

DEFINING CONDITIONAL RELEVANCE USING
LINKED ARGUMENTS AND ARGUMENTATION
SCHEMES: A COMMENTARY ON PROFESSOR
CALLEN'S ARTICLE, *RATIONALITY AND
RELEVANCY: CONDITIONAL RELEVANCY AND
CONSTRAINED RESOURCES*

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In this brief commentary on Professor Callen's article, I would like to offer a definition of the logical structure of the notion of conditional relevance using two components of argument diagramming technology from argumentation theory. This definition will show how conditional relevance is not only important as a key notion in evidence law, but also represents a structure or pattern that is common and fundamentally important in argumentation theory for the study of relevance in logic generally. I will give some reasons to support this definition as a hypothesis, and will show how it offers a precise and useful analysis of conditional relevance. The proposed definition can best be introduced and explained by considering the remarks of Morgan¹ that were instrumental in the wording of Federal Rule of Evidence 104(b),² using a particular case he cited as an illustration.

What Professor Morgan's remarks on *Gila Valley, Globe, & Northern Railway v. Hall*³ strongly suggest, as quoted by Callen,⁴ is that conditional relevance fits a certain pattern of argumentation, as represented in Figure 1 below. To quote Professor Morgan, "[t]o say that the relevancy of *A* depends upon the existence of *B* is only to say that it requires a combination of *A* and *B* to produce a relevant factor in the case."⁵ This remark strongly suggests the pattern of what is called a linked argument in argumentation theory. In a linked argument, both premises (in the simplest case of an argument with only two premises) are required to support the conclusion. This contrasts with a

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1. See Edmund M. Morgan, *Functions of Judge and Jury in the Determination of Preliminary Questions of Fact*, 43 HARV. L. REV. 165 (1929).

2. FED. R. EVID. 104(b).

3. 232 U.S. 94 (1914).

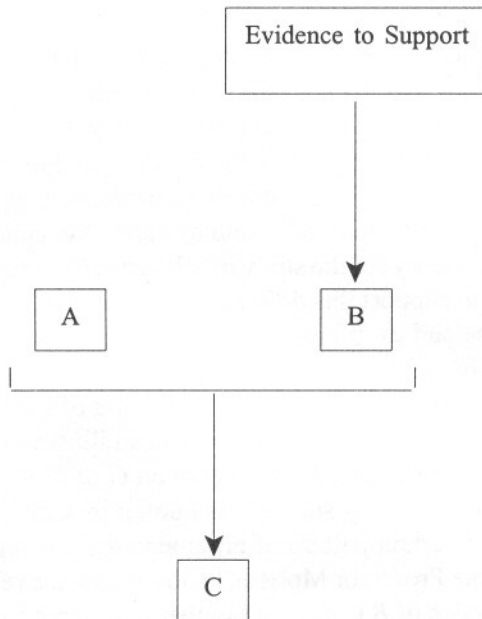
4. See Craig R. Callen, *Rationality and Relevancy: Conditional Relevancy and Constrained Resources*, 2003 MICH. ST. L. REV. 1243, 1250.

5. Morgan, *supra* note 1, at 167. Morgan also put the criterion in these words: "It often happens, however, that a fact, irrelevant in itself, will have great probative value in conjunction with another fact." *Id.* at 166.

convergent argument, where each premise is an independent line of argument supporting the conclusion. A linked argument is represented in Figure 1, by the line joining the two premises *A* and *B*, indicating their linked support for conclusion *C*.

Figure 1

CONDITIONAL RELEVANCE



Not only is the argument linked in Figure 1, but there is an additional feature. There is also “evidence sufficient to support a finding” of *B*.⁶ This language is that of Rule 104(b), the rule defining conditional relevance. It is this additional feature, along with the feature of the linked argument pattern, that I think defined conditional relevance.

Take a close look at Figure 1 again. Here we have a linked argument, meaning that both premises are required to support the conclusion. Each premise by itself may give some small weight of evidence supporting the conclusion, but the two together give a much stronger weight of support for the conclusion. That’s a leading test for a linked argument. If you take one premise away or block it out, pretending that it does not exist or is not being

6. FED. R. EVID. 104(b).

considered at all, the support for the conclusion drops quite a bit (we will not try to say how much, exactly). In contrast, in a convergent argument, if you take one premise away, the other still provides a fair amount of support for the conclusion. So the argument is linked, meaning that both *A* and *B* are needed as premises to function together to support *C*. If one premise is removed, the argument becomes pretty useless as evidence.⁷ What else is important for conditional relevance? The other factor is that there is "evidence sufficient to support a finding" of *B*.⁸ What does this mean? The use of the word "sufficient" in Rule 104(b) may suggest, at first glance that fairly strong support for *B* is needed,⁹ but most commentators seem to take the view that "evidence sufficient to support" only requires some sort of very weak support, or even potential for support.¹⁰ For a case, we can look at *Gila Valley*.¹¹

In this case, using roughly the wording given in Callen's article,¹² a witness had offered to testify that one Regna made a remark in a natural tone of voice that might have given Hall notice.¹³ Hall was less than twenty yards away.¹⁴ So, it is possible that he could have heard the remark, but it is highly questionable that he did. There was also no evidence that he did actually hear the remark, such as, evidence that he responded in some way, or evidence later that he acknowledged hearing the remark. To examine the structure of the argumentation in this case, go back to Figure 1 once again. The premise *A* is the statement that Regna made a remark that Hall might possibly have heard and that would have given Hall notice if Hall did hear the remark. If Hall had such notice, he would have been aware of the defect in the defendant's railcar, and such awareness would be highly significant evidence in the case. The premise *B* is the statement that Hall heard the remark. There is no evidence of this, but since Hall was twenty yards away, there is some small support for the claim that he heard it. In the words of Rule 104(b), there is evidence to

7. This test to determine whether an argument is linked or convergent is not conclusive, by itself, in every case. Other factors need to be taken into account, like the wording of the argument in the text of discourse, which may contain so-called "indicator words." See DOUGLAS WALTON, ARGUMENT STRUCTURE: A PRAGMATIC THEORY (1996). It is shown below that the inferential structure of the given argument (its so-called argumentation scheme) is one of the most important pieces of evidence that enables an analyst to identify it as a linked argument.

8. FED. R. EVID. 104(b).

9. Rule 104(b) says that when the relevance of evidence "depends upon the fulfillment of a condition of fact," the court shall admit it subject to "the introduction of evidence sufficient to support a finding of the fulfillment of the condition." *Id.*

10. *Id.*

11. See *Gila Valley, Globe & N. Ry. Co. v. Hall*, 232 U.S. 94 (1914).

12. See Callen, *supra* note 4, at 1250 n.27.

13. See *id.* (quoting *Gila Valley*, 232 U.S. at 102).

14. See *id.*

support a finding of *B*. There is not very strong evidence and support for *B* is highly questionable. Hall could very plausibly contend that he did not hear it at all, and was not even aware of the conversation.

The structure of the evidence in this case fits the typical pattern of a linked argument. The evidence of the conversation and its proximity to Hall by itself only gives a small weight of support for the conclusion that Hall had notice of the defect in the railcar. However, if you put it together with the additional premise that Hall actually heard the remark in question, there is now an argument that gives quite strong support for the conclusion that Hall had notice. In other words, if we pull premise *B* out, premise *A* by itself gives very weak evidential support for the conclusion *C*.

Now comes the question. If there is little reason to think that *B* is true, and if the other side in the trial will certainly point this out, why should the argument from *A* and *B* to *C* even be considered "relevant" at all? Actually, it is not relevant in the sense defined by Rule 104(a).¹⁵ It is only "conditionally relevant," meaning that it would be relevant on fulfillment of the condition that statement *B* is factual. This means that it could become relevant at some future point in the collection of evidence in the case if it should turn out that there is some reason to think that Hall actually heard the remark. It does not mean that it is relevant right now, in relation to the factual evidence that has been collected in the case to this point.

To get a better idea of why the argument from *A* and *B* to *C* should be considered conditionally relevant, it is useful to work up an argument diagram for the case. The key list below represents the statements that are important for this purpose. In this representation of the evidence in the case, the former premise *B* now becomes the statement *H* in the list. The former premise *A* now becomes the conjunction of three statements *A*, *C* and *K*. The former conclusion *C* now becomes *M*, the ultimate *probandum* of the prosecution side in the case.

Key List for the *Gila Valley* Case

(A) A witness had offered to testify that one Regna made a remark in a natural tone of voice when Hall was in the vicinity.

(B) Hall was less than twenty yards away.

(C) So it is possible that Hall could have heard the remark.

15. See FED. R. EVID. 104(a).

- (D) But it is highly questionable that Hall heard the remark.
- (E) There was no evidence that he did actually hear the remark.
- (F) There was no evidence that Hall responded to the remark in any way.
- (G) There was no evidence later that Hall acknowledged hearing the remark.
- (H) Hall heard the remark.
- (I) If Hall had such notice he would have been aware of the defect in the defendant's railcar.
- (J) If Hall had been aware of the defect in the defendant's railcar, it would be evidence that he was guilty.
- (K) If Hall heard the remark it would have given him notice.
- (L) Since Hall was twenty yards away, there is some small support for the claim that he heard it.
- (M) Hall is guilty.

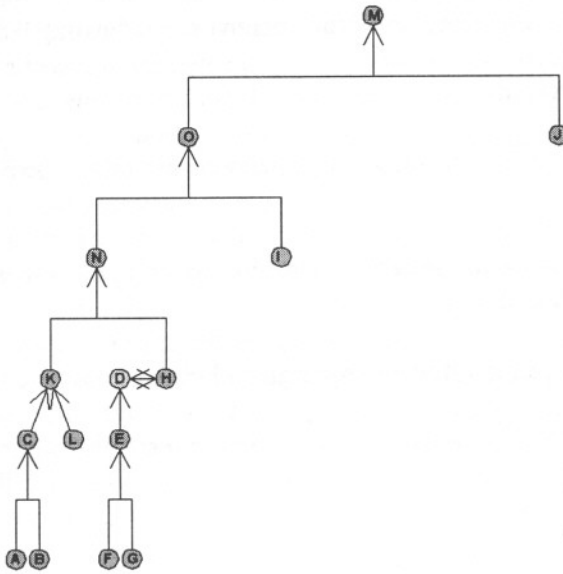
Looking over Callen's description of the case, outlined above, each of the statements in the key list can be taken to represent some claim that is part of the argumentation in the case. The problem can now be expressed in the following question. How is the argument composed of the two sets of premises, *H* on the one hand, and *A*, *C* and *K* on the other, conditionally relevant to the conclusion *M*?

To answer this question, two other statements that each plays a role in the argumentation need to be considered. Both are conclusions that follow from arguments that can be generated from the set of statements in the key list. Thus, both need to be considered as parts of the chain of argumentation that would presumably lead to *M* from the given evidence.

- (N) Hall had notice.
- (O) Hall was aware of the defect in the defendant's railcar.

Adding these two unstated assumptions as “enthymemes,” or missing parts of the chain of argumentation, an *Araucaria* diagram of the argument in the case can be produced.¹⁶

Figure 2

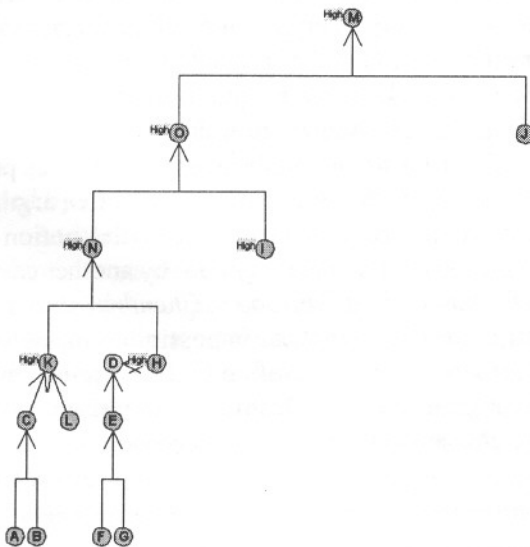


In the *Araucaria* diagram, *N* and *O* appear in a different color, indicating that they have been inserted as implicit assumptions. The double arrow between *D* and *H* indicates that *D* has been inserted as a refutation of *H*. This means that *D* is taken to be evidence against *H*, expressing doubt that *H* is true. Thus, as we look over the whole diagram, the various components of the evidence are displayed. *H* and *K* appear as premises in a linked argument that ultimately leads to the *probandum* *M*, once the interim conclusions leading to *M* are filled in. Since there is evidence for *K*, shown in the argument beneath *K* on the diagram, it looks like the diagram represents evidence that could be used to prove *M*. But the problem lies with *H*. As the argument beneath *D* shows, there is evidence that throws *H* into doubt. In other words, if, as the diagram shows, it is doubtful that Hall heard the remark, how can the rest of the argumentation connected to this premise be considered relevant?

16. See CHRIS REED & GLENN ROWE, *ARAUCARIA VERSION 2: USER MANUAL* (April 2003), available at <http://www.computing.dundee.ac.uk/staff/creed/araucaria/> (last visited Mar. 8, 2004).

Looking at the argumentation structure represented in Figure 2, we can now re-ask the question of conditional relevance that was posed above. How is the argument composed of the two premises, *H* on the one hand, and *A*, *C* and *K* on the other, conditionally relevant to the conclusion *M*? If there is no evidence that Hall heard the remark, and there is evidence suggesting that it is possible that he did not hear the remark, how can this linked argument resting on *H* as a premise be considered relevant at all? The answer depends on the probative weights assigned to the nodes (statements) and the arrows (inferences) in the argument diagram. Araucaria has the capability for assigning evaluations on each node and arrow.¹⁷ You may assign values between 0 and 1 corresponding to probabilities, or many-valued logic values such as +, - and ?. Once such values are assigned, the least plausibility rule can be applied to linked arguments: the value assigned to the conclusion of a linked argument should be at least as high as that of the least plausible premise. In the case of the linked argument from *H* and *K* to *N* in the diagram above, it can be said that *K* has a high probative weight. Thus, if *H* were to have a high probative weight as well, the argument from *H* and *K* to *M* would throw a high probative weight onto *M*, assuming that *I* has a high probative weight as well.

Figure 3



17. See *id.* at 16.

This is basically the reason why *H* is conditionally relevant, even though *H* does not have high probative weight, as things stand in the case.

It is not hard to see why this notion of conditional relevance is so important, also so controversial, in both argumentation theory generally and in evidence law. So, I can't possibly comment on all the implications of it here. One or two remarks might be helpful, however. One thing that the definition of relevance in Rule 104(a) makes clear is that evidence law needs a robust notion of relevance, meaning that for an argument to be relevant in the required sense, the premises must throw some significant probative weight onto the conclusion. This requirement has two components. First, the set of statements that make up the premises must be structurally connected to the conclusion by some form of argument. The argument must be deductively valid, or inductively strong, or at least it must fit an argumentation scheme. This means that if the premises are in fact true (or acceptable as evidence that obtains) then the conclusion is also true (or is acceptable as evidence that obtains).¹⁸ In addition to this structural requirement, however, there is the question of whether each of the premises is actually true (or whether, at any rate, there is evidence that it is acceptable). In a trial, a hypothetical argument is of no use as evidence unless the premises are true, or at least unless it is shown that there is reason to think that they are true. Thus, the second component relies on the truth of the premises. As shown above, it may be that one premise is true, or that there is reason to think it might be true. If, however, there is no evidence, or only a very small and questionable amount of evidence that the other premise in the linked argument is true, the argument is not relevant as evidence in a trial. It can be emphasized that conditional relevance is not relevance of the kind defined in Rule 104(a).¹⁹ In line with this rule, evidence law needs a robust notion of relevance that takes premise acceptability into account as well as the structural features of an argument.

The linked argument pattern is closely tied to the notion of an argumentation scheme. This connection is brought out by another case cited by Callen.²⁰ In the case of *Pennsylvania Railroad v. Chamberlain*,²¹ the trial court directed a verdict in light of the practical impossibility of the witness being able to see the events to which he testified.²² If we re-examine the argumentation scheme for appeal to witness testimony, or a simplified form of it set out below, some light can be thrown on this decision.

18. The structural requirement is typically indicated by a linked argument, as in the *Gila Valley* case above.

19. See FED. R. EVID. 104(a).

20. See Callen, *supra* note 4, at 1250 n.27.

21. 288 U.S. 333 (1933).

22. See *Pennsylvania R.R. v. Chamberlain*, 288 U.S. 333, 335 (1933).

Argument from Witness Testimony

Position to Know Premise: Witness *W* is in a position to know whether *A* is true or not.

Statement Premise: Witness *W* states that *A* is true (false).

Conclusion: Therefore (defeasibly) *A* is true (false).

Suppose that a witness in a case has stated that a proposition *A* is true, and can testify to this effect. Is this relevant evidence in a trial? It might be, but suppose also that in the circumstances, it was practically impossible for the witness to see the event she claims to have seen, because of darkness or some other condition. Is the testimony relevant? No, it is not, because the Position to Know Premise (above) is false (or, at least, there is a strong reason to think it is, in the circumstances of the case). In a case like this however, the testimony could be conditionally relevant if there was evidence to support a finding that the witness was in a position to know about the event for which testimony was being given. Relevance turns on the position to know premise. What this case illustrates is how the linked structure of the argument derives from the argumentation scheme. The scheme for appeal to witness testimony is actually more complex, but the simplified version above shows how two key premises are required, and they lock together in a linked argument pattern. If the one premise is "blocked out," that is, if it is not considered as evidence, the other premise by itself provides only a very small weight of support for the conclusion. Thus, this kind of case fits the classic pattern of conditional relevance, showing how the structural aspect, that is the linked argument, is revealed by the argumentation scheme.

As has often been pointed out, the issue, in practical terms of trial procedure, comes down to who should decide relevance in cases of this sort. Should the judge simply exclude such arguments for, after all, they are not relevant according to Rule 104(a)? Or should the argument be allowed, leaving it up to the jury to decide whether it is relevant or not? Since juries are experienced in judging relevance in everyday argumentation, according to one line of thinking, they can deal with conditional relevance as well as a judge can. As a theoretical issue in defining relevance, both in evidence law and in argumentation theory generally, conditional relevance looms larger. The general issue posed is the role of premise adequacy in defining relevance. This issue will not go away or be solved easily. All I have tried to do is to show how argumentation theory has systematic resources that can be used to frame the problem more clearly by offering a general and precise definition

of conditional relevance. This definition is built on the two components of the linked argument and the argumentation scheme.