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Indispensable Logic: Using the Logical Fallacy of the Undistributed Middle as a Litigation Tool

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INDISPENSABLE LOGIC: USING THE LOGICAL FALLACY OF THE UNDISTRIBUTED MIDDLE AS A LITIGATION TOOL

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Logic is the arsenal, and rhetoric the artillery, which it preserves. Both have their utility; both contribute to the same purposes. But the arts themselves are as distinct, as those of the architect, who erects the building, and of the armorer, who fabricates the weapons.[1]

I. INTRODUCTION

Opposing counsel has just made "that" argument. It sounds so good. It is enough to accelerate your pulse and cause you to perspire. The argument flows from the lips, with the meter of the syllogism, from premise to premise to conclusion. It sounds patently simple, intuitively

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1. JOHN QUINCY ADAMS, LECTURES ON RHETORIC AND ORATORY 40 (Cambridge, Hilliard and Metcalf 1810).

logical, but, at the same time, ineffably wrong. Something about opposing counsel's argument is unsettling, but it is difficult to capture or explain precisely what is wrong with it. Something about the argument offends your innate argumentative sensibilities. It looks, it walks, and it sounds like a duck, but something inside you is certain it is a pig. You just cannot explain what is wrong with the argument. If only you could put your finger on what is wrong. Better yet, if only you could give whatever is wrong a name.

If you could name the problem with opposing counsel's argument, you could explain it away. Once you had a name for the argument's defect, it would at least stop quacking. It might even start to "oink." A name, along with a credible explanation of why it cannot possibly be a duck, would waft this argument's true odor toward the court, just enough to get the panel to shift in their seats away from the smell, lean toward you, and listen to your explanation. Then you could explain what would soon be obvious: that what seemed to be a webbed footed, yellow beaked, quacking argument was no duck at all. In fact, it was a pig; no, not a pig, but a hog; and hogs, well, hogs get slaughtered.[2]

Such is the nature of logical argument. It might be a litigator's most difficult intellectual problem. Like the distinction between a duck and a hog, the distinction between what is logical and what is illogical is certain. Yet, when dressed up in the webbed feet and feathers of the language of advocacy, even a distinct logical skeleton can be difficult to recognize, much less categorize or explain. In fact, it has been said, "Truth may have its norms, but error is infinite in its aberrations."[3] For example, in a trial brief the distinction between the logical and illogical is clouded by paragraphs of case analysis, factual characterizations, and legal theory. Similarly, in an oral argument logical and illogical arguments can hide, almost indistinguishably, in thickets of dialog, rhetoric, credibility determinations, legal inferences, presumptions, and emotional pleas to fairness. Yet, "[t]ruth has a chance when Noise and Distraction are on her side; otherwise she may be overcome."[4] These "distractions" from the mission of determining the logical soundness of legal arguments can transform the otherwise simple task of distinguishing a duck from a pig into a difficult one. This difficulty

2. Pigs get fat. Hogs get slaughtered. "There is a principle of too much; phrased colloquially, when a pig becomes a hog it is slaughtered." *In re* Zouhar**,** 10 B.R. 154, 157 (Bankr. D. N.M. Mar. 24, 1981) (quoting Dolese v. United States, 605 F.2d 1146, 1154 (10th Cir. 1979)).

3. H. W. B. JOSEPH, AN INTRODUCTION TO LOGIC 569 (2d ed. 1916).

4. W. WARD FEARNSIDE & WILLIAM B. HOLTHER, FALLACY:THE COUNTERFEIT OF ARGUMENT 1 (1959).

turns into impossibility for the lawyer who is not comfortable with the logical tools necessary to discern, name, and scrutinize the logical structure of their opponent's argument.

The problem and solution are logical. When John Quincy Adams wrote, "Logic is the arsenal, and rhetoric the artillery, which it preserves. Both have their utility; both contribute to the same purposes. But the arts themselves are as distinct, as those of the architect, who erects the building, and of the armorer, who fabricates the weapons,"[5] he was identifying an important distinction between two of the important tools of a good litigator: logic and rhetoric. However, litigators frequently rely too much on their rhetorical skills as advocates without giving the same attention to their reasoning skills as logicians. When making an argument based on invalid logic, even the most talented, persuasive, and sincere advocate should fail.[6] However, ensuring the failure of an illogical legal argument requires an opponent to have at least a rudimentary understanding of the theory and practice of philosophical logic.

Since Aristotle, the world's greatest philosophical minds have examined the theory of logic. That history includes a study of what logicians refer to as logical fallacies.[7] The concept of logical fallacy has survived the century and has been examined and refined by contemporary logicians.[8] Fortunately for lawyers, philosophers, by developing the theory of the logical fallacy, have done the philosophical heavy lifting: identifying patterns of reasoning that are inherently illogical, explaining why the structure is necessarily illogical and destined to fail, and even giving these patterns names. These patterns are ready-made, "off the shelf" solutions for those lawyers who are willing to understand what they are and how to use them. A logically fallacious argument is an argument that "*seems to be* [*logically*] *valid*

5. ADAMS, *supra* note 1.

6. "The failure to ground legal education in principles of logic does violence to the essence of the law." Ruggero J. Aldisert et al., *Logic for Law Students: How to Think like a Lawyer*, 69 U. PITT. L. REV. 1, 2 (2007).

7. "Aristotle addresses the fallacies in *De Sophisticis Elenchis*, *Prior Analytics*, and *Rhetoric*. In *De Spohisticis Elenchis* he treats the subject most thoroughly; the *Prior Analytics* contains some additional remarks; and in *Rhetoric* only a selection is discussed from the list compiled in *De Sophisticis Elenchis*. The title *De Sophisticis Elenchis* means 'On Sophistical Refutations' or 'On refutations as used by the Sophists.' This is why fallacies are sometimes called sophisms." FRANS H. VAN EEMEREN ET AL., FUNDAMENTALS OF ARGUMENTATION THEORY 57 (1996).

8. *See* C. L. HAMBLIN, FALLACIES 9-13 (1970) (describing a historical account of the logical fallacy, its origins, and its contemporary usage).

but *is not so*."[9] Just as important as the philosophical acceptance of logical fallacies is the jurisprudential acceptance of logical fallacies. Courts have recognized logical fallacies, like the formal fallacies of Affirming the Consequent,[10] Denying the Antecedent,[11] the Fallacy of the Undistributed Middle,[12] and others, as bases for evaluating legal arguments. Judicial reliance on logical fallacies provides practical examples that effectively use these philosophical principles in legal arguments. Additionally, courts' reliance on logical fallacies provides legal authority for arguments seeking to expose and explain the invalidity of a legal argument on grounds of philosophical logic.

This article explores the logical fallacy named the Fallacy of the Undistributed Middle and demonstrates how it can be a powerful tool for those engaged in the discipline of solving legal problems and evaluating legal arguments. First, it will explain what formal logic is, how it is different from informal conventions of logic, and describe the important role formal logic plays in skillful advocacy.[13] Second, it will explain the Fallacy of the Undistributed Middle and why arguments falling into this fallacious pattern of reasoning are logically invalid.[14] Third, it will examine the courts' contemporary recognition of this formal logical fallacy as a basis for rejecting legal arguments.[15] Last, it will explain how to identify the Fallacy of the Undistributed Middle in legal

9. Hans Vilhelm Hansen, *The Straw Thing of Fallacy Theory: The Standard Definition of 'Fallacy'*, 16 ARGUMENTATION 133, 133 (2002) (quoting C. L. HAMBLIN, FALLACIES 12 (1970)). Hansen considers this and a variety of other definitions of "fallacy." *Id*. at 133-55. *See also infra* note 29 and accompanying text.

10. *See, e.g.*, Gilliam v. Nev. Power Co., 488 F.3d 1189, 1197 n.7 (9th Cir. 2007); City of Green Ridge v. Kreisel, 25 S.W.3d 559, 563 (Mo. Ct. App. 2000); Paulson v. State, 28 S.W.3d 570, 572 (Tex. Crim. App. 2000); Culton v. State, 95 S.W.3d 401, 405 (Tex. App. 2002).

11. *See, e.g.*, TorPharm Inc. v. Ranbaxy Pharms., Inc., 336 F.3d 1322, 1329 (Fed. Cir. 2003); Bell Atl. Corp. v. MFS Commc'ns Co., 901 F.Supp. 835, 849 (D. Del. 1995); Villines v. Harris, 11 S.W.3d 516, 520 n.2 (Ark. 2000); Health Pers. v. Peterson, 629 N.W.2d 132, 135 n.3 (Minn. Ct. App. 2001); Iams v. DaimlerChrysler Corp., 883 N.E.2d 466, 478-79 (Ohio Ct. App. 2007); Edwards v. Riverdale Sch. Dist., 188 P.3d 317, 321 (Or. Ct. App. 2008); Hale v. Water Res. Dep't, 55 P.3d 497, 502 (Or. Ct. App. 2002); Thompson v. State, 108 S.W.3d 269, 278 (Tex. Crim. App. 2003); *In re* Luna, 175 S.W.3d 315, 320 (Tex. Ct. App. 2004).

12. *See, e.g.*, Funk Bros. Seed Co. v. Kalo Inoculant Co., 333 U.S. 127, 134 (1948); Spencer v. Texas, 385 U.S. 554, 578 (1967); Allied Erecting & Dismantling, Co. v. USX Corp., 249 F.3d 191, 202 n. 1 (3d Cir. 2001); Lucas Aerospace, LTD. v. Unison Indus., L.P., 899 F.Supp. 1268, 1287 (D. Del. 1995); Nickolas F. v. Superior Court, 50 Cal. Rptr.3d 208, 222 n.17 (Cal. Ct. App. 2006); Grand Victoria Casino & Resort, LP v. Ind. Dep't of State Revenue, 789 N.E.2d 1041, 1048 n.10 (Ind. Tax. Ct. 2003); Atl. Aluminum & Metal Distribs., Inc. v. United States, 47 C.C.P.A. 88, 90 (C.C.P.A. 1960). *See also* Part IV-V.

13. *See infra* Part II.

14. *See infra* Part III.

15. *See infra* Part IV.

arguments and how to unmask and disarm these logically invalid arguments from a litigator's perspective.[16]

II. PHILOSOPHICAL LOGIC, LOGICAL FALLACY, AND WHAT LAWYERS SHOULD KNOW ABOUT THEM

Lawyers consider legal reasoning to be a tool of their trade. Lawyers are so inundated with concepts like "legal reasoning," "thinking like a lawyer," and "case analysis" that they rarely give much careful thought to understanding these concepts. For example, a lawyer might read a judicial opinion and think to himself, "this was well-reasoned" (or not), confident that he intuitively understands that the opinion he just read is, in some sense, "logical" (or not). Lawyers devote little time to exhaustive analysis and synthesis of the arguments underpinning the court's opinion. They do not analyze the opinion's precise logical structure. They do not objectively confirm whether the opinion is truly well-reasoned. Furthermore, they have little time to devote to an exhaustive understanding of the philosophy of logic and a full appreciation of the strengths or weaknesses of the formal systems of logic that philosophy has developed over the years, much less to consider how to apply these philosophical theories to a court's opinion.

Why do lawyers ignore the important philosophical basis for logical thinking? First, most lawyers emerge from the legal education process convinced that they would not have graduated without knowing how to "think like a lawyer." They are probably right about that. Unfortunately, the need to be both accurate and efficient in our legal analytical abilities requires that most lawyers reduce the process of legal analysis to, at the most, an abbreviated, intuitive sense of reason and, at the least, a "gut feeling." Most clients will not tolerate a 3.25-hour charge on their bill for an entry titled: "Considered philosophy of logic in the course of reviewing Defendants' Motion for Summary Judgment." Understanding and explaining logic from the ground up takes time.

Second, even if a lawyer takes time to figure out if an argument is truly logical, it takes even more time to explain to the judge, opposing counsel, jury, colleague, or client exactly why an argument has logical failings, particularly when, on its face, the argument sounds sensible. Instead of obsessing with the logical particulars of an argument, a lawyer relies on his logical intuition, honed by three years of studying the case method. If an argument or decision is well reasoned, it just sits well

16. *See infra* Part V.

with him. There is something logically satisfying about it. If it is not well reasoned, a lawyer typically knows something is "wrong" with the argument. It is logically unsettling. It does not pass "the smell test." However, it may not be so obvious just *why* it is so unsettling. Furthermore, where another disagrees with his logical intuition, he may lack the tools that will help conclusively explain why his argument is right and his opponent's argument is wrong.

This leads to the second reason why lawyers regularly overlook the process or importance of deconstructing and scrutinizing the logical form of legal argument. Lawyers are not particularly well armed to do this. They know how to use the case method, argue by analogy, and even detect many *informal* fallacies[17] in reasoning, like "straw man"[18] or "*ad hominem*"[19] arguments. They know very well how to define legal terms. They know how to use cases and other authorities to limit or expand those legal definitions. They know how to use evidence to decorate a legal framework with factual support. However, when it comes to discussing the naked skeleton of reason, unadorned by analogous decisions in similar cases or evidentiary credibility and legal presumptions, most lawyers have no framework or language to identify or communicate what is right or wrong with the bare logical framework

17. "An informal fallacy is an error in argument due to faulty assumptions or to irrelevances occurring in stating the evidence for a conclusion." WILLIAM J. KILGORE, AN INTRODUCTORY LOGIC 11 (2d ed. 1979). Other authors have stated the distinction between formal and informal fallacies this way: "*Formal fallacies* are violations of logic . . . . Whether an argument is valid or invalid concerns merely the *logic* of the argument, and not the *truth* of the premises and conclusion, that is, *soundness* of the argument. If an argument is invalid, a fallacy has been committed. This type of fallacy, then, is what we mean by 'formal fallacies.' . . . [I]nformal fallacies . . . should act as warning signs. They give us reason to challenge the argument. Although they will often provide sufficient reason to reject the argument, further reflection may deem the argument worth accepting. . . . [T]he detection of [informal] fallacies is neither sufficient nor necessary to show that we should reject the argument. They tell us to investigate further, or to pass the burden of proof back to the arguer." MALCOLM MURRAY & NEBOJSA KUJUNDZIC, CRITICAL REFLECTION: A TEXTBOOK FOR CRITICAL THINKING 397 (2005) (alteration in original).

18. "The Straw Man fallacy involves the attribution or assumption of a position, which is then attacked or dismissed. The problem is that the position dismissed by the argument is not the *real* 'man' or 'person', but a caricature of the real position held. In a dialogue, a position may be explicitly attributed to an opponent. But for whatever reason, either that position is not one that the opponent actually holds, or the opponent does not hold the position in quite the way that has been attributed. Hence, an argument that attacks and dismisses the attributed position diverts attention from the real position and is therefore fallacious." CHRISTOPHER W. TINDALE, FALLACIES AND ARGUMENT APPRAISAL 20 (2007).

19. "This fallacy shifts an argument from the point being discussed (*ad rem*) to irrelevant personal characteristics of an opponent (*ad hominen*)." RUGGERO J. ALDISERT, LOGIC FOR LAWYERS: A GUIDE TO CLEAR LEGAL THINKING 182 (3rd ed. 1997).

itself. When it comes right down to it, most lawyers cannot adequately explain what formal logic is and why it is so reliable.

An understanding of the basic form of deductive logical argument arms the lawyer with important tools necessary to evaluate the logical structure of legal argument, identify it as logically valid or invalid, and explain why this is so. In more practical terms, lawyers who understand formal logic have the power to topple a legal argument built without a logical foundation. Logic provides a definite, reliable, and objective basis for analyzing legal and other arguments. Logic distinguishes arguments that have a logically valid form from those that have a logically invalid form. Those formally invalid arguments are called fallacies.[20] Fallacious arguments fall into one or more of several patterns. Each of these logically fallacious patterns has been defined and given a distinct name descriptive of what is wrong with the argument. These named fallacious patterns provide a lawyer with the ability to efficiently analyze, identify, and communicate fallacious legal reasoning.

So what is formal logic? For purposes of legal reasoning, it is sufficient for lawyers to understand that "formal logic" refers to the consideration of the form of a logical argument. It has been said, "Logic is the study of right reason or valid inferences and the attending fallacies, formal and informal."[21] The specific logical fallacy considered in this article is a fallacy of *deductive* logic. Deductive logic is the "logic of necessary inference."[22] It requires that the conclusion

20. *See infra,* note 30.

21. NORMAN L. GEISLER & RONALD M. BROOKS, COME, LET US REASON 12 (3rd prtg. 1994). Philosophers have defined and debated what logic is or 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." L.W. LEDYARD, ELEMENTS OF LOGIC 1 (New York, Harper & Bros. Publishers 1858). "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 premises, or to the knowledge or the ignorance of the reasoner." W. R. BOYCE GIBSON, THE PROBLEM OF LOGIC 157 (1908). "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) (emphasis in original). "[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." HERMANN LOTZE, LOGIC IN THREE BOOKS OF THOUGHT, OF INVESTIGATION, AND OF KNOWLEDGE 10-11 (Bernard Bosanquet ed., 2d ed, Oxford, The Clarendon Press 1888).

22. PATRICK J. HURLEY, A CONCISE INTRODUCTION TO LOGIC 31 (Wadsworth Publishing 2006). ("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."). *See also* KILGORE, *supra* note 13, at

necessarily follow from the two premises. In deductive logic, an argument is formed that claims its conclusion is necessarily supported by its premises.[23] That is, in deductive logic, if the premises are true, and the form of the argument is valid, then it is logically impossible for the conclusion to be false.[24] An example of a deductive argument is:

> If a complaint states a claim upon which relief may be granted, then it satisfies the requirements of Federal Rule of Procedure 12(b)(6).
> Plaintiff's complaint states a claim upon which relief can be granted.
> Therefore, Plaintiff's claim satisfies the requirements of Federal Rule of Procedure 12(b)(6).

Deductive reasoning requires analyzing arguments in syllogisms. A syllogism is an argumentative structure made up of two distinct but related premises and a conclusion of the deductive argument.[25] There are different types of syllogisms.[26] One common syllogism used in legal argumentation is a categorical syllogism where the conclusion follows from the relationship between the concepts in the premises and their membership in certain categories.[27] For example, when a legal issue revolves around whether a certain act meets a statutory definition, it may very well fit into a categorical syllogism. Similarly, when a legal issue focuses on whether a party met the requirements of a term of a contract,

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509 ("[Deductive logic] is the analysis of arguments whose form requires that in all cases in which the conclusion is false at least one premise is also false.").

23. IRVIN M. COPI & CARL COHEN, INTRODUCTION TO LOGIC 26 (13th ed. 2009). Deductive logic is different from inductive logic. Inductive logic involves an argument that claims its conclusion is supported by its premises, but not necessarily required by them. Accordingly, a valid deductive argument has the potential to be a more persuasive device for argumentation.

24. DOUGLAS WALTON, INFORMAL LOGIC: A PRAGMATIC APPROACH 138 (2d ed. 2008).

25. ALEXANDER BAIN, LOGIC 134 (London, Longmans, Green Reader, & Dyer 1870); CHRISTOPH SIGWART, LOGIC 374 (Helen Dendy trans., London, Swan Sonnenschein & Co. 1895); AUGUSTUS DE MORGAN, FORMAL LOGIC 88 (A. E. Taylor, ed., The Open Court Co. 1926).

26. There are three principal kinds of syllogisms: the categorical syllogism, the disjunctive syllogism, and the hypothetical syllogism. COPI & COHEN, *supra* note 23, at 301. The disjunctive syllogism "contains a compound, disjunctive (or alternative) premise asserting the truth of at least one of two alternatives, and a premise that asserts the falsity of one of those alternatives." *Id.* The hypothetical syllogism contains "one or more compound, hypothetical (or conditional) propositions, affirming that if one of its components (the antecedent) is true then the other of its components (the consequent) is true." *Id.*

27. "A *categorical syllogism* is defined as an argument consisting of three categorical propositions which contain between them three and only three terms. Two of the propositions are premises, the third is the conclusion." MORRIS R. COHEN & ERNEST NAGEL, AN INTRODUCTION TO LOGIC 77 (John Corcoran ed., 2d ed., Hackett Publ'g Co. 1993) (1962). "Categorical propositions are regarded as being about classes, the classes of objects designated by the subject and predicate terms." COPI & COHEN, *supra* note 23, at 189.

that issue may fit neatly into a categorical syllogism. Take, for example, the following argument:

> Prosecutor: "Your honor, the Virginia statute[28] prohibits the possession of a 'blackjack, brass or metal knucks . . . switchblade knife, ballistic knife, or like weapons.' The Defendant was found in possession of a homemade throwing knife, which is plainly "ballistic" in character. Accordingly, the Defendant is in violation of the statute.

The argument appears to be valid. Breaking the argument into its components and arranging them in the form of a syllogism allows us to give more careful consideration to the terms of the argument and their relationship to the conclusion. One could state this argument syllogistically as:

> All persons possessing ballistic knifes are in violation of the statute.
> Defendant is a person in possession of a ballistic knife.
> Therefore, Defendant is in violation of the statute.

The import of this syllogism, like all categorical syllogisms, rests on the relationship between the first two sentences. These sentences are called categorical propositions because they are propositions that categorize the terms of the syllogism. The categories here are "persons possessing ballistic knives" and "persons in violation of the statute." One can understand the form of the deductive logic of an argument by studying its syllogistic skeleton. Furthermore, we can test the integrity of this logical skeleton by using recognized rules of logic and thereby determine whether the argument is logically fallacious.

Logicians have cataloged the various forms of syllogisms and developed a set of six[29] rules for syllogisms of deductive logic.[30]

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28. Section 18.2-311 of the Code of Virginia states: "If any person sells or barters, or exhibits for sale or for barter, or gives or furnishes, or causes to be sold, bartered, given or furnished, or has in his possession, or under his control, with the intent of selling, bartering, giving or furnishing, any blackjack, brass or metal knucks, any disc of whatever configuration having at least two points or pointed blades which is designed to be thrown or propelled and which may be known as a throwing star or oriental dart, switchblade knife, ballistic knife, or like weapons, such person shall be guilty of a Class 4 misdemeanor. The having in one's possession of any such weapon shall be prima facie evidence, except in the case of a conservator of the peace, of his intent to sell, barter, give or furnish the same." VA CODE ANN. § 18.3-311 (2009).

29. Not all logicians have agreed on the number of rules or their numeration. *See e.g.,* HURLEY, *supra* note 22, at 256. (articulating five rules but noting "logicians of today generally settle on five or six" [rules of syllogism.] Hurley explains the distinction between five and six rules by stating, "Some texts include a rule stating that the three terms of a categorical syllogism must be used in the same sense throughout the argument." *Id*. Hurley and others incorporate this rule into the definition of "categorical syllogism."

Concluding that a deductive argument is well formed and has a valid logical structure requires strict adherence to all of these rules. Where an argument's form violates even one of these rules, the argument is fallacious.[31] However, most definitions agree that fallacies of deductive

30. The six syllogistic rules have been typically stated as: (1) Avoid four terms (i.e., a categorical syllogism must contain three terms, and the terms must have the same meaning each time they are used in the argument.); (2) Distribute the middle term in at least one premise (a discussion of the logical term "distribute" follows); (3) Any term distributed in the conclusion must be distributed in the premises; (4) Avoid two negative premises; (5) If either premise is negative the conclusion must be negative; (6) From two universal premises no particular conclusion may be drawn. *See, e.g.,* COPI & COHEN, *supra* note 23, at 244-49 (2008). However, compare Charles L. Hamblin's discussion regarding historical variations on the rules of validity of syllogisms and his proposal that three concise rules could adequately encompass the requirements. HAMBLIN, *supra* note 8, at 196-202 .

31. Others have described and debated the meaning of the term fallaciousness more comprehensively as a philosophical subject. For a thorough discussion of the historical meaning of fallacy throughout the history of the philosophy of logic, see H. V. Hansen, *The Straw Thing of Fallacy Theory: The Standard Definition of 'Fallacy'*, 16 ARGUMENTATION 133 (2002). Hansen considers a variety of definitions of fallacy: "A fallacious argument, as almost every account from Aristotle onwards tells you, is one that *seems to be valid* but *is not so." Id*. at 133 (quoting HAMBLIN, *supra* note 8, at 12). It has been customary for books on logic to contain a separate section or chapter on *fallacies*, defined as *errors in reasoning." Id.* at 137 (citing MORRIS R. COHEN & ERNEST NAGEL, AN INTRODUCTION TO LOGIC AND SCIENTIFIC METHOD 376 (Harcourt, Brace and Co. 1934)).

> The term "fallacy" is often used to refer to any kind of mistaken belief, however arrived at. In this sense it may be said, for instance, that the belief that women are illogical is a "fallacy." For our present purpose, this sense is too wide, and we shall consider only errors in *reasoning*. . . . We . . . adopt the following definition: A *fallacy* is an argument that *seems* to be sound without being so in fact. An argument is "sound" for the purpose of this definition if the conclusion is reached by a reliable method and the premises are known to be true. This definition agrees well with *one* common meaning of "fallacy."

Id. at 138 (quoting MAX BLACK, CRITICAL THINKING 229-230 (1952)).

> Sophistical reasoning appears to be genuine reasoning but actually is fallacious. Sophistics, therefore, is that part of logic concerned with the defective syllogism. A sophistic argument is a syllogism that seems to infer a conclusion from probable premises but, because of one fallacy or another, does not really do so. The defect in the argument occurs either on the part of matter alone or on the part of both matter and form.

Id. at 138 (quoting JOHN A. OESTERLE, LOGIC: THE ART OF DEFINING AND REASONING 253 (2d ed. 1963). "'Strictly speaking, the term 'fallacy' designates an unacceptable mode of reasoning. However, the term is usually extended to include types of improper definition.'" *Id*. at 139 (quoting EDITH WATSON SCHIPPER & EDWARD SCHUH, A FIRST COURSE IN MODERN LOGIC 24 (1959)).

> The word "fallacy" is used in various ways. One perfectly proper use of the word is to designate any mistaken idea or false belief, like the "fallacy" of believing that all men are honest. But logicians use the term in the narrower sense of an error in reasoning or in argument. A fallacy, as we shall use the term, is a type of incorrect argument.

Id. at 139 (quoting IRVING M. COPI, INTRODUCTION TO LOGIC 52 (2d ed. 1961)).

> The word "fallacy" is sometimes used as a synonym for any kind of position that is false or deceptive, and sometimes it is applied in a more narrow sense to a faulty process of reasoning or to tricky or specious persuasion. We will use "fallacy" in the latter sense so that one may say a fallacy occurs where a discussion claims to conform to the rules of sound arguments but, in fact, fails to do so.

logic are simply descriptions of various arguments' failures to adhere to one or more of these six logical rules.

Arming oneself with an understanding of logical fallacy does not even require mastery of all six rules. One common fallacy, the Fallacy of the Undistributed Middle, follows from the failure to observe just one of those six rules. Knowledge of even one fallacy can be a significant asset to a lawyer. The second[32] of those six rules, the rule that requires that a syllogism "distribute" the middle term in at least one premise, must be observed in order to meet the test of validity. When an argument fails to comply with this rule, the result is an argument that suffers from the Fallacy of the Undistributed Middle. An explanation of what it means to "distribute" a term and which term is the "middle 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 FALLACY OF THE UNDISTRIBUTED MIDDLE AND ITS UNUSUAL NAME

A lawyer can understand and explain this fallacy by understanding and explaining its name. While logicians have endeavored to name this and other fallacies in ways that are descriptive,[33] these descriptions use the terminology of formal logic. Accordingly, neither the term "undistributed" nor the term "middle" will have immediate significant meaning to most lawyers or jurists. However, both make sense with a little understanding of some of the terminology of formal logic. Understanding this terminology begins with understanding the structure logicians use to evaluate arguments.

Evaluating an argument's formal structure requires breaking an argument into components and assembling those components into a syllogism.[34] Instead of using all of the precise words used in an

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Id. at 141 (quoting FEARNSIDE & HOLTHER, *supra* note 4, at 3). "A *fallacious* argument in logic is an incorrect argument. It is also customary to restrict the word 'fallacious' to incorrect arguments which in certain contexts *seem* to some to be correct." *Id.* at 141 (quoting JAMES D. CARNEY & RICHARD K. SCHEER, FUNDAMENTALS OF LOGIC 11 (2d ed. 1974).

32. Those who reduce the number of rules to five, might refer to this as the first rule. *See, e.g.,* HURLEY, *supra* note 22, at 257.

33. Examples of some logical fallacies include "Affirming the Consequent," "Denying the Antecedent," "Illicit Process of the Major Term," "Illicit Process of the Minor Term," "Fallacy of Exclusive Premises," and the "Existential Fallacy." COPI & COHEN, *supra* note 23, at 246-49, 300-01.

34. "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

argument, it is simpler to eliminate and paraphrase some of the words in the syllogism. It may be possible to reduce some of those words to symbols. Furthermore, it is sometimes appropriate to add implied words into the framework of the syllogism. Ultimately, this process reduces the argument to a series of phrases or letters and symbols that stand for the facts in the argument and relationship between and among those facts. However represented, the argument is arranged in the standard form of a syllogism.

A syllogism is a deductive argument where the conclusion is inferred from two premises.[35] This syllogism consists of two premises and a conclusion.[36] Each premise consists of terms. For example, one might argue, "All judges wear robes." This premise has two terms: "[persons who are] judges" and "persons who wear robes." In a valid categorical syllogism, there must be a common term that appears in each of the two premises. Accordingly, we might continue the argument that begins with the premise "[a]ll judges wear robes" to add the premise "Chief Justice Roberts is a Judge."[37] The new premise, "Chief Justice Roberts is a Judge" has two terms: "Chief Justice Roberts" and "[persons who are] judges." The term that appears in both premises, but not the conclusion, is called the "middle term."[38] In this example, "[persons who are] judges" is the middle term because it appears in both premises but not the conclusion.

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*believe that it is actually (*i.e., *materially) weak at those points." F. C. S. SCHILLER, FORMAL LOGIC:A SCIENTIFIC AND SOCIAL PROBLEM 222 (1912).*

35. COPI & COHEN, *supra* note 23, at 224.

36. Legal argument generally has three sources of major premises: a text (constitution, statute, regulation, ordinance, or contract), precedent (case law, etc.), and policy (i.e., consequences of the decision). Often the 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.'

ANTONIN SCALIA & BRYAN A. GARNER, MAKING YOUR CASE: THE ART OF PERSUADING JUDGES 42 (2008) (quoting O.C. JENSEN, THE NATURE OF LEGAL ARGUMENT 20 (1957)).

Of course, some arguments are too complex to reduce to a simple syllogism. Frequently, components of an argument are not essential to its truth or fallacy. Similarly, portions of an argument are sometimes not expressed at all. Such arguments are called enthymemes. ALDISERT, *supra* note 19, at 61. Conversely, sometimes a single syllogism is insufficient to fully embody all of the terms of an agreement. In this situation a series of syllogisms can be linked together, with the conclusion of one syllogism forming the premise of a subsequent syllogism, to form a polysyllogism. *Id.* at 64.

37. To be logically precise and consistent with the language used in this syllogism, the term "Chief Justice Roberts" would be stated "[persons who are] Chief Justice Roberts." Throughout this article, except where including the implied terms is helpful to follow the logical patterns, these more precise and consistent words will be omitted.

38. COPI & COHEN, *supra* note 23, at 225.

It is this "middle term" that is the focus of the Fallacy of the Undistributed Middle. An understanding of the middle term is essential to understanding and explaining the fallacy. As the name of the fallacy suggests, the problem with the middle term is that it is "undistributed." This too is a term essential to understanding and explaining the fallacy. 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.[39] Conversely, if a term only refers to a portion of the members of the class, it is "undistributed."[40] In the simplest case, a term modified with the word "all," or some variant of the word "all," would typically be distributed. "All cars," "every lawyer," or "no judges" are all instances of the terms cars, lawyers, and judges being distributed. Conversely, where the word "some," or a variant of the word some, modifies a term, that term is undistributed. "Some cars," "many lawyers," or "most judges" are instances of undistributed terms "cars," "lawyers," and "judges" respectively. To illustrate this more completely, consider the following syllogism:

All judges wear robes.
Chief Justice Roberts is a judge.
Therefore, Chief Justice Roberts wears a robe.

In the example above, the term "judges" is distributed in the first premise, since it refers explicitly to "*all* judges." In the second premise, it does not suggest that Chief Justice Roberts constitutes the entire population of judges. Instead, it indicates that he is *a* judge. Since this is a reference to a portion of or example of the class of judges, "judges" is undistributed in this premise.

As discussed above, the second law of deductive logic focuses on the *middle* term. It is this middle term that must be distributed at least one time in at least one of the premises. For example, if one states, "all

39. COPI & COHEN, *supra* note 23, at 225. *See also* RICHARD WHATELY, ELEMENTS OF LOGIC 28 (1913) ("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 signified by it . . . ."); TINDALE, *supra* note 18, at 45 ("A term is said to be 'distributed' in a proposition when it is meant to refer to all members of the class of things that proposition denotes."); JAMES A. WINANS & WILLIAM E. UTTERBACK, ARGUMENTATION 69 (1930) ("A term is said to be distributed if it refers to a class of things in its entirety."); NICHOLAS BUNNIN & JIYUAN YU, THE BLACKWELL DICTIONARY OF WESTERN PHILOSOPHY 188 (2004) ("A term is distributed if it refers to all members of the class to which it is referring and is explicitly or implicitly prefixed by a universal quantifier.").

40. WHATELY, *supra* note 39 ("A term is said to be . . . 'undistributed,' when it stands for a portion only of the things signified by it . . . .").

judges wear robes," the term "[people who wear] robes"[41] is undistributed since there are people other than judges who wear robes." Similarly, if I were to state, "Muhammad Ali wears a robe," the term robe is again undistributed because people other than the legendary boxer Muhammad Ali wear robes.

Characterizing this term as undistributed becomes important when we look at these two premises together. Consider the argument that is formed by assembling these two statements:

> All judges wear robes.
> Muhammad Ali wears a robe.
> Therefore, Muhammad Ali is a judge.

The argument is fallacious because its middle term is undistributed in both premises. While the conclusion is patently untrue, the structure of the argument is also logically flawed. Try to explain what is wrong with this argument without discussing common knowledge or the rules of formal logic. You might be able to explain why it is untrue without any training in formal logic by saying: "Everyone knows Muhammad Ali is not a judge. He wore a boxer's robe when he entered the boxing ring, but he never served as a judge or wore a judge's robe." However, if you offered such common knowledge as your explanation, you would be missing the point. You cannot explain what is wrong with this argument unless you understand something about formal logic. That is because the logical form of this argument is faulty. It is the ability to offer and explain this logical justification for the falsity of the conclusion that is so valuable to a lawyer. This is particularly true when the conclusion is not as obvious as Muhammad Ali's occupation.

The reason this syllogism is logically flawed is that the term "robes" is undistributed in both the sentence "all judges wear robes" and the sentence "Muhammad Ali wears a robe." From here, we see the essence of this type of syllogistic argument and why it must be fallacious. This syllogism reaches a conclusion by putting people in categories.[42] That is why logicians call this form of argument a categorical syllogism.[43] It is the relationship between the categories that

41. "*People* who wear" robes is implied by the sentence. Theoretically, robes might be worn by mannequins, coat hangers, or other inanimate objects.

42. W. EDGAR MOORE, CREATIVE AND CRITICAL THINKING 194 (1967) ("a *categorical* proposition names or describes two classes and states a relationship between them.").

43. More precisely, a categorical syllogism is made up of "categorical propositions." "A categorical proposition is made up of four components, the quantifier, the subject term, the copula, and the predicate term. A quantifier is of one of two types: the universal quantifier 'all' or the particular (existential) quantifier 'some.' A term is a word that stands for a class of individuals,

justifies drawing a valid inference in the conclusion from the premises. The purpose of the middle term is to relate the subject and predicate terms of the syllogism together.[44]

Because putting people in categories is the gist of the above argument, the rule of logic that requires that the middle term be distributed in at least one of the two premises ensures the integrity of the conclusion. The middle term is the term that is common to both premises. Accordingly, the conclusion, if valid, proves something as it relates to the middle term. In order to ensure the integrity of such a conclusion, that middle term must, at least once, refer to all of the members of that categorical term. If it does not, then the possibility exists that the middle term is actually referring to two distinct subsets of the middle term.

This is where our example argument above goes wrong. The middle term "persons who wear robes" is undistributed in the major premise. Similarly, it is undistributed in the minor premise. Judges and Muhammad Ali (and other boxers) are merely examples of the class of people who wear robes. The fact that they are both examples of the category does not allow us to draw logical connections about judges or Muhammad Ali with respect to their propensity for robe wearing.

Accordingly, when an argument is made in the form of a categorical syllogism, i.e., where the arguer is trying to draw a conclusion about two terms because of their membership in a similar class, lawyers should consider whether the middle term is adequately distributed in both premises. If it is not, the argument commits the Fallacy of the Undistributed Middle, is logically invalid, and cannot ensure the truth of its purported conclusion.

Changing the minor term, but leaving the middle term unchanged, does not improve the validity of the syllogism. For example:

All judges wear robes.
Chief Justice Roberts wears a robe.
Therefore, Chief Justice Roberts is a judge.

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called the 'extension' of that class. For example, the term 'stunt pilots' stands for the class of stunt pilots. A copula is a form of the verb 'is' or 'are' that joins one term to another. The subject term stands for a class said to belong, or not to belong, to another class, denoted by the predicate term. In the example . . . 'Some accountants are daredevils' is a categorical proposition, because it can be paraphrased as 'Some accountants are individuals who are daredevils.'" DOUGLAS WALTON, FUNDAMENTALS OF CRITICAL ARGUMENTATION 54-55 (2006). *See also* J. WELTON, A MANUAL OF LOGIC 156 (1904) ("A Categorical Proposition" is one which simply asserts or denies some fact; as 'Gold is yellow'; 'True bravery is not rash.'")

44. HURLEY, *supra* note 22, at 257.

While we know the conclusion to be true, its truth is not confirmed by the argument itself. The middle term, "persons who wear robes," is still undistributed in both the major and minor premises. Accordingly, the syllogism still suffers from the Fallacy of the Undistributed Middle.[45] The only way to repair this logical defect is to ensure that the middle term is distributed at least once.

We see arguments that take this form frequently in litigation. Some case law examples of this type of argument are discussed below. Then this article will consider this fallacy in more general and practical terms and consider some of the symptoms of arguments suffering from this fallacy.

IV. COURTS HAVE RECOGNIZED THE FALLACY OF THE UNDISTRIBUTED MIDDLE AS A FORM OF FALLACIOUS REASONING AND REJECTED IT AS LOGICALLY INVALID AND UNRELIABLE

The logical Fallacy of the Undistributed Middle is not just a theoretical tool of philosophy. It is a practical tool that courts have used to analyze the validity of arguments. Courts will be hard-pressed to accept an argument knowing that it rests on fallacious logic. Here we will consider a few examples of judicial opinions that have employed the Fallacy of the Undistributed Middle, providing precedential support for the use of logical fallacy as a litigation tool, as well as practical examples of how the fallacy is manifested in arguments that might not seem immediately to fit into the form of the syllogism.

One example of a court using the logical Fallacy of the Undistributed Middle to decide a legal issue is seen in *Grand Victoria Casino & Resort, LP v. Indiana Department of State*.[46] The case involved a state tax dispute. Grand Victoria Casino & Resort claimed it

45. Note the difference here between whether the *conclusion* is true or false and whether the *argument* is logically valid or invalid. Here we know the conclusion is true. However, the form of this argument is not what leads us to that conclusion. Just because an argument violates one of the rules of logic does not require that the conclusion is false. Instead, it requires that the argument is invalid. Conversely, while an argument may have a valid form, the validity of the form only guaranties the truth of the conclusion when the premises are both true. "A valid argument can have true premises and a true conclusion, . . . false premises and a true conclusion, . . . or false premises and a false conclusion. . . . The only combination ruled out by very notion of validity is that of a valid inference with true premises and false conclusion, since a valid inference is one for which the logical forms of premises and conclusion guarantee that whenever the former are true, so is the latter." PAUL HOYNINGEN-HUENE , FORMAL LOGIC: A PHILOSOPHICAL APPROACH 14 (Alex Levine trans., 2004). Of course, in the law, it is not enough to simply make conclusory statements. Instead, lawyers are required to prove their conclusions. Herein lies the power of the fallacy as a tool for challenging legal conclusions.

46. 789 N.E.2d 1041 (Ind. Tax Ct. 2003).

was exempt from state use tax on the purchase of a riverboat used as a riverboat casino.[47] One of the issues in *Grand Victoria Casino & Resort* was whether the riverboat fit the definition of "motorboat" under the Indiana Code.[48]

Indiana Code Section 9-31-3-1 states, "[E]very motorboat principally used on the waters of Indiana must be registered [with the Bureau of Motor Vehicles] and numbered."[49] The Indiana Department of state argued that because riverboats were watercraft, and motorboats were watercraft, then riverboats were motorboats required to register with the Bureau of Motor Vehicles.[50] The court rejected this argument as "fall[ing] prey to the fallacy of the undistributed middle."[51] The court summarized the department's argument in its syllogistic form: "the Department argues that, (1) riverboats are watercraft, (2) motorboats are watercraft, therefore, (3) riverboats are motorboats and, thus, the registration requirements apply."[52]

The fallacy becomes clear when we more specifically identify the components of this syllogism. The middle term is "watercraft." This term is found in the major premise and the minor premise, but not the conclusion. Accordingly, the rule of logic requires that this middle term be distributed in at least one of these two premises. In the major premise, "riverboats are watercraft," the term "watercraft" is not distributed. "Watercraft" as used in this premise is not universal. It is not referring to all watercraft. Some riverboats are watercraft, but not all watercraft are riverboats. To the contrary, a riverboat is just one example, one subset of all of the watercraft.

Similarly, in the minor premise, "motorboats are watercraft," the term "watercraft" is not distributed. Here, the term "watercraft," as in the major premise, does not describe all watercraft. Instead, it merely refers to another subset of the universe of all watercraft. The court recognized this, stating: "the Department's argument falls prey to the fallacy of the undistributed middle. 'The nature of this fallacy becomes

47. *Id.* at 1043.

48. *Id.* at 1047.

49. *Id.* at 1048 (quoting IND. CODE § 9-31-3-1 (1998)).

50. *Id.*

51. *Id.* at n.10. The Indiana Statute at issue imposed "use tax on the 'storage, use, or consumption of a . . . watercraft' if the watercraft '(1) is acquired in a transaction that is an isolated or occasional sale; and (2) is required to be titled, licensed, or registered by this state for use in Indiana.'" *Id.* at 1047.

52. *Id.* at n.10.

more obvious in the following example: Cats are mammals. Dogs are mammals. Therefore, cats are dogs.'"[53]

Like the watercraft case, *Hoatson v. New York Archdiocese*[54] is another decision that employed the Fallacy of the Undistributed Middle to evaluate the parties' arguments. The plaintiff in *Hoatson* argued for recusal of the trial court judge.[55] One basis for recusal articulated by the plaintiff was the trial court judge's relationship with New York Mayor Rudolph Giuliani.[56] The plaintiff claimed that the trial judge had known Mayor Giuliani during his first term as Mayor of New York City.[57] Additionally, Plaintiff claimed that Mayor Giuliani knew an employee of the Defendant Archdiocese, Monsignor Alan Planca.[58] Because both Mayor Giuliani and Monsignor Planca had a common acquaintance in the trial court judge, the plaintiff argued that the trial court judge should recuse himself.[59]

The court held that the plaintiff's argument suffered from the Fallacy of the Undistributed Middle.[60] While the argument does not seem to fit neatly into a syllogism, a little analysis of the basic components of the plaintiff's claim reveals the argument's syllogistic form. In essence, the plaintiff's argument is this:

> The Judge is a friend of Mayor Giuliani.
> Monsignor Planca is a friend of Mayor Giuliani.
> Therefore, Monsignor Planca is a friend of the judge.[61]

The middle term is the term that appears in both the major and minor premises: "friend[s] of Mayor Giuliani." Indeed, it is undistributed in both the major premise and the minor premise. Neither the trial court judge nor Monsignor Planca encompassed the totality of Mayor Giuliani's set of friends. If Mayor Giuliani truly counted either of these men as a friend, either would be but a single representative of a

53. *Id.* at 1048 (quoting State v. Star Enter., 691 So. 2d 1221, 1229 n.8 (La. Ct. App. 1996)).
54. No. 05Civ.10467, 2006 U.S. Dist. LEXIS 87877 (S.D.N.Y. 2006).
55. *Id.* at *2
56. *Id.* at *3
57. The trial judge, the Honorable Paul A. Crotty, had served as corporation counsel to New York City during that time. United States Department of Justice, http://justice.gov/archive/olp/crottyresume.htm (last visited Sept. 27, 2009).
58. The plaintiff was publicly critical of Monsignor Planca prior to this suit against the New York Archdiocese. *Hoatson,* 2006 U.S. Dist. LEXIS 87887, at *28.
59. *Id.* at *12
60. *Id.* at *29.
61. *Id.* at *28.

larger set. Accordingly, the court properly recognized the existence of fallacy in the logical structure of the argument.[62]

While the argument is fallacious, this infirmity only demonstrates that the form of the argument is invalid.[63] The fallacious nature of the argument does not require its negative, i.e., that Monsignor Planca was no friend of the trial court.

The validity of a syllogism and the soundness of the argument's structure deal only with relations between the premises. Validity deals only with form. It has absolutely nothing to do with content. Arguments, therefore, may be logically valid, yet absolutely nonsensical. Assuming valid form, the essence of argument must always be a search for the truth or falsity of the premises . . . . Once this determination is made in constructing the premise in a deductive syllogism, however, we do not say that the conclusion *probably* will follow; the conclusion *must* follow.[64]

However, if the plaintiff were to prove his intended conclusion, he would have to develop some other, logically valid, argument to do it.

Graceland College Center for Professional Development and Life-Long Learning, Inc. v. Kansas Department of Labor[65] involved a labor dispute initiated by a former employee of the claimant Graceland College Center for Professional Development and Life-Long Learning, Inc. The employee in that case worked for her employer for two years.[66] At the time she left her employment, she had accrued hourly wages, vacation time, and sick pay.[67] She had also accrued prepaid commissions that the employer claimed she had not earned.[68] The claimant's employer offset the employee's accrued hourly wages[69] against her prepaid commissions.[70]

One issue in the case was whether these accrued hourly wages, vacation time, and sick pay constituted "wages" or "commissions."[71] The claimant's policy provided, "Programs that are not paid in full at the

62. *Id.* at *29.

63. *See* HOYNINGEN-HUENE, *supra* note 45.

64. ALDISERT, *supra* note 19, at 68-69.

65. *Graceland Coll. Ctr. for Prof Dev. and Life-Long Lrng., Inc. v. Kan. Dep't of Labor*, 131 P.3d 1281 (Table), 2006 WL 995733 (Kan. Ct. App. 2006).

66. Claimant worked for employer from May 21, 2001, through June 30, 2003. *Id.* at *1.

67. *Id.* at *1.

68. *Id.* at *1.

69. While the court referred to "hourly wages," the offset was made as to hourly wages, vacation time, and sick pay. *Id.* at *1.

70. *Id.* at *1.

71. *Id.* at *4.

time of separation will be debited from your final commissions."[72] The claimant argued that the definition of the word "commissions" in this policy must be read in light of the Kansas statute that defines "wages" as "compensation for labor or services rendered by an employee, whether the amount is determined on a time, task, piece, commission or other basis."[73] The court here concluded that the claimant's argument suffered from an undistributed middle.[74] The court described the fallacy in the claimant's argument this way:

> Apparently, the logic is that, because the term "wages" includes hourly wages and commissions, then the term "commissions" must include hourly wages. If the argument were to be structured as a categorical syllogism, it would be stated as: hourly wages are wages; commissions are wages; therefore commissions are hourly wages. The conclusion is deductively invalid for violating the fallacy of the undistributed middle, *i.e.,* hourly wages and commissions are subsets of the general wages category but the subsets do not necessarily overlap. By analogy, a contract to purchase all of a neighbor's cows does not entitle the buyer to purchase the neighbor's horses, even though the statutory definition of "domestic animals" in K.S.A. 60-4001(b) includes, *inter alia,* both cows and horses.[75]

The Court correctly considered the syllogism and identified the Fallacy of the Undistributed Middle[76] in claimant's argument:

> All hourly wages are wages;
> All commissions are wages;
> Therefore, all commissions are hourly wages.

Once again, the middle term, "wages," is undistributed in both premises. Even if hourly wages and commissions together would encompass the entire class of "wages," wages is still undistributed in both the major premise and the minor premise respectively. Accordingly, the argument is fallacious and must fail.

Another case, *Aylett v. Secretary of Housing and Urban Development*,[77] involved the Secretary of Housing and Urban Development's decision overturning the findings of an administrative law judge's decision. The Secretary's designee (Katz) decided to find

72. *Id.* at *1.
73. *Id.* at *4.
74. *Id.*
75. *Id.*
76. *Id.*
77. *Aylett v. Sec'y of Hous. and Urban Dev.*, 54 F.3d 1560 (10th Cir. 1995).

the claimant's (Burris) testimony more credible than the son of the respondent (Memmott).[78] Here, Judge Ruggaro J. Aldisert[79] held that Katz committed an "egregious" error of logic.[80]

Katz "credited the testimony of Ms. Burris, who had a profound personal financial stake in the outcome of this case, quantified at the final hearing to the tune of $100,000."[81] However, Katz also "corrected the ALJ for crediting Justin Memmott's testimony because, 'as a Respondent, Mr. Memmott has a personal stake in the outcome of this litigation.[82] He also has a personal and financial interest in exonerating his parents in this action.'"[83] The court recognized, "The reviewing officer cannot have it both ways. When it comes to finding credibility, he cannot fault Mr. Memmott, son of a respondent, for having a personal stake because of his relationship to his parents and ignore the personal stake of the intervenor, Ms. Burris."[84]

The court recognized that by "having it both ways," Katz had "committed the formal fallacy of the undistributed middle."[85] The court went on to explain:

> The second of the six rules of the categorical syllogism provides that the middle term (the subject of the major premise and usually the predicate of the minor premise) must be distributed in at least one premise, that is to say, the term must be broad or general: if narrow or particular, it is called "undistributed." It is distributed only when the major and minor terms can be connected through or by means of the middle term, and for the two terms that become part of the conclusion to be reached (minor and major) to be connected through a third, at least one of the two must be related to the whole of the class designated by the third or middle term.[86]

The court went on to put the argument in syllogistic form:

78. *Id.* at 1568.

79. Ruggero J. Aldisert, Senior Judge for the United States Court of Appeals for the Third Circuit, sitting by designation. Judge Aldisert has written several opinions discussing faulty logic in legal argument. He is the author of two other works specifically addressing formal logic in legal reasoning, ALDISERT, *supra* note 6, in addition to several other books focusing on the judicial process.

80. *Aylett,* 54 F.3d at 1596. (citing IRVING M. COPI, INTRODUCTION TO LOGIC 219 (7th ed. 1986)).

81. *Id.* at 1568.

82. *Id.* at 1569.

83. *Id.*

84. *Id.*

85. *Id.*

86. *Id.*

> *"All* persons who have a personal stake in litigation are not credible." It is undistributed when it is said, "*some* persons who have a personal stake are not credible." When an undistributed middle term is present, the conclusion cannot be justified: this is the fallacy of the undistributed middle. With respect to this stated reason for rejecting the credibility of Memmott, the reviewing officer's reasons lack formal, valid or cogent logical support.[87]

Katz's reasoning suffers from an undistributed middle. Judge Aldisert describes the syllogism of Katz's reasoning this way:

> Some persons who have a personal stake in litigation are not credible.
> Mr. Memmott is a person who has a personal stake in this litigation.
> Therefore, Mr. Memmott is not credible.[88]

The middle term is "persons who have a personal stake in litigation." The term is distributed in neither the major nor the minor premise.[89] Judge Aldisert explained that changing the word "[s]ome" to "[a]ll" in the major premise would have a dramatic impact on the validity of the form of the argument. "All persons who have a personal stake in litigation are not credible" would distribute the middle term "person who has a personal stake in litigation.[90]

In *Atlantic Aluminum & Metal Distributors*,[91] the Plaintiff was an importer of extruded aluminum tubes. The issue in the case was whether the tubes fell within the definition of the words "rods" or "bars" as used in paragraph 397 of the 1930 Tariff Act.[92] The United States claimed that the extruded aluminum tubes at issue were neither bars nor rods and therefore fell outside of the definition in this section.[93] Accordingly, the issue in the case was whether the hollow aluminum tubes constituted "bars" or "rods" or neither.[94] In analyzing this issue, the plaintiff argued that the aluminum tubes were "hollow bars" and "hollow rods," and, therefore, the tubes fell within the common meaning of "bars" and "rods."[95] In an attempt to bolster this argument, the

87. *Id.*
88. *Id.*
89. *Id.* at 1560.
90. While the logical form of the syllogism would no longer suffer from an undistributed middle, the major term would be false. While a witness with a personal stake in litigation may have their credibility scrutinized, their personal stake does not necessarily require that their testimony be incredible.
91. 47 C.C.P.A. 88, 89 (Fed. Cir. 1960)
92. *Id*.
93. *Id*.
94. *Id.*
95. *Id.* at 90.

plaintiff relied upon various dictionary definitions of the words "bars" and "rods." Examples of the respective definitions included:

The present record contains definitions from various lexicons introduced to show the common meaning of the terms "bars" and "rods."

> bar 1. A piece of wood, metal or other material, long in proportion to its breadth and thickness, and having, in general, considerable rigidity, such as one used for a lever, support, hindrance, obstruction, fastening, etc. * * *3. A piece of some substance, of indefinite size, shaped so as to be long in proportion to its breadth and thickness; * * *
> rod 1. A straight or slender stick; a wand; hence, any slender bar, as of wood or metal.[96]

The court held that the definitions established:

> that a bar or a rod is "long in proportion to its breadth and thickness." The evidence establishes that the imported tubes are also "long in proportion to [their] breadth[s] and thickness[es]." From these premises the importer asks us to find that tubes are bars and rods. This constitutes an invalid syllogism.[97]

The court would put Plaintiff's argument in the following syllogistic form:

> Aluminum tubes are objects that are long in proportion to their breadth and thickness.
> Bars and rods are objects that are long in proportion to their breadth and thickness.
> Therefore, aluminum tubes are bars and rods.[98]

The court found that this argument's middle term was undistributed: "The undistributed middle term prevents reliance upon the premises to support the importer's conclusion. If we were to agree with this argument, we would then be required logically to hold that every item having length would be a rod or bar because every item having length is, by definition, long in proportion to its breadth and thickness."[99]

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96. *Id.*
97. *Id.*
98. *Id.*
99. *Id.*

V. RECOGNIZING THE FALLACY AND USING IT TO DEFEAT FALLACIOUS REASONING

After considering these examples, a pattern emerges that demystifies the Fallacy of the Undistributed Middle as it commonly appears in legal argumentation. The patterns help to take some of the work out of identifying the fallacy and explaining it to a court. The fallacy, as it frequently manifests in legal argumentation, appears as the use of an example of a category to prove a conclusion that includes a term in the same category. Consider these summaries of the cases discussed above. First, in *Grand Victoria Casino & Resort, LP v. Indiana Department of State,*[100] the following argument was made:

> Riverboats are watercraft;
> Motorboats are watercraft;
> Therefore, riverboats are motorboats.[101]

The argument attempts to draw a conclusion that one term fits into a larger category, based on its relationship to a term that is an example of the same category. Compare this pattern with *Hoatson v. New York Archdiocese*[102]:

> The Judge is a friend of Mayor Giuliani.
> Monsignor Planca is a friend of Mayor Giuliani.
> Therefore, Monsignor Planca is a friend of the judge.

Again, the argument attempts to draw a conclusion based on two examples of friends of the Mayor.

Again, in *Atlantic Aluminum & Metal Distributors,*[103] we see this same pattern. There the argument was that:

> Aluminum tubes are objects that are long in proportion to their breadth and thickness.
> Bars and rods are objects that are long in proportion to their breadth and thickness.
> Therefore, aluminum tubes are bars and rods.[104]

The argument attempts to draw a conclusion based on two examples of the category "objects that are long in proposition to their breadth and thickness." In fact, if we return to each of the cases

100. 789 N.E.2d 1041 (Ind. Tax. Ct. 2003).
101. *Id.* at 1048 n.10.
102. No. 05Civ.10467, 2006 U.S. Dist. LEXIS 87877 (S.D.N.Y., Dec.1, 2006).
103. 47 C.C.P.A. 88 (Fed. Cir. 1960).
104. *Id.*

discussed above, we see this same hallmark of the Fallacy of the Undistributed Middle. The arguer concludes that because one or both of the terms in the conclusion are examples of a class, there is some relationship between the two terms. In *Grand Victoria Casino & Resort, LP*, examples of the types of watercraft were used to draw a conclusion about the relationship between riverboats and motorboats.[105] In *Hoatson v. New York Archdiocese*, examples of types of friends of Mayor Giuliani were used to draw a conclusion about the relationship between Monsignor Planca and the Trial Judge.[106] In *Atlantic Aluminum & Metal Distributors*, examples of objects that are long in proportion to their breadth were used to draw a conclusion between tubes and bars and rods.[107] In each case, the parties crafted arguments using undistributed middle terms to attempt to draw logical conclusions. In each case, those arguments were fallacious because they violated the second rule of deductive logic. In each case, the court rejected the argument and their conclusions based on formal deductive logic. These cases represent just a sampling of the decisions using the Fallacy of the Undistributed Middle to consider the logic of legal arguments.[108]

At this broad level of abstraction, consider just how often litigators experience these types of arguments. For example, litigated issues frequently focus on definitions. Does a party, evidence, or conduct meet

105. 789 N.E.2d 1041 (Ind. Tax Ct. 2003).

106. No. 05Civ.10467, 2006 U.S. Dist. LEXIS 87877 (S.D.N.Y. 2006).

107. 47 C.C.P.A. 88 (Fed. Cir. 1960).

108. *See e.g.*, Spencer v. Texas, 385 U.S. 554, 578 (1967); Funk Bros. Seed Co. v. Kalo Inoculant Co., 333 U.S. 127, 134 (1948); Allied Erecting & Dismantling, Co. v. USX Corp., 249 F.3d 191, 202 n.1 (3d Cir. 2001); Aylett v. Sec'y of Hous. & Urban Dev., 54 F.3d 1560, 1569 (10th Cir. 1995); Hernandez v. Denton, 861 F.2d 1421, 1439 (9th Cir. 1988), *vacated on other grounds*, 493 U.S. 801 (1989); Regalado v. City of Chicago, No. 96C3634, 1999 U.S. Dist. LEXIS 14902, at *3 (N.D. Ill. Aug. 31, 1999); British Steel PLC v. United States, 20 C.I.T. 663, 673 n.11 (Ct. Int'l Trade 1996); Lucas Aerospace, LTD v. Unison Indus., L.P., 899 F.Supp. 1268, 1287 (D. Del. 1995); Foster v. McGrail, 844 F.Supp. 16, 21 (D. Mass. 1994); Pearson v. Bowen, 648 F.Supp. 782, 792 n.26 (N.D. Ill. 1986); United States v. Gambale, 610 F.Supp. 1515, 1525 (D. Mass. 1985); Amusement Equip., Inc. v. Mordelt, 595 F.Supp. 125, 131 n.4 (E.D. La. 1984), aff'd in part, rev'd in part, 779 F.2d 264, 272 (5th Cir. 1985); Menora v. Ill. High Sch. Ass'n., 527 F.Supp. 632, 636 (N.D. Ill. 1981); Lakeland Constr. Co. v. Operative Plasterers Local No. 362, No. 79C3101, 1981 U.S. Dist. LEXIS 11584, at *4 n.2 (N.D. Ill. Mar. 24, 1981); Glenn v. Mason, No. 79Civ.3918(CES), 1980 U.S. Dist. LEXIS 13233, at *7 (S.D.N.Y. 1980); Desilu Prods., Inc. v. Comm'r, T.C.M. 1965-307 (T.C. 1965); Batty v. Ariz. State Dental Bd., 112 P.2d 870, 873 (Ariz. 1941); Nickolas F. v. Superior Court, 50 Cal.Rptr.3d 208, 222 n. 17 (Cal. Ct. App. 2006); People v. Martinez, 74 P.3d 316, 321 (Colo. 2003); Royer v. State, 389 So.2d 1007, 1016 (Fla. Dist. Ct. App. 1979); Barham v. Richard, 692 So.2d 1357, 1359 (La. Ct. App. 1997); State v. Star Enter., 691 So.2d 1221, 1230 n.8 (La. Ct. App. 1996); Wein v. Carey, 41 N.Y.2d 498, 503 (N.Y. 1977); Hicks v. State, 241 S.W.3d 543, 546 (Tex. Crim. App. 2007); State v. Zespy, 723 P.2d 564, 570 n.1 (Wyo. 1986).

a certain statutory or common law definition? This question is frequently the fulcrum upon which the legal consequences pivot. Accordingly, the parties will search for arguments that support or defeat the claim that a party, conduct, or evidence fits within a certain definition.

Arguments about definitions are frequently reduced to a battle of categorical syllogisms. Sometimes the battle focuses on the factual basis for the truth or falsity of the major and minor premises. However, sometimes the battle focuses on the logical basis for the relationship of the premises to the conclusion. Particularly, where the parties do not or cannot argue the facts of the case,[109] the logical structure of the categorical syllogism becomes the focus of the argument.

Of course, even when the deductive logical structure is the essence of the argument, lawyers are famous for couching their arguments in conclusory language, describing them as deductively correct even when they are merely inductive. The inductive arguments may very well offer persuasive insights suggesting the court draw a legal conclusion regarding the definitions at issue in the litigation, but they do not require that the court draw a certain conclusion in the way deductive arguments do. The Fallacy of the Undistributed Middle helps identify the failings of the argument and exposes the argument for what is really is: at best an unpersuasive inductive argument and, at worst, a misleading fallacious attempt at deductive reasoning. Furthermore, the fallacy then paves the way for either crafting a compelling deductive argument that logically requires the court reach a certain conclusion or crafting an inductive argument that can fairly compete with opposing counsel's inductive argument.

Similarly, the Fallacy of the Undistributed Middle has another, similar function, illustrated by the *Aylett v. Secretary of Housing and Urban Development* case.[110] Recall in *Aylett*, the court reduced the argument to this syllogism:

> Some persons who have a personal stake in litigation are not credible.
> Mr. Memmott is a person who has a personal stake in this litigation.
> Therefore, Mr. Memmott is not credible.[111]

109. For example, where the standard of review prohibits or restricts the parties' ability to argue the truth or falsity of the premises, as in the case in a motion for summary judgment, the facts are construed in favor of the nonmoving party. *See, e.g.*, Anderson v. Liberty Lobby, Inc., 477 U.S. 242, 250 n.5 (1986).

110. 54 F.3d 1560 (10th Cir. 1995).

111. *Id.* at 1569.

Consider how you counter this argument in court. I have observed lawyers responding to this kind of argument in many different ways, frequently reducing their response to, "Counsel can't have it both ways your honor." Once a very experienced and talented trial counsel, confronted with a similar argument form, responded by relying on what he referred to as the "enduring legal maxim" of "what's good for the goose is good for the gander." While that was an effective, practical description of the essence of what is wrong with these types of arguments, it does not describe the heart of the argumentative shortcoming of this argument. Exposing the undistributed middle and explaining its legal significance in this argument provides a much more powerful, sophisticated, and compelling method of explaining this common problem in litigation.

VI. A RETURN TO LOGIC

Lawyers frequently overlook the importance of the logical structure of argument. In fact, most are adept at distinguishing arguments that are logical from those that are illogical. However, most lawyers are poorly armed for the difficult task of explaining and justifying why some arguments are logically valid and why others are not. While busy practitioners have little time to study philosophy in between depositions, formal logic has provided them with a shortcut in the device of the logical fallacy, which can be an effective and efficient tool for analyzing the deductive validity of an argument and explaining what makes the argument invalid.

Courts have used logical fallacies, including the Fallacy of the Undistributed Middle, to analyze and explain the validity of legal arguments. These decisions confirm the philosophical validity of fallacies in legal analysis and provide a precedential basis for the use of logical fallacy as a jurisprudential tool. While the Fallacy of the Undistributed Middle is just one of several formal fallacies, it is an important one that lawyers can use to distinguish faulty reasoning and ensure the logical integrity of legal argument.