Foundationalism and Coherentism
Inferential justification

• A belief is *inferentially justified* when it is supported by another 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

\[
\begin{align*}
26 \times 7 &= (20 + 6) \times 7 \\
&= (20 \times 7) + (6 \times 7) \\
&= 140 + 42 \\
&= 182
\end{align*}
\]
1. $26 = 20 + 6$
2. $20 \times 7 = 140$
3. $6 \times 7 = 42$
4. $140 + 42 = 182$
5. For all $x$, $y$ and $z$, $(x + y) \times z = x \times z + y \times z$

\[ \therefore 26 \times 7 = 182 \]

• 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 $P(A \mid B)$ 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 $P(A \mid B)$ means that most of B’s probability is transferred to A.
• If $P(A \mid B) = 0.98$, then 98% of B’s probability is transferred to A.
• In a similar way, the fact that B is negatively relevant to (undermines) A doesn’t entail that A is improbable.
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.
Basic Beliefs

• A ‘basic’ (or ‘properly basic’) belief is defined as one that is justified, but not (or not entirely) by support from 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.

• Basic beliefs are *foundations* for the belief system.

• Alleged examples of basic beliefs include perceptual beliefs and ‘self-evident’ logical truths.
Doesn’t 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.
Doesn’t 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.

• 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?

• 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.
Coherentism

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

“Bosanquet’s contrary suggestion is that 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.”
Coherentism

• N.B. This claim of holistic justification is different from believing that circular arguments have epistemic value.

• Circular arguments are used to justify individual beliefs (e.g. A) rather than whole systems (e.g. A&B).
However, Bonjour appears to miss this point:

“Such a view amounts to making the group or system of beliefs, rather than its individual members, the primary unit of justification, with the component beliefs being justified only derivatively, by virtue of their membership in such an adequately interrelated system.” (pp. 189-90)

In the case of crossword puzzles, for example, every possible entry is part of many different coherent sets. Something similar is true of beliefs I think.
Problem for coherentism

• In a crossword, at least some clues are needed, which is non-inferential support.

• Some clues can perhaps be omitted, if the entries are highly interlocked, but what if you have no clues at all?

• There are millions of different ways to fill in a given grid with words, so the probability of each way is very low?

• This is problem of *alternate coherent systems*. (Similar to the *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 argument goes too far in saying that “… coherence is irrelevant to truth and so provides no basis for justification.”

The crossword puzzle analogy suggests we amend this to:

“…coherence is only weakly relevant to truth, and so provides little basis for justification”
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?
Bonjour’s objections to coherentism

1. A coherentist who is also an internalist needs justified access to his own belief system, to see how coherent it is. Such 2nd order beliefs cannot be basic, so how are they justified?

2. How does a coherentist identify a particular belief as observational? Recognition of a belief as observation is a further belief, which cannot be basic, and cannot be justified by coherence.

“Thus there is no way consistent with coherentism to distinguish genuine observational input from this counterfeit variety.” (p. 194)
Can foundationalists find a role for coherence?

SCOUR
SCRUB
BEDS
COTS

7. Clean thoroughly
11. Berths

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.

• 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. Regress problem for foundationalism.
#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

\[ \therefore \text{Beliefs cannot be inferred from experiences} \]
\[ \therefore \text{Beliefs cannot be justified by experiences} \]
E.g. Donald Davidson

“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.”
#2b. Regress problem for foundationalism

- In order to trust a perceptual belief it must have a specific character that is accessible to us, and which makes the belief likely to be true. (E.g. the belief is “clear and distinct”, we feel “assurance” that it must be true, etc.).
- But then the truth of the perceptual belief is inferred from this character:
  - “$P$ is clear and distinct, $\therefore P$ is true”

1. Hence $P$ isn’t basic after all!
2. What justifies the belief that $P$ is clear and distinct? Is it clear and distinct that $P$ is clear and distinct? Regress!
Externalism?

• Think about an intelligent dog. Does it have perceptual beliefs that are justified?
• How does that work?
• Externalism can be motivated by taking an ‘engineering perspective’, and thinking about what cognitive and perceptual mechanisms are ‘designed’ to do.