Foundationalism and Coherentism

Based on what?

Inferential justification

- A belief is *inferentially justified* when it is supported by another belief.
- (An inferentially justified belief is also called a nonbasic justified beliefs, or mediately justified belief)

- E.g. The oxygen theory of combustion was supported by the observation that magnesium gains mass as it burns.

- What is the relation of 'support' between beliefs? What are its properties?

Inferential justification

- The extreme case of support is *logical consequence*.

- E.g. I believe (with certainty) that $26 \times 7 = 182$.
- Why do I believe this? Because:

$26 = 20 + 6$.

Hence $26 \times 7 = (20 + 6) \times 7$
$= (20 \times 7) + (6 \times 7)$
$= 140 + 42$
$= 182$

1. $26 = 20 + 6$
2. $20 \times 7 = 140$
3. $6 \times 7 = 42$
4. $140 + 42 = 182$
5. For all x, y and z, $(x + y) \times z = x \times z + y \times z$

$\therefore$ 26 x 7 = 182

- This argument is deductively valid, so that if the premises are true then the conclusion must be true as well.

Inductive support

- Outside of mathematics, there are few cases of deductive support (strict logical consequence).
- E.g. The fact that magnesium gains weight when it burns doesn't logically entail that the magnesium is bonding with something in the air.

  (Maybe the magnesium is giving off phlogiston, which has negative weight.)
- Here we have *inductive* or *probabilistic* support, usually defined as: $P(H \mid E) > P(H)$.

Facts about inductive support

- If A supports B, then B supports A (though not usually to the same extent).

  I.e. If $P(A \mid B) > P(A)$, then $P(B \mid A) > P(B)$.

  – E.g. the belief that Smith robbed the 7-11 on Main St. supports the belief the Smith robbed the 7-11 on Fraser St., and vice-versa.

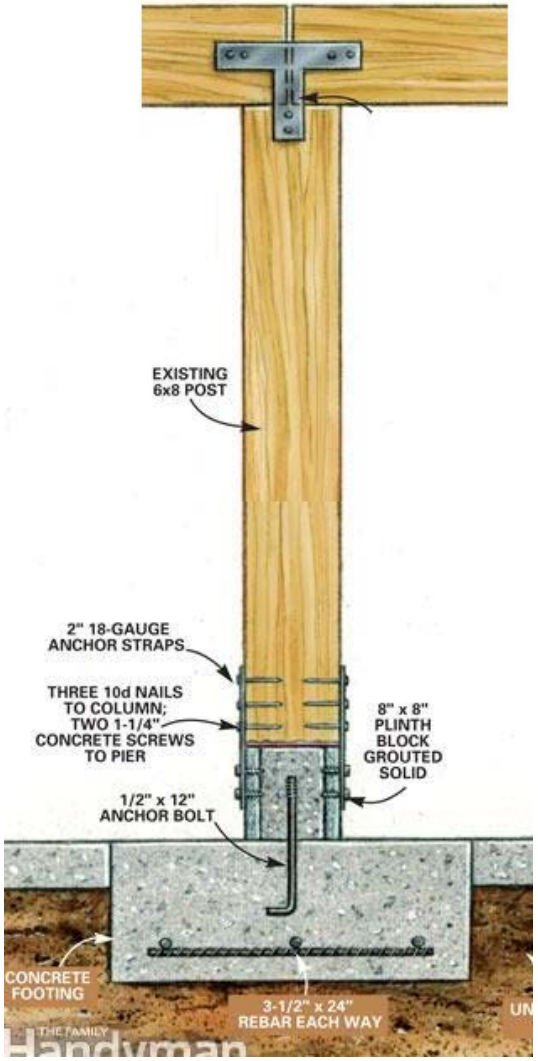
- There is also 'negative relevance', or 'undermining', where $P(A \mid B) < P(A)$.
- 'Independence' occurs when $P(A \mid B) = P(A)$

Different kinds of relevance

- Positive
  - $P(A \& B) > P(A).P(B)$
- Negative
  - $P(A \& B) < P(A).P(B)$
- No relevance (independence)
  - $P(A \& B) = P(A).P(B)$

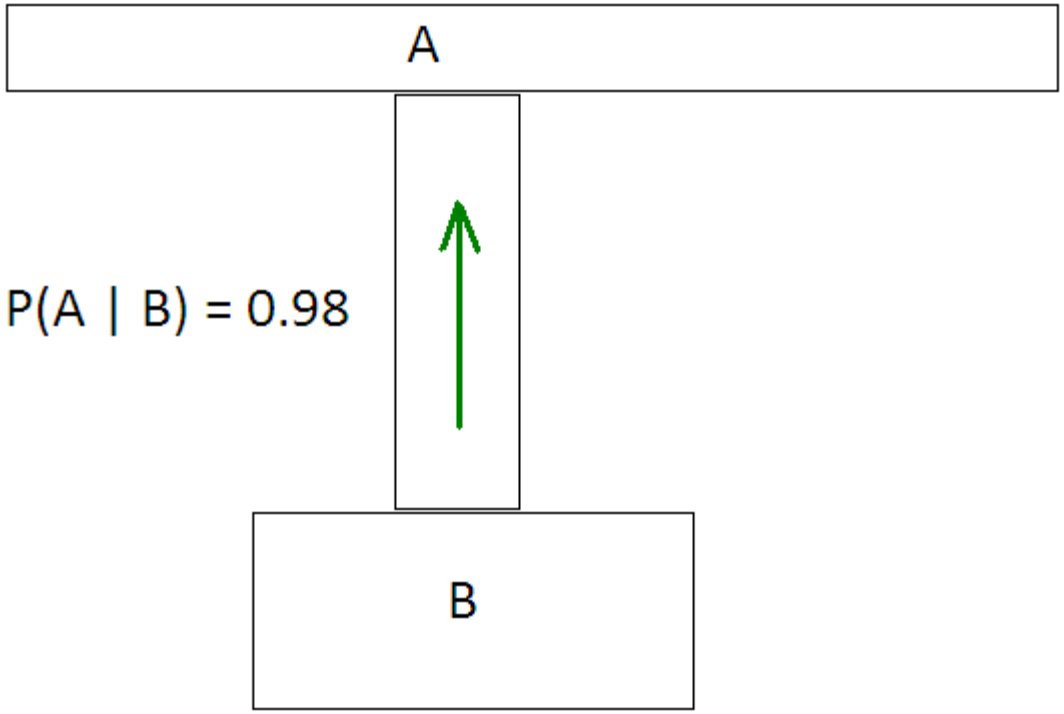
Support *transfers* justification?

- In construction, we say that a column supports a beam, which supports a floor joist, etc.
- Of course a column cannot support anything, unless it is *itself* supported by something else (e.g. a footing).
- Thus we say that a column merely *transfers* load from the beam to the footing (i.e. it transfers support from the footing to the beam).



Support *transfers* justification?

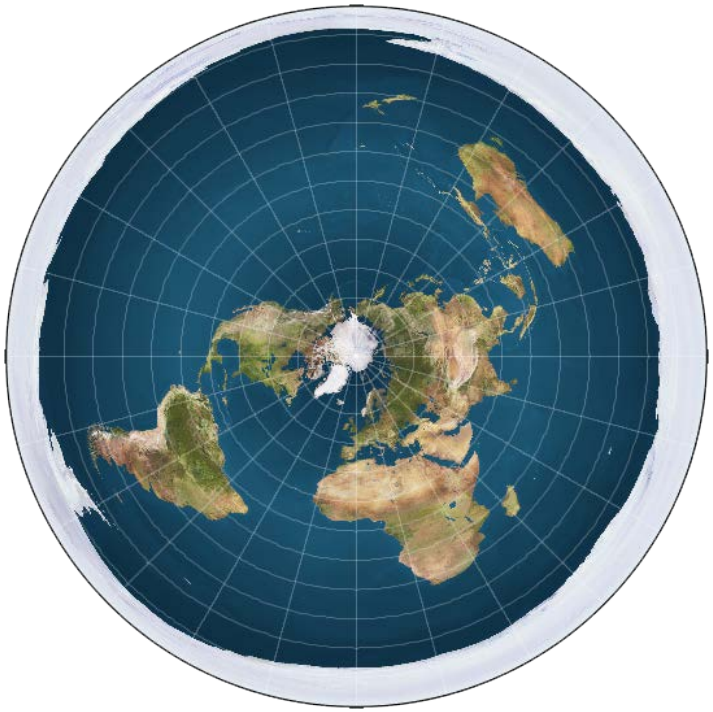
- In similar way, probability theory says that support relations merely *transfer* probability from one belief to another.
- E.g. Suppose P(A | B) is high, say 0.98, so that B strongly supports A.
- Does it follow that A is probable? No. It means only that A is probable *given B*.
- Probability theory says that: $P(A) \geq P(A \mid B).P(B)$, i.e. A high value for P(A | B) means that most of B's probability is transferred to A.



- If P(A | B) = 0.98, then 98% of B's probability is transferred to A.
- But if P(B) = 0.0001, then that ain't much!

- In a similar way, the fact that B is negatively relevant to (i.e. undermines) A doesn't entail that A is improbable.

- E.g. the proposition that the earth is round is undermined by the proposition that the shortest way to fly from Tasmania to Argentina is over the Arctic. (About 24 hours flying!)



Regress Argument

- This idea that support between beliefs merely *transfers* probability (or justification), and doesn't *create* probability, is the basis of the 'regress argument' for foundationalism.

- If justification isn't created by support, then somewhere in a person's belief system there must be beliefs that are justified in some other (non-inferential) way.

Justified Basic Beliefs

- ***JB:*** B is a justified basic belief $=_{df}$ B is justified, but is not justified on the basis of any other beliefs.

- A basic belief is analogous to a concrete footing, which is a part of a building that is not supported by any other part of the building.
- Beliefs are generally structured in evidential chains analogous to vertical loading chains in buildings.
- Basic beliefs are *foundations* for the belief system.
- Alleged examples of basic beliefs include perceptual beliefs and 'self-evident' logical truths.

Regress argument that JBs exist

1-1. The alternative to JBs is that each justified belief has an evidential chain that either:

(a) terminates in an unjustified belief

(b) is an infinite regress of beliefs

(c) is circular

1-2. (a) is impossible, because inference merely *transfers* justification. An unjustified belief has none to transfer.

1-3. (b) is impossible. No person could have an infinite series of beliefs. (And, again, inference merely *transfers* justification.)

1-4. (c) is impossible, because inference merely *transfers* justification.

1-5. There are justified basic beliefs from (1-1) - (1-5).

Foundationalism

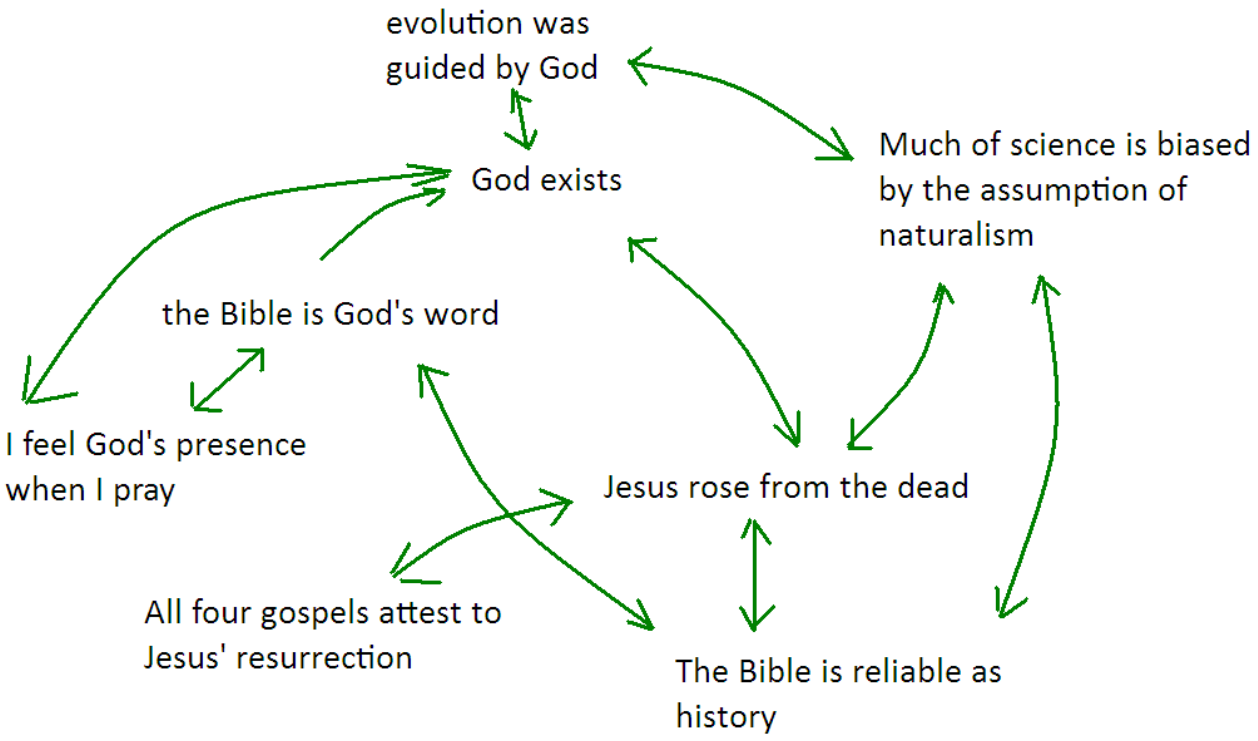
- There are justified basic beliefs, which serve as a foundation (via inference) of the rest of the belief system.

- The main competitor of foundationalism is *coherentism*.

- **Coherentism**, the main competitor for foundationalism, denies 1-4 in the regress argument. Fundamentally, it denies that inference merely transfers justification. An interlocking web of supporting inferences actually *creates* justification.

Does coherence create probability?

- A system of beliefs that is mutually supporting is said to be *coherent*. One can picture a coherent belief system as a complex web of beliefs, each of which supports many other beliefs in the web, either directly or indirectly.



Cartesian (or "classical") foundationalism

- Justified basic beliefs must be *infallible*, e.g.:
  - beliefs about our own conscious states
  - Self-evident logical truths
  - Not much else!
- Inferential support must be *deductive*.
  - A deductively supports B iff P(B|A) = 1.

- *S*'s belief that *P* at *t* is infallible if S's believing *P* at *t* entails that *P* is true.

Problems with classical foundationalism

1. So few beliefs are infallible that not much can be supported by them.
   - E.g. How do we infer (with certainty!) the nature of the external world from our own conscious states?
   - Are we even infallible about those things?

Problems with classical foundationalism

2. Justifying beliefs about the external world, by support from beliefs about our conscious experience, is very funny.
   - "People rarely base their beliefs about the external world on beliefs about their own inner states."
   - E.g. "I am now seeming to see something chair-like"

3. The requirement of *deductive* support is way too restrictive.
   - In actual cases of human knowledge, beliefs are supported inductively – at best – by the empirical evidence.

Coherentism

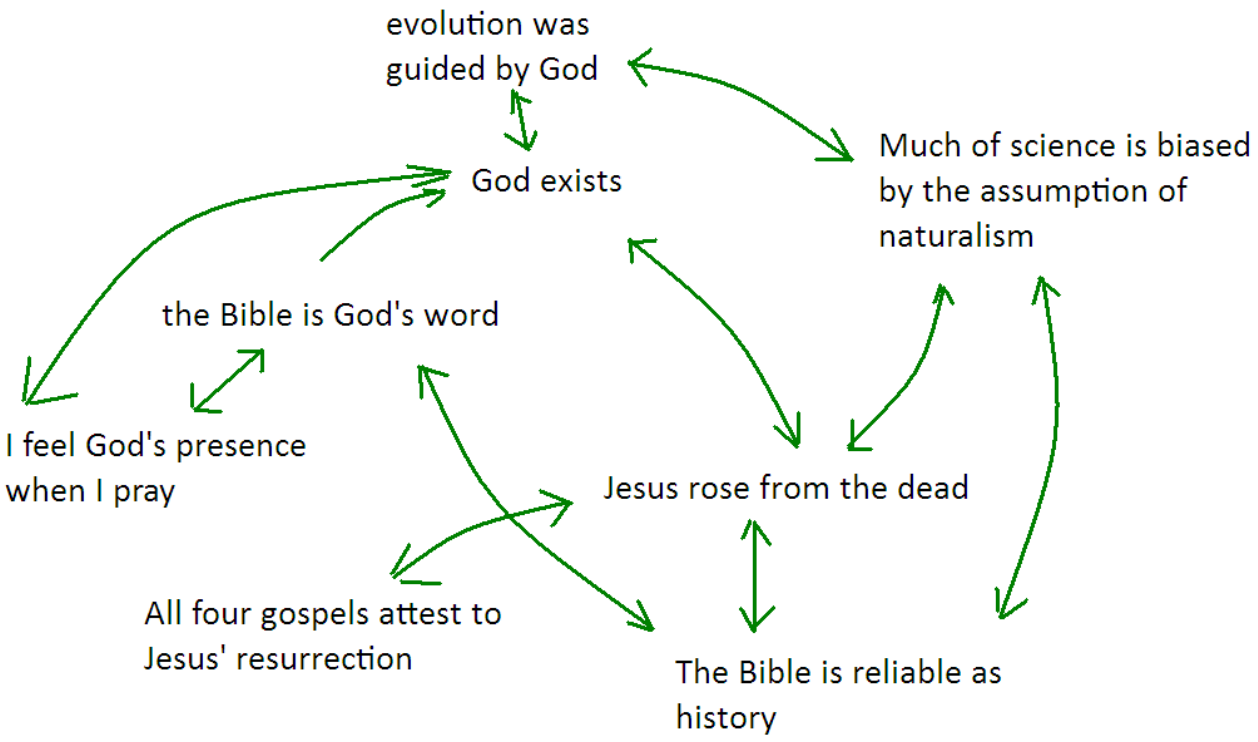
Coherentists endorse the following two central ideas:

Cl. Only beliefs can justify other beliefs. Nothing other than a belief can contribute to justification.

C2. Every justified belief depends in part on other beliefs for its justification. (There are no justified basic beliefs.)

Justification arises from the “web”

CT3. S is justified in believing p iff the coherence value of S’s system of beliefs would be greater if it included a belief in p than it would be if it did not include that belief.



Coherentism

- Coherentism says that justification is a *holistic* property of belief systems.

"… inferential justification, when properly understood, is ultimately nonlinear or *holistic* in character, with all of the beliefs involved standing in relations of mutual support, but none being justificationally prior to the others. In this way, it is alleged, any objectionable circularity is avoided." (BonJour, p. 189.)

Objections to coherentism

- The Alternative Systems Objection
  - "there will always be many, probably infinitely many, different and incompatible systems of belief which are equally coherent."
- The Isolation Objection
  - How does coherentism properly respect the "data of experience"? If (e.g.) perceptual beliefs have no special epistemic weight, as (almost) non-negotiable, then coherent beliefs are not likely to be *true*.

Alternative systems

- A second problem is raised by the apparent possibility of *alternative coherent systems*. Since coherence is a purely internal property of a group or system of beliefs, it seems possible to invent indefinitely many alternative systems of belief in a purely arbitrary way and yet make each of them entirely coherent, with any possible belief that is internally consistent and coherent being a member of some of these systems. But since the beliefs in one such system will conflict with those in others, they obviously cannot all be justified. Thus there must be some basis other than coherence for choosing among these systems and the beliefs they contain, so that coherence is not by itself an adequate basis for justification. (BonJour, 192-3)

- Feldman replies (p. 67):

  "Conflicting beliefs, in alternative systems, can be justified. People who have had different experiences and learned different things might justifiably believe very different things. There may be some people who have been taught nonstandard things and who, as a result, have a justified belief that Lincoln was not assassinated. There is no good objection to coherentism here."

- But don't these different people have *different empirical evidence*?
- Feldman seems to be replying to a botched attempt to state the alternative systems objection?

- Isn’t the alternative systems problem trying to show that empirical data are needed, in addition to coherence, to have justified beliefs?

- If so, then the alternative systems objection is really the same as, or perhaps a presupposition of, the isolation problem.

Isolation problem

- “Why couldn’t a system of beliefs be perfectly coherent while nonetheless entirely impervious to any sort of influence or input from external reality, thus being completely isolated from it? But if this were so, it could seemingly be only an unlikely accident or coincidence if the beliefs in question happened to be true. Thus, it is argued, coherence is irrelevant to truth and so provides no basis for justification.”

The Strange Case of Magic Feldman

- Professor Feldman is a rather short philosophy professor with a keen interest in basketball. Magic Johnson (MJ) was an outstanding professional basketball player. While playing a game, we may suppose, MJ had a fully coherent system of beliefs. Magic Feldman (MF) is a possible, though unusual, character, who is a combination of the professor and the basketball player. MF has a remarkable imagination, so remarkable that while actually teaching a philosophy class, he thinks he is playing basketball. Indeed, he has *exactly* the beliefs MJ has. Because MJ's belief system was coherent, MF's belief system is also coherent.

- Also the case of the psychology experiment, judging the relative lengths of lines.

A question for coherentists:

- How do you give perceptual beliefs their proper respect and authority, their (almost) non-negotiable status, without making them basic?

Modest (or ‘weak’) foundationalism

- Modest foundationalism:
  - Basic beliefs are ordinary perceptual beliefs about the external world
  - Basic beliefs can be justified without being immune from error
  - Non-basic beliefs can be justified if they are well supported by basic beliefs without being deducible from them.

- E.g. non-basic beliefs are supported by “inference to the best explanation”

Question for modest foundationalists:

- When are non-inferential (i.e. “spontaneous”) beliefs justified?
  - (Surely they’re not all justified?)

- **MF2b**. A spontaneously formed belief is justified provided it is a proper response to experiences and it is not defeated by other evidence the believer has.

BonJour's TIF objection

- We can't responsibly endorse a spontaneous belief B unless we have some reason to think that B is true. For example, we realise that B is likely to be true because B has some property Φ. But then we're reasoning as follows:

  (1) B has feature Φ.
  (2) Beliefs having feature Φ are highly likely to be true.

  ∴ B is highly likely to be true.

But then B isn't basic!

Response?

- "The modest foundationalist idea, then, is that *experiences themselves* can be evidence"

- I.e. having a perceptual belief that is a "proper response" to a perceptual experience is enough for the belief to be justified.
- You don't need evidence for the reliability of your cognitive systems.

- Doesn't this sound a bit externalist?

Donald Davidson isn't having that!

"The relation between a sensation and a belief cannot be logical, since sensations are not beliefs or other propositional attitudes [that is, are not formulated in conceptual terms]. What then is the relation? The answer is, I think, obvious: the relation is causal. Sensations cause some beliefs and in *this* sense are the basis or ground of those beliefs. But a causal explanation of a belief does not show how or why the belief is justified."

Question for modest foundationalists:

- What kind of belief counts as a “proper response” to a perceptual experience?

- Consider also a person who sees a clearly displayed triangular shaped object. The person is justified in believing that there is a triangular shaped object there, and a belief in that proposition would be properly based on experience. Contrast this with a person who sees a clearly displayed 44-sided object directly in front of him. The proposition that there is a 44-sided object would not be justified for him, and a belief in that proposition would not be properly based in experience. But what is the difference between these cases?

Can coherence create probability?

- We know that if a pair of beliefs {A, B} is coherent, then this will increase its probability.
  - I.e. $P(A \& B) > P(A).P(B)$, if A and B are mutually supportive.
  - N.B. The coherence of {A, B} adds probability to A&B, but not to A individually, or to B. It's a 'holistic' effect.

- Think about a crossword puzzle. Suppose you write down an answer next to each clue, but don't put the answers into the grid. How likely is it that they're all true?
  - Now suppose you enter the words into the grid, and they're all coherent. How likely is it *now* that they're all correct?

Across

1. Cook on gridiron	grill
4. Work with shovel	dig
6. Belonging to us	ours
7. Repeated another time	again
8. Small insect	ant
9. 10 cent coin	dime
11. Frozen precipitation	snow
14. Food tin	can
15. Grayish green	olive
17. Hooting bird	owl
18. Sticky black substance	tar
19. A lollipop	sucker

- Right. We're more confident of a set of entries if *they all fit together*.

- Why is this?

C. I. Lewis and independent witnesses

- A number of witnesses report the same thing about some event – for example, that Nancy was at last night's party. However, the witnesses are unreliable about this sort of thing. Moreover, their reports are made completely independently of one another – in other words, the report of any one witness was in no way influenced by the report of any of the other witnesses.
- According to Lewis, the "congruence of the reports establishes a high probability of what they agree upon." (p. 246)

Justification “from scratch”?

- In this case of independent witnesses, it is said that each witness is *unreliable*. But presumably their testimony is at least *some* evidence (however weak) for the claim in question?

- Could coherence create justification “from scratch”, i.e. purely from the coherence of claims that individually have no evidential value at all?

- Let A be some event.
- E_1 says that witness #1 affirms that A occurred
- E_2 says that witness #2 affirms that A occurred

- Conditional Independence (CI): $P(E_2 \mid E_1 \,\&\, A) = P(E_2 \mid A)$
  $P(E_2 \mid E_1 \,\&\, \neg A) = P(E_2 \mid \neg A)$

- Nonfoundationalism (N) $P(A \mid E_1) = P(A)$
  (each *single* witness has no evidential value) $P(A \mid E_2) = P(A)$

- [Coherence Justification (CJ) $P(A \mid E_1 \,\&\, E_2) > P(A)$].
  (together, the witnesses have evidential value)

- However, (CI) and (N) entail that $P(A \mid E_1 \,\&\, E_2) = P(A)$. So there is no justification from scratch.

Multiple, slightly evidential witnesses

- But if the witnesses are unbiased, and each have *a little* epistemic value on their own, then coherence between such witnesses is significant. E.g. suppose:

- A is an unlikely event: $P(A) = 0.01$
- 3 witnesses are all unbiased: $P(E_1) = P(E_2) = P(E_3) = P(A)$
- Independent: $P(E_1 \& E_2 \& E_3 \mid A) = P(E_1 \mid A)P(E_2 \mid A)P(E_3 \mid A)$
- Each witness has slight evidential value: $P(A \mid E_i) = 0.05$

- Then $P(A \mid E_1 \& E_2 \& E_3) = 0.59$

Causal input?

- To solve the isolation problem, the coherentist needs their belief system to be constrained by the real world.
- Of course the real world *causes* perceptual beliefs, and thus our belief system has a kind of 'input' from reality.

"But he must insist that merely being produced in this way gives them no special justificatory status, so that their justification has to be assessed on the same basis as that of any other belief, namely by how well they fit into a coherent system of beliefs. …

…Thus, according to this sort of view, a belief that is a mere hunch or is a product of wishful thinking or even is just arbitrarily made up, but that coheres with a set of other beliefs (perhaps arrived at in the same ways!), will be justified; while a perceptual belief that is not related in this way to other beliefs will not be." (pp. 190-1)

Somehow the coherentist needs to give some sort of 'special status' to perceptual beliefs, to give them extra weight, without sliding into foundationalism.

BonJour's suggestion

- The belief system includes a *general* belief that's something like:

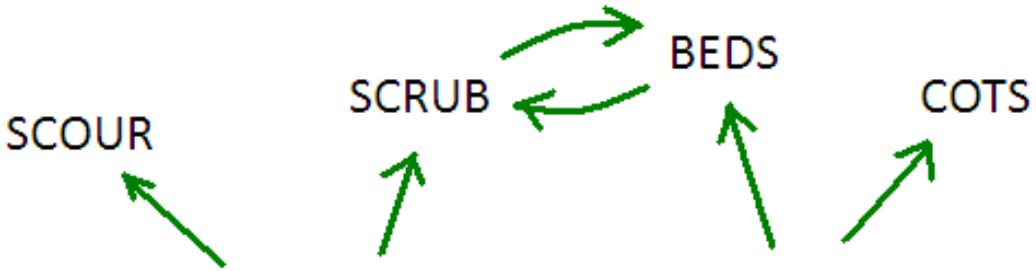
  Observational beliefs are generally true

  Such beliefs give a privileged status to observational beliefs. But what justifies such general beliefs?

  "… this general belief is in turn supported from within the system of beliefs by inductive inference from many apparently true instances of beliefs of this kind (with the alleged truth of these instances being in turn established by various specific inferences falling under the general heading of coherence)." (p. 190)

- Can a coherentist really establish that observational beliefs are generally true?
- In science, observations are often contrary to what is expected, from our cherished theories.
- In those cases there is a tendency to suspect that the observations are wrong somehow, but if they are replicated then theory must yield eventually.
- Can a coherentist provide a rationale for such a “priority of the empirical”?

Can foundationalists find a role for coherence?



7. Clean thoroughly

11. Berths

	7 S	8 C	9 R	10 U	11 B
	14				E
					D
					S

Across:

7. Clean thoroughly
14. Bring about

Down:

7. Play parts
8. Cuban leader
9. Pretense
10. Operator
11. Berths

Coherence widens the foundational base?

- In crossword puzzles, coherence seems to result in a single entry being supported (indirectly) by *several different clues*.

- In C. I. Lewis's case of multiple unreliable witnesses, we also saw that coherence creates probability only when there's a little bit of support already.

- Arguably, the epistemic virtue of coherence can only be understood in foundationalist terms!

Architectural Equivalent?

- Suppose you're building a structure on swampy, unreliable ground.
- If you pour a dozen footings, then probably 3-4 will sink and disappear, but it's hard to predict which ones will do that.
- By building a coherent (rigid) structure, this is no problem?

Problems for foundationalism

1. Basic beliefs apparently cannot provide an adequate justification for 'superstructure' (non-basic) beliefs.
2. How are basic beliefs *themselves* to be justified?
   a. Is it intelligible to say that a sensory *experience* justifies a *belief*?
   b. BonJour's TIF problem.

#1. Can basic beliefs support the superstructure?

- In Descartes' epistemology, the basic beliefs are beliefs about one's own thoughts, e.g. "I am conscious", "I seem to see a tree", etc.
- It was very hard for Descartes to "get outside his own mind", and prove the existence of external objects.
- Can we do better, from a foundation of this sort?

#1. Can basic beliefs support the superstructure?

"There are versions of foundationalism according to which at least some perceptual beliefs about physical objects count as basic or foundational, and views of this sort have substantially less difficulty in giving a reasonably plausible account of the overall scope of nonfoundational knowledge than does the Cartesian view" (p. 182)

- A belief such as "Here is a tree" might be foundational, rather than, "I seem to see a tree".

- But then Problem #2 becomes more severe.

#2a How could experience justify belief?

1. Sense experience isn't fundamentally propositional.

   "Imagine trying to describe such an experienced sensory content to someone else, perhaps over the phone…. isn't it clear that it would be very, very difficult to actually give anything close to a complete description …"

2. Propositions can only be inferred from other propositions

∴ Beliefs cannot be inferred from experiences

∴ Beliefs cannot be justified by experiences