INDISCERNIBLE LOGIC: USING THE LOGICAL FALLACIES OF THE ILLICIT MAJOR TERM AND THE ILLICIT MINOR TERM AS LITIGATION TOOLS

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I. INTRODUCTION

Baseball, like litigation, is at once elegant in its simplicity and infinite in its complexities and variations. As a result of its complexities, baseball, like litigation, is subject to an infinite number of potential outcomes. Both baseball and litigation are complex systems, managed by specialized sets of rules. However,

awarded a "run."[5]

anyone I have ever seen. Yet, in part, he was able to do this because he knew about the invisible rules of baseball.

These invisible rules of baseball do not appear anywhere in the Official Rules. They are the principles that allow players to connect the "official" substantive rules that the players, coaches, and umpires rely on to determine whether a player is "safe" or "out" with their ability to successfully execute a play to achieve a result of "safe" or "out" on the field.[9] For example, Jason knew that if one of his teammates could tag the runner with the ball while he was between third base and home plate, the runner would be out. That truth is made clear by Rule 7.08.[10] However, when he would make a play from center field, this rule was not the only rule he was thinking about. I remember Jason, more than once, fielding a ground ball while watching from his peripheral vision as the runner rounded third base. Jason would pick up the ball with the same disinterested, aloof body language that he exhibited when he trotted out to center field. He wanted to look casual and lackadaisical. He might even, subtly, fumble the ball for an instant. He knew that the third base coach was watching him intently. He knew that the runner at third could only be thrown out if the third base coach made the wrong decision and told the runner to run from third base to home plate. He knew that nothing in the Official Rules of Baseball told a fielder how to ensure a third base coach makes the wrong choice and by advising the runner to run for home and expose himself to being thrown out by an accurate and powerful center fielder.

This invisible rule of baseball, that a center fielder cannot throw out a runner if the runner stays on third but can throw the runner out if he makes a run for home plate, cannot be found in the Official Rules. However, a player who wants to really master the game of baseball will find that these invisible rules appear everywhere, filling in the gaps between the Official Rules and

9. Many commentators have observed a set of unwritten rules that are an integral part of baseball. See, e.g., JERRY REMY WITH CORY SANDLER, WATCHING BASEBALL: DISCOVERING THE GAME WITHIN THE GAME 201 (2004) (discussing one of the unwritten rules); BASEBALL STRATEGIES: YOUR GUIDE TO THE GAME WITHIN THE GAME 207 (Jack Stallings & Bob Bennett eds., 2003) (discussing "one of the unwritten rules of baseball strategy"); JOHN GUTMAN, THE WAY BASEBALL WORKS 102 (Dinah Dunn & Heather Moehn eds., 1996) (describing one of the maxims in "the book'—a collection of unwritten rules that have been passed down through the generations").

10. Official Rules, supra note 4, at 7.08.

arguments. Even so, they have a sense of what logic is. In fact, it might seem to lawyers that these rules of logic come naturally. The rules of logic are, in a sense, instinctive to most lawyers. They are easy to master, respected by courts, and essential to effective advocacy.

Logic has been studied since at least the time of Aristotle.[11] The modern rules of logic have been forged from the more than 2,000 years of philosophical struggle to determine just what logic is and why it is so important.[12] The course of that struggle has

11. While Aristotle has been designated the first thinker to devise a logical system, certain logical inferences had been applied before Aristotle, though not formally articulated. Aristotle himself credited Zeno of Elea (490–430 B.C.E.) with being the "'founder of dialectic.'" I.M. BOCHENSKI, A HISTORY OF FORMAL LOGIC 29 (Ivo Thomas ed. & trans., 1961). Aristotle's mentor, Plato, was the first to grasp and formulate a clear idea of logic and the universally valid law. Id. at 33. Universally valid law is the idea that fundamental principles of logic are worldwide and unchanging; "no formal logic is possible without the notion of universally valid law." Id. Building on the ideas from Zeno of Elea and Plato, Aristotle combined logical form, opposition, and conversion to form the syllogism, Aristotle's "greatest invention in logic." Peter King & Stewart Shapiro, History of Logic, in THE OXFORD COMPANION TO PHILOSOPHY 496, 497 (Ted Honderich ed., 1995), available at http://individual.utoronto.ca/pking/miscellaneous/history-of-logic.pdf. The syllogism, as formulated in Aristotle's Prior Analytics, a part of his work known as THE ORGANON, consists of two premises and a conclusion. BOCHENSKI, supra at 98.

12. Theophrastus, a pupil of Aristotle, modified and developed Aristotelian logic in several ways. See WILLIAM KNEALE & MARTHA KNEALE, THE DEVELOPMENT OF LOGIC 111 (1962). He developed various doctrines to prepare the ground for later classical logic and developed a doctrine of hypothetical arguments to prepare for Megarian-Stoic logic. BOCHENSKI, supra note 11, at [illegible]

Instead, it focuses on the logical structure[17] of the argument and considers whether the form of the argument is reliable.[18] Philosophy has demonstrated that the logical form dictates whether the argument is one that is deductively valid. The form determines whether it is an argumentative structure where the premises, if true,[19] ensure the truth of the conclusion.[20] This is important because logical argument is about proper inference. When we make an argument, we lead the listener, one step at a time, from

17. One writer aptly refers to formal logic in legal argument as the "architecture of argument." See James C Raymond, *The Architecture of Argument*, 7 THE JUD. REV.: J. OF THE JUD. COMMISSION OF N.S.W. 39 (2004) (Austl.), available at http://www.benchandbarinternational.com/files/The_Architecture_of_Argument.pdf.

18. Philosophers have debated what logic is and what makes a study of logic "formal." "Logic, in the most extensive sense in which it has been thought advisable to employ the name, may be considered as the Science, and also as the Art, of Reasoning." WHATELY, supra note 13, at 1. "Formal Logic is a propaedeutic which is abstractly concerned with consistency of reasoning without any reference to the truth or the falsehood of the accepted premisses, [sic] or to the knowledge or the ignorance of the reasoner." JOSEPH WITH KLEIN, supra note 16, at 157. "Pure or Formal Logic is the science of the necessary laws of thought. It has thought rather than language for its adequate object-matter; for though it must express itself in language, and is very much concerned with it, language comes in only as the minister of thought. It is a science—a science rather than an art." J. LACY O'BYRNE CROKE, LOGIC 3 (1906) (footnote omitted). "[F]ormal logic, is devoted to thought in general and those universal forms and principles of thought which hold good everywhere, both in judging of reality and in weighing possibility, irrespective of any difference in the objects." 1 HERMANN LOTZE, LOGIC IN THREE BOOKS, OF THOUGHT, OF INVESTIGATION AND OF K

one truth to the next, and ultimately to our final conclusion. However, if an argument's structure is bad, then there is no reason for the listener to infer one truth from another, and therefore, there is no reason to take "the next step." Without some reliable reason to go from one step to the next, there is no reason to believe that the argument compels a particular conclusion. The proper inference of one step in the argument from the previous step is essential to the reliability of the argument's conclusion.

It is a little like giving someone directions from the eastbound interstate expressway exit to the gas station in my hometown. The driver should exit to the right, stop at the stop sign, turn left at the stop sign, travel approximately one mile, stop at the intersection but do not turn, travel approximately 300 feet and turn right at the gas station. If I was to articulate those directions to a stranger in the [illegible] accurTj ,(e)]TJ argu mipsu]TJa(t)4( )]lye

Deductive logic is the "logic of necessary inference."[21] In deductive logic, the argument relied on claims its conclusion is necessarily supported by its premises.[22] That is, in deductive logic, if the premises are true, and the proof of the argument is valid, then it is logically impossible for the conclusion to be false.[23] Of course, an argument that can be demonstrated to be logically valid makes for powerful advocacy. Conversely, an argument that can be demonstrated to be logically invalid has no persuasive value.

Deductive arguments can be organized into logical structures called syllogisms. The syllogism has been described as "[t]he most rigorous form of logical argument, and hence the most persuasive."[24] A

21. "A deductive argument is an argument in which the arguer claims that it is impossible for the conclusion to be false given that the premises is true." PATRICK J. HURLEY, A CONCISE INTRODUCTION TO LOGIC 31 (Steve Wainwright et al. eds., 9th ed. 2006). In the context of legal proof it has been said that "[i]nference is the essence of proof; proof is good or bad according to the quality and number of inferences drawn from facts to conclusions." COVINGTON, supra note 20, at 2.

22. COPI & COHEN, supra note 19, at 26. Deductive logic is different from inductive logic. Inductive logic, involves an argument that claims its conclusion

syllogism is an argumentative structure, made up of two distinct but related premises and a conclusion.[25] There are different types of syllogisms.[26] One common syllogism used in legal

comply with this rule, the result is an argument that suffers from the Fallacy of the Illicit Major Term or the Fallacy of the Illicit Minor Term. An explanation of what it means to "distribute" a term and which terms are the "major term" and "minor term" in any given syllogism will demonstrate how to spot this fallacy and why it is the hallmark of a formally invalid argument.

III. THE FALLACIES OF THE ILLICIT MAJOR TERM AND THE ILLICIT MINOR TERM

The names of these fallacies—the "Fallacy of the Illicit Major Term" and the "Fallacy of the Illicit Minor Term"[35]—are intended to capture the essence of why these patterns of argument are inherently unreliable. While logicians have endeavored to name this and other fallacies in ways that are descriptive,[36] these descriptions are bound by the unfamiliar nomenclature of formal logic. Accordingly, neither the term "illicit" nor the words "major term" or "minor term" will have immediate significant meaning to most lawyers or jurists. However, these names and the fallacy they stand for make sense with an understanding of some of the basic terminology and concepts of formal logic. Understanding this terminology begins with understanding the structure logicians use to evaluate the logical form of arguments: the syllogism.

Evaluating an argument's structure begins with subdividing the argument into components, and assembling those subdivisions into a uniform structure called a syllogism. Instead of using all of the precise words used in an argument, it is simpler and equally effective, to eliminate and paraphrase some of the words in the argument before arranging them in the syllogism.[37] It may even be possible to further simplify the argument by reducing some of those words to symbols. Furthermore, at times it is appropriate to add implied words into the framework of the syllogism to ensure consistency in the intended meaning of the terms of the argument.

35. These two fallacies are sometimes described generally as a Fallacy of Illicit Process.

36. Examples of some formal logical fallacies include "Affirming the Consequent," "Denying the Antecedent," "Fallacy of the Undistributed Middle Term," "Fallacy of Exclusive Premises," and the "Existential Fallacy." COPI & COHEN, *supra* note 19, at 246–49, 300–01.

37. See COPI & COHEN, *supra* note 19, at 12–19 (describing in detail the process of converting complex arguments or arguments with implied terms into syllogistic form).

Ultimately, this process reduces the argument to a series of phrases or letters or symbols that represent the essential components of the argument and the relationships between and among those components. This arrangement of components in a standard form is called a syllogism.[38]

The form of a syllogism consists of two premises and a conclusion.[39] A premise is comprised of "propositions,"[40] which are used to support the truth of a conclusion. Each premise consists of terms. For example, one might argue, "All prosecutors are lawyers." This premise has two terms: "[persons who are] prosecutors" and "[persons who] are lawyers." If we add a second premise, "No public defenders are prosecutors," we see that it too, contains two terms: "[persons who are] public defenders" and "[persons who] are prosecutors." To complete the syllogism, we might attempt to add the following conclusion: "Therefore, no public defenders are lawyers."[41] We could then arrange these two premises and the conclusion this way:

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38. Cf. F. C. S. SCHILLER, FORMAL LOGIC 222 (1912). ("Now, to put an argument in syllogistic form is to strip it bare for logical inspection. We can then see where its weak points must lie, if it has any, and consider whether there is reason to believe that it is actually (materially) weak at those points.").

39. See COPI & COHEN, supra note 19, at 224.

> Legal argument generally has three sources of major premises: a text (constitution, statute, regulation, ordinance, or contract), precedent (caselaw, etc.), and policy (i.e., consequences of the decision). Often that major premise is self-evident and acknowledged by both sides. The minor premise, meanwhile, is derived from the facts of the case. There is much to be said for the proposition that "legal reasoning revolves mainly around the establishment of the minor premise.

SCALIA & GARNER, supra note 24, at 42 (footnote omitted).

> Of course, some arguments are too complex to reduce to a simple

All prosecutors are lawyers.
No public defenders are prosecutors.
Therefore, no public defenders are lawyers.

Accordingly, we have crafted a syllogism with three terms: "prosecutors," "lawyers" and "public defenders." In a valid categorical syllogism, there must be a common term that appears in each of the two premises. This common term is called the middle term.[42] In this example syllogism, the term "prosecutors" is the middle term, since it appears in both premises. Additionally, we have names for the remaining two terms. The term that is the predicate of the conclusion is the "major term."[43] The term that is the subject of the conclusion is the "minor term."[44] Accordingly, the conclusion, "no public defenders are lawyers" identifies the predicate "public defenders" as the major term and the antecedent "lawyers" as the minor term.

The Fallacies of the Illicit Minor Term and the Illicit Major Term focus on the two terms that appear in the conclusion of the syllogism.[45] These fallacies result from the violation of the third law of deductive logic which focuses on the requirements for the minor term[46] and major term[47] in a syllogism. The rule provides that if the conclusion "distributes" one of these terms, then the term must also be distributed in at least one of the premises. In logic, when a term is used in a way that "refers to all of the members of the class" referenced by that term, that term is said to be "distributed."[48] For example, if one states that "all prosecutors

42. COPI & COHEN, supra note 19, at 225.

43. Id.

44. Id.

45. The middle term is the subject of another, similar rule regarding distribution of terms. Violating that rule results in a different fallacy: the Fallacy of the Undistributed Middle Term. See Stephen M. Rice, Conventional Logic: Using the Logical Fallacy of Denying the Antecedent as a Litigation Tool, 79 MISS. L.J. 669 (2010).

46. The minor term is the term that is the subject of the conclusion. See, e.g., JAMES H. HYSLOP, THE ELEMENTS OF LOGIC, THEORETICAL AND PRACTICAL 171 (Charles Scribner's Sons 1892).

47. The major term is the term that is the predicate of the conclusion. See, e.g., HYSLOP, supra note 46, at 171.

48. COPI & COHEN, supra note 19, at 189. See also RICHARD WHATELY, supra note 13, at 28 ("[A] term is said to be 'distributed,' when it is taken universally, so as to stand for every thing it is capable of being applied to; and consequently 'undistributed,' when it stands for a portion only of the things

Since putting people in categories is the gist of the argument above, the rule of logic that governs the distribution of the terms in the conclusion ensures the logical integrity of the conclusion. In order to ensure the integrity of such a conclusion, the term in the conclusion must be consistent in their levels of distribution. If distribution is not consistent from the premises to the conclusion,

IV. COURTS HAVE RECOGNIZED THE FALLACIES OF ILLICIT MAJOR AND ILLICIT MINOR PREMISES AS FALLACIOUS REASONING, AND REJECTED THESE ARGUMENTS AS LOGICALLY INVALID AND UNRELIABLE

The logical Fallacies of the Illicit Major and Illicit Minor Terms are practical tools with utility for lawyers that go beyond their historical uses as a theoretical tool of philosophy. Courts searching for theoretical justification and a metalanguage for describing what is wrong with a legal argument, have used deductive logic generally and her formal logical fallacies specifically to analyze the validity of arguments and articulate what is logically right or wrong with them. For example, courts have employed the formal logical fallacies of Denying the Antecedent,[53] Affirming the Consequent,[54] the Fallacy of the

53. *See* Carver v. Lehman, 528 F.3d 659, 671 (9th Cir. 2008), *withdrawn*, 540 F.3d 1011 (9th Cir. 2008); Agri Processor Co. v. NLRB, 514 F.3d 1, 6 (D.C. Cir. 2008); E. Armata, Inc. v. Korea Commercial Bank, 367 F.3d 123, 132 n.10 (2nd Cir. 2004); TorPharm Inc. v. Ranbaxy Pharm., Inc., 336 F.3d 1322, 1329 & n.7 (Fed. Cir. 2003); Crouse-Hinds Co. v. InterNorth, Inc., 634 F.2d 690, 703

Undistributed Middle Term,[55] and the Fallacy of Negative Premises.[56] Just as courts have found use for these fallacies in evaluating legal argument, lawyers too, should use them to test the logic of their own arguments, as well as the logic of their opponents' arguments. Here we will consider a few examples of

LEXIS 20533, at *183 (N.D.N.Y Mar. 22, 2007); Adams v. La.-Pac. Corp., 284 F. Supp. 2d 331, 338 n.7 (W.D.N.C. 2003), aff'd in part, vacated in part, and remanded, 177 F. App'x 335 (4th Cir. 2006); United States v. Balcarczyk, 52 M.J. 809, 812 & n.12 (N-M Ct. Crim. App. 2000); In re Jeffery, 2008 Cal. App. Unpub. LEXIS 7976, at *25 n.8 (Cal. Ct. App. 2008); Pirtle v. Cook, 956 S.W.2d 235, 248 (Mo. 1997) (Price, Jr., J., dissenting); City of Green Ridge v. Kreisel, 25 S.W.3d 559, 563 & n.2 (Mo. Ct. App. 2000); Paulson v. State, 28 S.W.3d 570, 572 (Tex. Crim. App. 2000); Coulton v. State, 95 S.W.3d 401, 405 (Tex. App. 2002), aff'd, 105 S.W.3d 26 (Tex. Crim. App. 2003).

55. See, e.g., Spencer v. Texas, 385 U.S. 554, 578 (1967) (Warren, C.J., dissenting); Funk Bros. Seed Co. v. Kalo Inoculant Co., 333 U.S. 127, 134 (1948) (Frankfurter, J., concurring); Allied Erecting & Dismantling, Co. v. USX

Other experts may use those processes.
The conclusions of these experts are invalid.

This appears to be the fallacy of an undistributed middle term and illicit process of a major or minor term.[71]

While Judge Urbigkit properly recognizes the Fallacy of Illicit Process here,[72] it is difficult to discern it in the syllogistic form presented by the Judge Urbigkit's opinion. It is more easily seen if we use consistent terms and place them in a more familiar syllogistic form, as follows:

Some evaluative processes are processes that yield invalid conclusions.

Some of the expert's methods include those evaluative processes.

Therefore, all of the expert's methods include processes that yield invalid conclusions.

Reduced even further to letter symbols, the form of the syllogism is:

Some A are B.

Some C are A.

Therefore all C are A.

We see the minor term C is undistributed. In the premise, C is undistributed ("[s]ome C"). In the conclusion, C is distributed ("all C"). Accordingly, the argument suffers from an Illicit Process of the Minor Term, and is unreliable.

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writing a concurring opinion, couched his analysis of this issue in terms of formal logic:

> If it be true that the Postal Service has not taken steps to enforce, there can be two and only two reasons for inaction: one, that there was not Congressional abuse to merit Postal Service intervention; or two, such abuse did exist, but the Postal Service did nothing about it.
>
> The majority ignores the first possibility completely, and without any supportive evidence in the record, it makes a factual assumption that congressmen did abuse the privilege. The majority then conclude that since the Postal Service has 'abandoned' its regulatory activities, the franking statute may be enforced by private attorney general actions if the intent of the statutes, as expressed by Congress, is to be effectuated.'
>
> I refuse to be associated with any assumption that congressmen from 1968 to 1972 abused the franking privilege. Nor do I believe that it is appropriate for the federal judiciary, a correlative branch of the federal government, to proceed from such an assumption and to render a legal conclusion severely critical of Congressional practices.
>
> > . . . Since the plaintiff is placed in the "zone of interest" only by an inferential process, since these inferences are based on two illicit minor premises—that there is no enforcement commitment in a governmental agency and implied Congressional abuses exist which go unchecked by governmental entities or agencies—the proffered syllogism is analytically unsound, being invalid it must be rejected.[85]

Judge Aldisert uses the concept of logical distribution to describe the logical failing of the majority opinion. The fact that the Postal Service had not enforced the franking statute in the past does not mean that the Postal Service will never enforce the franking statute. Judge Aldisert argues that the Court is distributing this term in the conclusion, when it is undistributed in

two other works specifically addressing formal logic in legal reasoning, in addition to several other books focusing on the judicial process. See Ruggero J. Aldisert et al., *Logic for Law Students: How to Think Like a Lawyer*, 69 U. PITT. L. REV. 1, 2 (2007),

85. *Schiaffo*, 492 F.2d at 437–38 (footnotes omitted).

the minor premise. As a result, the argument commits the Fallacy of the Illicit Minor Term and must be rejected.

Each of these cases exemplifies the pattern of argument that reveals a violation of the second rule of logic. Where the arguer does not conform to this rule of distribution, the argument's logical form cannot ensure the truth of its conclusion.

V. DISCERNABLE LOGIC

Lawyers spend so much time focusing on substantive rules of law, the rhetoric of written and oral advocacy, and reasoning by analogy that they frequently take the rule of deductive logic in legal argument for granted. While they use it day in and day out, and while it pervades every legal subject matter, lawyers spend little time mastering it. In fact, when it comes right down to it, most lawyers are experts in the law, but cannot call themselves experts in logic. Accordingly, [NAL ( )]li Twl ET EMC yof n the

watching, out of the outmost limit of his peripheral vision, to see if the third base coach will take the bait, rely solely on the Official Rules, and send the runner home. Only then will the third base coach realize that the centerfielder, having mastered the invisible rules of baseball, has made the better play, and will throw the runner out to win the game.

In the same way, lawyers face, often much like the centerfielder and third base coach. Generally, lawyers know the substantive law very well. But the difference between winning a legal argument and losing one frequently has little to do with how well the lawyers know the law. It has more to do with how skilled they are at mastering the rules of logic to craft a persuasive, even compelling, argument. Understanding the form of an argument empowers a lawyer with the ability to critically analyze his argument, and his opponent. While philosophical logic is an enormous philosophical doctrine that takes many years of study to master, the philosophical device of the logical fallacy provides a simple, easily understood tool that lawyers with no formal training in philosophy can use. Fallacy-based legal reasoning provides lawyers with a shortcut. It is an "off the shelf" method for using philosophical logic to solve legal problems.

While understanding something of the theoretical basis of formal logic is helpful, one fallacy—the Fallacy of the Illicit Process—can be learned in just a few minutes, and can be employed simply by looking for and indentifying a common pattern of argument. Once the Fallacy of the Illicit Process is identified, explaining the fallacy is as simple as citing other cases, legitimizing the use of logical fallacy as a basis for discrediting a legal argument, identifying the syllogistic components of the argument, and labeling the argument as fallacious and necessarily unreliable.

Lawyers who ignore the logical form of their opponents' arguments frequently get by. They focus on substantive rules. They argue by analogy. They use their rhetorical talents, and make arguments that frequently amount to explanations of why their opponent's argument might be "good," but their argument is "better." However, unknown to them, the rules of philosophical logic frequently reveal proof that their opponent's argument is not "good," instead it is fallacious, illogical, and must be rejected by the court. Revealing these otherwise invisible and indiscernible rules of logic, and using fallacy-based reasoning, provides a device

for establishing that, instead of fighting a battle between "good" and "better," a lawyer fights a battle between "right" and "wrong." Mastering the rules of logic makes for compelling advocacy, sound and consistent analysis, and provides an authoritative basis for the credibility of legal argument. Ignoring the rules of logic exposes an advocate to the risk that he is making decisions like the third base coach who only knows the Official Rules of baseball. The advocate who knows nothing of formal logic runs the risk that, like the centerfielder, opposing counsel knows something the advocate does not. If so, the advocate is about to face embarrassment, because opposing counsel has mastered a simple, powerful, but otherwise indiscernible rule.