100%
Frequent	66.5%	80%, 90%, 100%
Numerous	72.3%	80%, 90%, 100%

Table 2.4: Kent's Words of Estimative Probability

100% Certainty

The General Area of Possibility

93%	give or take about 6%	Almost certain
75%	give or take about 12%	Probable
50%	give or take about 10%	Chances about even
30%	give or take about 10%	Probably not
7%	give or take about 5%	Almost certainly not

0% Impossibility

Kesselman List of Estimative Words

Certainty 100%

Almost Certain	86-99%
Highly Likely	71-85%
Likely	56-70%
Chances a Little Better [or Less]	46-55%
Unlikely	31-45%
Highly Unlikely	16-30%
Remote	1-15%

Likelihood

Impossibility 0%

almost no chance	very unlikely	unlikely	roughly even chance	likely	very likely	almost certain(ly)
remote	highly improbable	improbable (improbably)	roughly even odds	probable (probably)	highly probable	nearly certain
01-05%	05-20%	20-45%	45-55%	55-80%	80-95%	95-99%

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NIE Revisited

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UNLIKELY

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Deductive Arguments

Inductive Arguments

Abductive Arguments

Abductive Arguments

- **Abductive arguments** involve conclusions that are considered the **best explanation** for some premises

- While there are often multiple potential explanations for a given event, some are better than others

- A black and white cat that answers to "Otis" begs me for treats at t_1. An identical cat that answers to "Otis" begs me for treats at t_2. The best explanation is that it's the same cat at both times, namely, my cat Otis.

Abductive Arguments

1. There are multiple signals of troop movement near a contested border.
2. Each of the following explain 1:
   - H_1: Routine military exercises.
   - H_2: Preparation for an invasion.
   - H_3: Defensive training mission.
3. There has been increased political tension in the area.
4. Previous intelligence indicates potential military escalation.
5. The best explanation given 1, 3, and 4 is H_2.

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Best Explanation(s)

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We judge that Iraq has continued its weapons of mass destruction (WMD) programs in defiance of UN resolutions and restrictions. Baghdad has chemical and biological weapons as well as missiles with ranges in excess of UN restrictions; if left unchecked, it probably will have a nuclear weapon during this decade. (See INR alternative view at the end of these Key Judgments.)

The Assistant Secretary of State for Intelligence and Research (INR) believes that Saddam continues to want nuclear weapons and that available evidence indicates that Baghdad is pursuing at least a limited effort to maintain and acquire nuclear weapon-related capabilities. The activities we have detected do not, however, add up to a compelling case that Iraq is currently pursuing what INR would consider to be an integrated and comprehensive approach to

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Summary

- We have explored – through the context of the National Intelligence Estimate used to justify the war in Iraq – challenges and uses of intelligence in high stakes circumstances

- We leveraged resources from contemporary epistemology to add structure to our investigation

- Ultimately closing by outlining forms of "risky" argument often offered by intelligence analysts

Readings

- National Security Intelligence Activity: A Philosophical Analysis

- Rethinking Intelligence Practices and Processes