Evidence and Causation in the Law

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Today's Agenda

- We'll be talking about some issues concerning the use of evidence in the law.
- This is a vast topic, so we'll just be concerned with some aspects of one particular issue: how courts come to accept claims about singular causation.
- So we'll discuss what makes singular causation different from other forms of causation, what concept or concepts the law uses, what kinds of evidence it accepts and whether or not all of this is reasonable.
- The focus is on common law.
So far, we've been looking mainly at claims about generic or type-level causation:

- Smoking causes lung cancer
- Using bed-nets prevents malaria
- Reducing class size improves test scores

In history, the law and everyday life, we're often interested not in these 'causal laws' but rather in the causes of individual events:

- Why did World War I break out?
- Did John's work-place exposure to asbestos cause his lung cancer?
- Did my drinking of 3 Tsingtao's yesterday cause me to be tired today?
Singular vs generic causation

- Generic/type-level causal claims/causal laws relate properties or variables
- Claims about singular/token-level/actual causation relate events
- Even though some philosophers think that one can be reduced to the other (e.g., Hume, Cartwright), their relationship is in no way straightforward
  - (Hume: singular causes are reducible to regularities; Cartwright: if it's a law that C causes E, then it must be the case that some individual C's have caused E's)
Singular vs generic causation

But:

- The existence of a causal law doesn't always make a singular causal claim true
  - John may have developed cancer because of his smoking, not because of asbestos even though asbestos causes lung cancer
- A singular causal claim doesn't make a corresponding causal law true
  - Li Ping's wearing a seatbelt may have killed her; nevertheless it is true that seatbelts save lives
- Causal laws can be true without corresponding instances
  - Swallowing 3 kg of Polonium kills - even though no-one has done it yet
Singular causation in the law

In common law, establishing causation follows a two-stage procedure:

- Establishing factual causation: did the defendant’s action produce the plaintiff’s harm/loss?

- Establishing legal causation: may there be legal reasons for not holding the defendant liable? (Overruling factual causation)

The main test for factual causation (whether some earlier event c has in fact caused a later event e) is the so-called ‘but-for test’
So lawyers ask: ‘But for the defendant’s act (c), would the harm (e) have occurred?’

Thus:

- Would John have developed cancer if it wasn’t for the asbestos?
- Would WWI have broken out if it wasn’t for Franz Ferdinand’s assassination?
- Would I be tired if it hadn’t been for drinking all that delicious Tsingtao?

This is closely related to the ‘counterfactual account’ of causation.
As such, the theory has to address (among other things) the following questions:

1. What would have happened instead of c if c had not happened (= ¬c did happen)?
2. How do we know whether or not e would have happened in c’s absence?

Common law gives these answers:

1. The defendant would have acted lawfully
2. Whatever follows from ¬c under otherwise unchanged background conditions
The problem with the second answer is that it can lead to counterexamples: ‘redundant causation’

- Overdetermination (both A and B fire what would alone be fatal shots at C at the same time)

- Early pre-emption (two assassins try to kill a desert traveller, one by poisoning, one by drilling a hole into his canteen)

- Late pre-emption (two shots at slightly different times)

- Common law: ‘causation is to be understood “as the man in the street” would’
Legal cause

- Sometimes defendants are not held liable even though the harm would not have occurred ‘but for’ their actions.

- One problem is that far too many things are causes according to the ‘but-for’ test.
  - Because the bus was late I missed a connection; if I hadn’t missed the connection, I wouldn’t have been mugged.
  - Are parents of a child with birth defects as liable as the manufacturer of a drug that has teratogenic side effects?

- A legal cause must be proximate: the legally liable cause is the one closest to or most proximate to the harm.
Legal cause

- Suppose A critically injures B. As B is wheeled to an ambulance, she is struck by lightning. She would not have been struck if she hadn't been injured in the first place.

- A caused B’s entire injury according to the b-f test.

- It is therefore acknowledged that there may be intervening events that break the causal chain from action to harm.

- An actor is only liable for the foreseeable, but not the unforeseeable, consequences of his or her act.
In most cases, we know what ‘would have happened but for the defendant’s action’ simply from general background knowledge about how the world works.

Generic causal relations play an important role here.

Interesting cases emerge when the relevant generic causal relations aren’t known; when there is some evidence that ‘A causes B’ but it is not part of our accepted background knowledge.
Cause and evidence

In these cases, juries and judges have to rely on experts — scientists working in the relevant areas.

(Note that expert judgement is at the bottom of evidence-based hierarchies...)

The experts themselves have to make something like ‘evidence-based’ judgements about causal laws — they have to follow methodologies that are widely accepted in their community (e.g., accept a result of a reliable study if it is significant).
Susan Haack (*1946)
Distinguished Professor in the Humanities, Cooper Senior Scholar in Arts and Sciences, Professor of Philosophy, and Professor of Law at the University of Miami
Studied at Oxford with Gilbert Ryle, Michael Dummett and David Pears
Her cases all involve questions at the frontier of science — where truths aren’t settled yet

Does Benedictin cause birth defects?

Do polychlorinated biphenyls cause lung cancer?

She criticises the ‘atomism’ of the legal doctrine: every piece of evidence has to be reliable; evidence can be convincing as a whole, however, even when each piece is inconclusive on its own
Atomism

The evidence in the Benedictin case included:

- Animal studies showing that an ingredient of Benedictin had teratogenic effects
- Animals given Benedictin also had birth defects and miscarriages
- In vitro studies found that Benedictin interfered with the development of limb-bud cells
- Epidemiological studies found that women who took Benedictin had a 30% higher chance to have babies with deformations

Each of these is indeed quite easily defeasible
Antti-Atomism

But may they be jointly sufficient to make a good causal argument?

Haack: evidence combines in the same way as entries in a crossword puzzle do: how reasonable an entry is depends on how well it fits the clue and any completed intersecting entries; how reasonable these are, and how much of the puzzle has already been completed.
Anti-Atomism

- Analogously, the degree of warrant of a conclusion depends on:
  - the strength of the connection between evidence and conclusion (‘supportiveness’)
  - the solidity of the evidence itself, independently of the conclusion (‘independent security’)
  - the amount of relevant evidence is included (‘comprehensiveness’)
- A causal argument is strong to the extent that the body of evidence forms a good explanatory account together with the conclusion
Anti-Atomism

- The pieces of evidence interlock more tightly when
  - results are more specific
  - animals are known to be good models
  - experimental exposure is similar to natural exposure
  - in vitro studies match the conditions of human exposure

- Other kinds of evidence can also strengthen the independent security of each piece of evidence, and more evidence is of course more comprehensive
Anti-Anti-Atomism

- In my view, the crossword analogy is very suggestive but not ultimately convincing.

- Different pieces of evidence can indeed ‘interlock’ but only if they are related in the right kind of way - e.g., when one provides direct support of a hypothesis and another helps to rule out an alternative of this hypothesis.

- In the examples, it is not clear what the relevance of the animal studies is, for instance:
  - We know that if X is carcinogenic in humans, then X will be carcinogenic in at least one animal species.
  - But what do we know about birth defects?

- Ditto with in vitro studies: are these mechanisms salient in humans? Are there no mechanisms with opposite effects?
In the given case, we don’t want to ‘prove’ that Benedictin causes birth defects but whether Mary Oxendine’s birth defects were caused by her mother’s taking the drug.

According to some views, to know the latter we have to know the former.

Here perhaps animal studies suggest that Benedictin MAY cause birth defects in humans; what remains to be shown is that Mary wouldn’t have had defects if it hadn’t been for her mother taking the drug.

This may be relatively easy if (for example) that kind of birth defect is extremely rare.
In sum,

- Singular causation is really important in history, the law and everyday life.
- In the law, singular causation is established by the ‘but-for’ test, which is useful but defeasible.
- The test requires a good understanding of the relevant causal laws.
- In cases we don’t have that, experts must make assessments of the likelihood of certain factors being possible causes.
- The use of expert judgements in court is regulated by certain principles that are controversial, and we have discussed some alternatives.