

Accounting for Any Ancillary Evidence with Defeasible Class-inclusion Transitivity
To Ensure a Complete Argument Structure for Inference in Court

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In court, the use of a fully robust argument structure is essential under certain circumstances. For example, the logical connection of any ancillary evidence to the primary line of inference must be apparent in the argument structure for the court to see its relevance. The defeasible class-inclusion transitivity (DCIT) inference structure is sufficiently robust to account for any such ancillary evidence.

For example, consider the following “fled from the scene” hypothetical.

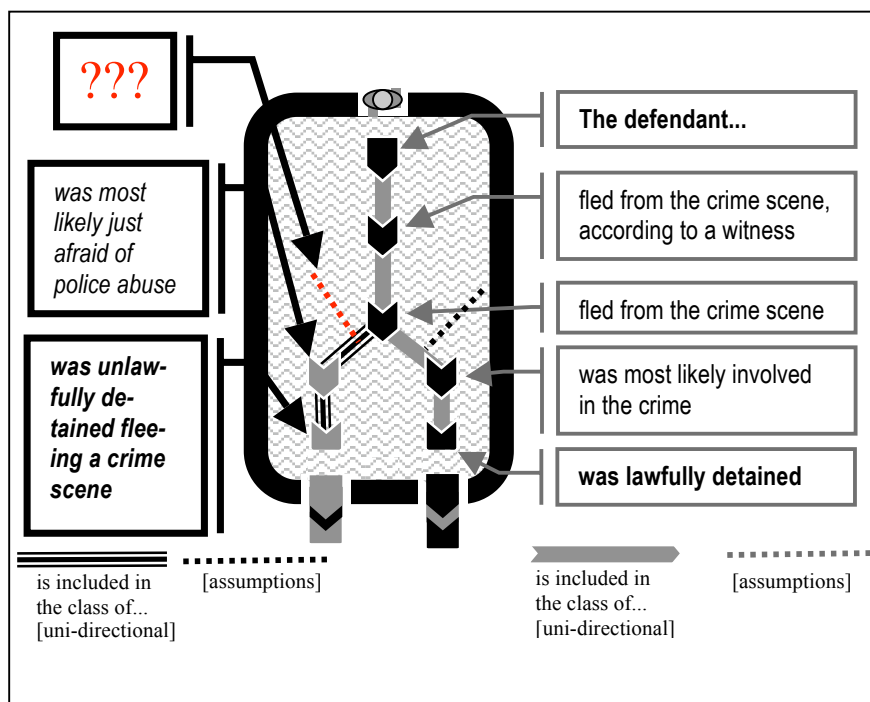


Figure 1

DEFEASIBLE CLASS-INCLUSION TRANSITIVITY				Premise Assumptions
		Subject phrase	Predicate phrase	
1	➔	The defendant...	...fled from the crime scene according to witness A.	
2	Any who (that)	...fled from the crime scene according to witness A...	...actually fled from the crime scene.	1. [N] Witness A was in a position to observe. 2. [A] Witness A is unbiased. 3. [N] Witness A had the capacity to remember the incident.
3	Any who (that)	...actually fled from the crime scene...	...was most likely involved in the crime.	
4	Any who (that)	...was most likely involved in the crime..	...was lawfully detained.	
CONCLUSION				
5		The defendant was lawfully detained.		

Figure 2 (Prosecution argument)

DEFEASIBLE CLASS-INCLUSION TRANSITIVITY				Premise Assumptions
		Subject phrase	Predicate phrase	
1	➔	The defendant...	...fled from the crime scene according to witness A.	
2	Any who (that)	...fled from the crime scene according to witness A...	...actually fled from the crime scene.	1. [N] Witness A was in a position to observe. 2. [A] Witness A is unbiased. 3. [N] Witness A had the capacity to remember the incident.
3	Any who (that)	...actually fled from the crime scene...	...was most likely just afraid of police abuse.	???
4	Any who (that)	...was most likely just afraid of police abuse...	...was unlawfully detained fleeing a crime scene.	
CONCLUSION				
5		The defendant was unlawfully detained fleeing a crime scene.		

Figure 3 (Defense argument)

The court in this hypothetical must decide which line of inference has the most probative weight. Since both lines of inference are structurally correct, this determination is subjective. In this case, the defense attorney may argue that there is ancillary evidence that is relevant. For example, if the defendant was a minority residing in a high-crime area, it could be argued that there is a reasonable inference that the defendant would be more likely to be afraid of abuse by the po-

lice. This inference was made by Justice Stevens in a recent U.S. Supreme Court case. *Illinois v. Wardlow*, 528 U.S. 119 (2000).

Among some citizens, particularly minorities and those residing in high crime areas, there is also the possibility that the fleeing person is entirely innocent, but, with or without justification, believes that contact with the police can itself be dangerous, apart from any criminal activity associated with the officer's sudden presence.⁷ For such persons, unprovoked flight is neither "aberrant" nor "abnormal."⁸ Moreover, these concerns and fears are known to the police officers themselves,⁹ and are validated by law enforcement investigations into their own practices.¹⁰ Accordingly, the evidence supporting the reasonableness of these beliefs is too pervasive to be dismissed as random or rare, and too persuasive to be disparaged as inconclusive or insufficient.¹¹

<http://www.supremecourtus.gov/opinions/06pdf/05-1631.pdf>

So this ancillary evidence would replace the question marks in Figure 3 as shown in Figure 4.

DEFEASIBLE CLASS-INCLUSION TRANSITIVITY				Premise Assumptions
		Subject phrase	Predicate phrase	
1	→	The defendant...	...fled from the crime scene according to witness A.	
2	Any who (that)	...fled from the crime scene according to witness A...	...actually fled from the crime scene.	1. [N] Witness A was in a position to observe. 2. [A] Witness A is unbiased. 3. [N] Witness A had the capacity to remember the incident.
3	Any who (that)	...actually fled from the crime scene...	...was most likely just afraid of police abuse.	1. The defendant was a minority. 2. The defendant was residing in a high crime area.
4	Any who (that)	...was most likely just afraid of police abuse...	...was unlawfully detained fleeing a crime scene.	
CONCLUSION				
5		The defendant was unlawfully detained fleeing a crime scene.		

Figure 4

If the court questions the linkage of this ancillary evidence, indicated in red, to the transitively linked premise 3, indicated in blue, then a DCIT structure can be constructed that reflects the argument that the linkage in fact exists such as shown in Figure 5.

DEFEASIBLE CLASS-INCLUSION TRANSITIVITY			Premise Assumptions
		Subject phrase	Predicate phrase
1	→	A minority who lives in a high-crime area, such as defendant...	...has been shown by authoritative research to have an increased likelihood of fearing an encounter with the police for innocent reasons.
2	Any who (that)	...has been shown by authoritative research to have an increased likelihood of fearing an encounter with the police for innocent reasons...	...has an increased likelihood of fearing an encounter with the police for innocent reasons...
	Any who (that)	...has an increased likelihood of fearing an encounter with the police for innocent reasons...	...is most likely just afraid of police abuse when fleeing a crime scene.
CONCLUSION			
5		A minority who lives in a high-crime area, such as defendant is most likely just afraid of police abuse when fleeing a crime scene.	

Figure 5

As Justice Stevens discusses in this case, there are many other possibilities of relevant ancillary evidence.

The probative force of the inferences to be drawn from flight is a function of the varied circumstances in which it occurs. Sometimes those inferences are entirely consistent with the presumption of innocence, sometimes they justify further investigation, and sometimes they justify an immediate stop and search for weapons. These considerations have led us to avoid categorical rules concerning a person's flight and the presumptions to be drawn therefrom: "Few things . . . distinguish an enlightened system of judicature from a rude and barbarous one more than the manner in which they deal with evidence. The former weighs testimony, whilst the latter, conscious perhaps of its inability to do so or careless of the consequences of error, at times rejects whole portions *en masse*, and at others converts pieces of evidence into rules of law by investing with conclusive effect some whose probative force has been found to be in general considerable. . . . Our ancestors, observing that guilty persons usually fled from justice, adopted the hasty conclusion that it was

only the guilty who did so . . . so that under the old law, a man who fled to avoid being tried for felony forfeited all his goods even though he were acquitted . . . In modern times more correct views have prevailed, and the evasion of or flight from justice seems now nearly reduced to its true place in the administration of the criminal law, namely, that of a circumstance—a fact which it is always of importance to take into consideration, and combined with others may afford strong evidence of guilt, but which, like any other piece of presumptive evidence, it is equally absurd and dangerous to invest with infallibility.” *Hickory v. United States*, 160 U. S. 408, 419–420 (1896) (internal quotation marks omitted).

“Unprovoked flight,” in short, describes a category of activity too broad and varied to permit a *per se* reasonable inference regarding the motivation for the activity. While the innocent explanations surely do not establish that the Fourth Amendment is always violated whenever someone is stopped solely on the basis of an unprovoked flight, neither do the suspicious motivations establish that the Fourth Amendment is never violated when a *Terry* stop is predicated on that fact alone. For these reasons, the Court is surely correct in refusing to embrace either *per se* rule advocated by the parties. The totality of the circumstances, as always, must dictate the result.¹³

<http://www.supremecourtus.gov/opinions/06pdf/05-1631.pdf>

Such ancillary evidence can strengthen an inference, weaken it, or fully defeat it.¹ For this reason, the robustness of an argument structure to handle such ancillary evidence should be a key factor in considering its appropriateness for inferences in court. As illustrated, DCIT has sufficient robustness.

¹ (*A Generalizable Argument Structure Using Defeasible Class-inclusion Transitivity for Evaluating Evidentiary Probative Relevancy in Litigation*. Joseph A. Laronge. *Journal of Logic and Computation* 2009; doi: 10.1093/logcom/exp066).