

Applying the Rule of Law Subjectively: How Appellate Courts Adjudicate

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Judges are like umpires. Umpires don’t make the rules, they apply them . . . We do not turn a matter over to a judge because we want his view about what the best idea is or what the best solution is. It is because we want him or her to apply the law. Judges are constrained when they apply the law. They are constrained by the words that Congress chooses to enact into law when interpreting the law. They are constrained by the words of the Constitution. They are constrained by the precedents of other judges that become part of the rule of law that they must apply . . . people on both sides need to realize that the Supreme Court will handle cases on a level playing field—the justices are going to interpret the law and apply the Constitution without taking sides in the dispute.¹

A ritual is enacted whenever a nominee for a federal judgeship appears before the Senate Judiciary Committee as part of the confirmation process. One Senator will ask, “Do you intend to apply the law rather than make it?” Another will ask, “Will you apply the words of the Constitution in the way that the framers intended?” Nominees, some of whom ought to know better, play their part in the ritual by answering “Yes” to both questions. Sometimes this ritual provides the opportunity

¹ ROBERTS, J., C.J., Sept. 12–15, 2005, testifying before the Senate Judiciary Comm. rpc.senate.gov/_files/Sept2005RobertsSD.pdf (last viewed Dec. 3, 2007). For remarks by current and former Republican presidential nominees that echo this statement, see http://online.wsj.com/article/SB120226814194646733.html?mod=opinion_journal_federation (last visited Feb. 15, 2008). (Sen. John McCain: “I will nominate judges who understand that their role is to faithfully apply the law as written, not impose their opinions through judicial fiat.”; former Gov. Mike Huckabee: “I firmly believe that the Constitution must be interpreted according to its original meaning, and flatly reject the notion of a “living Constitution”; Rep. Ron Paul: “Judicial activism, after all, is the practice of judges ignoring the law and deciding cases based on their personal political views.”).

for a degradation ceremony, in which the subject may be made to debase himself or herself as a prerequisite to a transition into the new status. More often, it allows the nominee to engage in anticipatory socialization by behaving before the Committee as he or she will behave on the bench. But like most rituals, this one is important primarily because it reveals to us some of the deep assumptions prevalent in the culture.²

I. INTRODUCTION

Chief Justice John Marshall wrote in *Marbury v. Madison*, “[i]t is the power of the judiciary to say what the law is.”³ From such reasoning, courts exercise great power when interpreting statutes, constitutions, and prior cases. New lawyers are chiefly trained by examining decisions from appellate courts. Yet what do we lawyers know of the structural limits of those appellate courts,⁴ and of group decision-making? This Article aims to define the capacity and limits of appellate courts in order to challenge positions regarding the Rule of Law. The Article argues that appellate courts are limited during the creation of any legal interpretation.

Consider the first introductory passage as well as the following:

John Paul Stevens: “It seems to me that one of the overriding principles in running the country is the government ought to be neutral. . . . It has a very strong obligation to be impartial, and not use its power to advance political agendas or personal agendas.”⁵

Robert Bork: “The judge’s authority derives entirely from the fact that he is *applying*⁶ the law and not his personal values. That is why the American public accepts the decisions of its courts,

² Tushnet, M., *Following the Rules Laid Down: A Critique of Interpretivism and Neutral Principles*, 96 HARV. L. REV. 781, 781 (1983) (footnotes omitted).

³ *Marbury v. Madison*, 5 U.S. (1 Cranch) 137 (1803).

⁴ In the words of Justice Scalia, I will focus on the “science of interpretation.” ANTONIN SCALIA, *A MATTER OF INTERPRETATION: FEDERAL COURTS AND THE LAW* 3 (Amy Gutmann ed., Princeton University Press 1997).

⁵ Jeffrey Rosen, *The Dissenter*, N.Y. TIMES, Sept. 23, 2007, § 6 (Magazine), at 50 (quoting Justice Stevens on legal thinking and the judicial role). The critical issue is exactly what it means to be “neutral.” This Article suggests that neutrality is a subjective determination, irreconcilable with an objective rule of law. Appellate courts cannot objectively apply neutrality.

⁶ To apply: **1 a:** to put to use especially for some practical purpose <applies pressure to get what he wants> **b:** to bring into action <apply the brakes> **c:** to lay or spread on <apply varnish> **d:** to put into operation or effect <apply a law>. <http://www.merriam-webster.com/dictionary/apply> (last visited Apr. 8, 2008).

accepts even decisions that nullify the laws a majority of the electorate or of their representatives voted for.”⁷

Ruth Bader Ginsburg: “Federal judges, whether appointed by Republican or Democratic Presidents, generally endeavor to administer justice impartially and to interpret laws reasonably and sensibly, with due restraint and fidelity to precedent . . . Proper judicial action is to use best efforts to ‘adjudicate cases fairly.’”⁸

Despite these comments, how do contemporary courts (1) make law neutrally, (2) apply the law instead of personal values, and (3) show fidelity to precedent in order to administer justice impartially? Each idea (neutrality, application of laws, and objective fidelity to precedent) is impossible; such statements are hortatory signals that can only be served within bounds of “reasonableness” and “political morality.”⁹ The statements above all assume that some degree of objectivity exists to support appellate court legitimacy. These assumptions are incorrect. Personal agendas are formed from subjective preferences, including political preferences that are the source of what this Article calls the judiciary’s “cardinal bargains.” Cardinal bargains are imperative compromises by judges that allow the formation of interpretation. Without such compromises, it would be mathematically impossible for the courts to produce majority opinions unless, at times, the adjudication was the result of the minority producing the outcome.

Due to this mathematical severity, this Article concludes that the Rule of Law, unlike scientific truths, cannot be derived from any independent and objective source. This supposition informs our understanding of what the Rule of Law can and cannot be. The Article applies this conclusion to appellate court theory. Specifically, it finds that the prominent theories offered to support the legitimacy of appellate courts, as well as inferences of “objectivity” that legitimize *stare decisis*, are flawed.

⁷ THE BORK HEARINGS 3 (Ralph E. Shaffer ed., Marcus Wiener Publishers (2005)) (quoting Judge Bork, emphasis added). Judge Bork later said: “[T]o discuss my general approach to *stare decisis* and the kind of factors I would consider. . . . [There is a] need for continuity and stability in the law. . . . I think the preservation of confidence in the Court [is maintained] by not saying that this crowd just does whatever they feel like as the personnel changes.” *Id.* at 60–61.

⁸ Ruth Bader Ginsburg, *Judicial Independence: The Situation of the U.S. Federal Judiciary*, 85 NEB. L. REV. 1, 7 (2006).

⁹ ANTONIN SCALIA, A MATTER OF INTERPRETATION: FEDERAL COURTS AND THE LAW 127 (Amy Gutmann ed., Princeton University Press 1997). This concept is discussed by Ronald Dworkin.

Considering the larger implication, in appellate bodies the seemingly valid idea (if not a wholly assumed idea) that judges should “apply” the laws is, in fact, void. The fault is not in the declarer’s purpose, nor in some suspicious and untrustworthy battle among furtive and polar political philosophers conspiring against each other. Instead, the problem is inherent in the assumption that a body composed of equally weighted voices can lift itself above the fray of battling jurisprudential theories and apply the one “true” Rule of Law. This cannot occur at an appellate court, and social choice illustrates why it cannot.

Kenneth Arrow’s “Impossibility Theorem” is a mathematical proof that examines group decision-making. These group decisions may result in legislation, in an appellate court opinion, or any other decision where each member of the group has an equal vote. From certain seemingly palatable and purportedly necessary axioms, Arrow showed that conflict exists and even perfect cooperation among members of any group fails. Group decision-making processes fail because the standards proposed as ethically and politically “fair” are incompatible with one another.

Importantly, Arrow’s proof does not merely provide an insight for expectations of *all* group decisions. Rather, it can be used to understand why some jurisprudential methods are “positively” unworkable.¹⁰ These interpretive methods fail when they assume appellate adjudication does not depend on individual judges’ subjective authority to bargain over the law. Arrow’s Proof commands that judges use a subjective power. This poses problems for the jurisprudence of statutory interpretation presented in the “liberal project.”¹¹ That is, though jurisprudence scholars offer restrictions on judicial power through interpretivism (such as

¹⁰ Unlike ideas in law and economics that may attempt to show what is “good” or “bad” normatively, Arrow’s proof is a “positive” limit on the possible. This enables the potential examination to be largely free of political leaning, which creates a firmer foundation for later discussions of the potential normative roles of judges and the Rule of Law. I thus use the term “positive” to signify the irrelevance of any relative or comparative ideas, and instead focus attention on the absolute.

¹¹ The term “liberal project” refers to a movement that attempts to satisfy the jurisprudential theoretical need of consistency, as well as the idea that all individuals’ subjective preferences are to a large degree, if not completely, equally valid. For a description of this “liberal individualism,” as well as a description of the jurisprudential efforts to satisfy this ideal, see Mark V. Tushnet, *Following the Rules Laid Down: A Critique of Interpretivism and Neutral Principles*, 96 HARV. L. REV. 781, 783–786 (1983). For further views on the tension between political science and this liberal project, see generally Perry, M., *A Critique of the “Liberal” Political-Philosophical Project*, 28 WM. & MARY L. REV. 205 (1987); Steven Kautz, *Liberty, Justice, and the Rule of Law*, 11 YALE J.L. & HUMAN. 435 (1999) (examining the tension between liberal political theory and the law and why concepts of justice and law may be intertwined).

intentionalism) or neutral principles,¹² these proposals ultimately fail. This article argues that several scholars incorrectly applied the Arrow proof to the judicial-legislative relationship. It then offers a correct examination of the judiciary in light of Arrow's proof.

Chiefly, the Article examines an intentionalist perspective of "applying" the law. However, the analysis applies to any version of statutory interpretation that suggests legitimacy through purported consistency. Regarding intentionalism, the Article suggests that while a legislature certainly creates statutes and perhaps possesses "legislative intent,"¹³ the judiciary's corresponding analysis of statutes, cases, and constitutions involves power. This power is the use of individuals' intensity-preferences by multi-member panels. Individuals bargain in a "cardinal," and not "ordinal" manner.¹⁴ This means appellate judges use their individual convictions to bargain among subjective determinations of the importance of various principles. If they do not do this, the decision-making process will fail, because another critical Arrowian assumption must be broken, or "relaxed." If an improper Arrowian assumption is relaxed, the result is an incoherent decision-making process.¹⁵ If judges do use subjective preferences to decide cases, a group decision is permissible. However, the Article will show that this implies the law-reader is the law-giver, and inappropriately conflicts with the

¹² "Neutral principles" was a proposal by Wechsler as an alternative version of jurisprudence that would limit politics from encroaching on the judiciary. See Herbert Wechsler, *Toward Neutral Principles of Constitutional Law*, 73 HARV. L. REV. 1 (1959); RICHARD A. POSNER, *OVERCOMING LAW 77-78*, Harvard University Press (1995). But see Mark V. Tushnet, *Following the Rules Laid Down: A Critique of Interpretivism and Neutral Principles*, 96 HARV. L. REV. 781 (1983) (criticizing neutral principles).

¹³ That legislative intent may exist is an assumption in this Article; the veracity of this assumption, as well as how to find it, is irrelevant to the proof's application in this Article.

¹⁴ "Cardinal" numbering refers to a numerical quantity rather than an order (e.g., the Orioles have "five" runs more than the Red Sox). The opposite of this is "ordinal" numbering, which refers to a specific position in a series (e.g., that was the "fifth" home run of the game).

¹⁵ One may question, "Aren't judicial opinions simply incoherent? Isn't this exactly what happens?" When the Article says "incoherent," it means, for example, that an appellate court outcome of four to five occurred, but the four votes provide the holding. Better yet, imagine one vote providing the holding instead of eight contrary and homogeneous votes. "Incoherence" here is not to say that precedents will not be inconsistent with each other in appellate law. The incoherency to which I refer above is the intractable and irrational outcome of a "loser" position beating a "winner" position as we do not expect according to majority rule. Further, just when majority rule would "fail" is not predictable, adding to what I call "incoherence." The problem is dramatic and pervasive in that one single decision's logical consistency is ruined. In sum, the problem in relaxing the wrong Arrowian assumption is a single decision makes no sense—not that the adjudicated precedents are inconsistent.

objective idea of “ascertaining” and “applying” the one true and objective Rule of Law.¹⁶

Part II provides an intuitive understanding of Arrow’s Impossibility Theorem. Kenneth Arrow proved that if a collective decision-making process could successfully implement the four characteristics of “Universal Range,” “Transitivity,” “Pareto,” and an “Independence of Irrelevant Alternatives,” then a fifth characteristic, the existence of a “dictator,” must exist as well.¹⁷

In lay terms, Arrow simply analyzed decision-making. He developed assumptions about how a fair decision-making system should work, resulting in the most benefits for all. He formulated a proof about group choices resulting from assumptions that seem based on fairly weak constraints.¹⁸ The proof is powerful because it proves that cooperation itself is rigidly limited. Cooperation is limited irrespective of the presence of relevant extremes among the group’s political or subjective preferences. Part II presents an intuitive understanding of this proof.

In Part III, the Article examines the relationship between the judiciary and the legislature in light of Arrow’s Theorem. It reviews several theories of jurisprudence including textualism, intentionalism, pragmatism and Dworkinism. The focus is on the jurisprudential legitimacy of intentionalism, and the debate about whether it is possible to aggregate individual preferences into a coherent “legislative intent.”

¹⁶ Tushnet, *supra* note 2, at 781–82 (citing the “degradation ceremony” of nominees being scolded by senators to “apply” the law).

¹⁷ Kenneth Arrow, *A Difficulty in the Concept of Social Welfare*, 58 J. POLITICAL ECON. 328 (1950). Arrow won the Nobel Prize for Economics in 1972. These characteristics mean something specific in public choice economics, which is defined more technically in Part II. Briefly, “universal range” refers to the existence of more than two choices for any group decision (for example, a choice between chocolate, vanilla, or strawberry). The “transitivity” characteristic means that if chocolate ice cream is preferred to vanilla (abbreviated as chocolate ‘P’ vanilla), and vanilla is preferred to strawberry (again, vanilla ‘P’ strawberry), then chocolate also (due to the transitive property), is preferred to strawberry (chocolate ‘P’ strawberry). The “Pareto principle” (for these limited purposes) states that if a group universally decides one outcome is “best,” then the group prefers that choice, as well. “Independence of Irrelevant Alternatives” means two things: (1) if a group prefers chocolate over vanilla, adding in a choice strawberry is not allowed to affect the choice between the first two; and (2) all choices are made through ordinal preference rankings (i.e., first choice, second choice, third choice, etc.), rather than a cardinal “points” system (e.g., “I vote that chocolate gets seven points, vanilla gets two, and strawberry gets one.”). “Dictatorship” means that every possible outcome in a group’s decision, when examined *ex ante*, coincides perfectly with one single person’s desires, even in the face of contrary majorities. The term “dictator” does not connote either benevolence or existence of a despot. The term is thus “value free.” Paul Hansen, *Another Graphical Proof of Arrow’s Impossibility Theorem*, 33 J. ECON. EDUC. 217, 220 (2002).

¹⁸ Arrow, *supra* note 17.

After a brief review of Gerald MacCallum's legislative intent theories,¹⁹ this Article concludes that Arrow's Theorem does not preclude the finding of legislative intent. This is important because it allows appellate bodies to operate without legislative interference. That is, if appellate courts are somehow structurally limited in adjudicating cases, it is not necessarily due to a structural consequence of the legislature's incapacity to form an "intent."

Thus, Arrow's Theorem is irrelevant to legislative decisions because legislatures do not need to retain Arrow's Independence criterion. This Independence criterion proves critical. Put plainly, there are no normative restrictions on the legislature. The legislature is thus freed from a dooming application of Arrow's Proof. As a political branch, it may draw arbitrary lines or perhaps make no decision at all on an issue for any reason. Since Arrow's Theorem does not disprove the existence of legislative intent due to contradictions between the proof and the legislative mechanism, the Article next discusses jurisprudential coordination theories between the legislature and the judiciary. This step demonstrates why appellate courts themselves hold a structural constraint. The constraint is that the courts create meanings from subjective preferences when they interpret and adjudicate.

Part IV examines multi-member appellate court decisions in light of Arrow's Theorem. Then Professor, now Judge Easterbrook analyzed this specific issue. Easterbrook concluded that Arrow's Theorem demands appellate courts inevitably create inconsistent opinions.²⁰ His argument indicates that inconsistency is inevitable because all Arrowian conditions except for "Transitivity" are necessary in the appellate decision-making process.

This Article concludes that it is Arrow's "Independence of Irrelevant Alternatives" assumption that must give way to the other four criteria. The same solution exists with the legislature. In the judiciary, however, there are consequences that impact our understanding of appellate court functions and jurisprudence as a whole. The Article first explains why Independence must be "relaxed," instead of any of the other four characteristics. It then discusses why "relaxing Independence" correlates with the liberal project's failed attempt to defend an objective Rule of Law within appellate courts. The defense fails because the Rule

¹⁹ Gerald C. MacCallum, *Legislative Intent*, 75 YALE L.J. 754, 755-59 (1965). Just how the judicial mind determines this intent is not necessary in this Article; the proof that this intent is impossible to ascertain does not require an explanation of how the intent is determined.

²⁰ Frank H. Easterbrook, *Ways of Criticizing the Court*, 95 HARV. L. REV. 802 (1982).

of Law must be created by subjective determinations, case by case, where judges “bargain” over the importance of theoretical underpinnings. Alternative jurisprudential theories that may not be clear victors are never “irrelevant,” so subjective preferences among myriad theories must control the bargaining. This conclusion reinforces the impossibility of the liberal project’s idea of an objective Rule of Law because collective bodies of judges simply cannot, by any method, collectively ascertain and apply any objective mechanism when interpreting the law.

The Article shows that every appellate decision requires individual judges to: (1) make subjective decisions about what the law should be; and (2) bargain among the panel of judges using subjective perceptions of the desirability of different interpretations. Because judges are not “applying the law,” but inventing the interpretation of the law through communal debate, the liberal project’s rule of law must fail. Rather, the law exists, as created by judges, specifically because the law is what a judge subjectively says it is. In contrast to the legislature, many—including appellate judges themselves—state the legitimizing premise of the judge’s role is the existence of an objective fixture such as the Rule of Law, or perhaps “neutrality,” which judges “apply” to existing law rather than create new law. Arrow’s Theorem proves that such a design flounders. Instead, personal convictions and subjective intensity preferences are the necessary ingredients in appellate judgments. If not for these preferences, the group decision would violate Arrow’s Proof. This Article demonstrates how such incoherence is avoided.

However, the logic appears to leave a discrepancy. The liberal project purports to uphold the Rule of Law for legitimacy in government.²¹ The remaining issue is whether a saving theory is needed or available for appellate courts. Since judges in appellate courts must

²¹ Reasons offered for the desire of objectivity in the Rule of Law include: “cultural heterogeneity,” ethical fears of despotism/dictatorship, cultural fears of oligarchy/monarchy, and a deep belief in “checks and balances.” Dean Carrington suggested legal nihilism results in professional incompetence and a fear that only “cunning” survives in a society where might makes right. See Paul D. Carrington, *Of Law and the River*, 34 J. LEGAL EDUC. 222, 227 (1984). Carrington stated, “The law . . . is a mere hope that people who apply the lash of power will seek to obey the law’s command.” *Id.* at 226. Carrington believed that officials, including judges, could inappropriately use power to pursue social and political agendas *not embodied in the law.* *Id.* (emphasis added). This Article disputes the last point by arguing that the power to pursue political agendas is part of judicial bargains. Judge/Dean/Professor Calabresi’s response is “[t]he role of the scholar is to look in dark places and to shed light on what he or she sees there [I]f in all honesty what the scholar sees seems false, then the scholar must declare it to be false even if that opens him or her up to the charge of nihilism.” Guido Calabresi et al., *Nihilism and Academic Freedom*, 35 J. LEGAL EDUC. 1, 23 (1985).

bargain cardinally, thus wielding power, the question becomes, what limitations are on judicial interpretations of the law that satisfy the objective “purist” as well as *stare decisis* theory?

Part V examines the argument that controls exist to partially restrain the unadulterated use of individual power. The Article concludes that legal ethics, the political approval processes, and self-imposed restrictions (including the judicial standing doctrine, *stare decisis*, or other judicially manufactured restrictions such as *Chevron* deference²²) fail to control subjective preferences. These controls are ineffective for the same reason that interpretive theory such as intentionalism fails. The only “solution” is for society to have proper expectations of appellate power: reasonableness and political morality are the subjective and vague resources that judges “apply.” The most effective understanding accepts that the courts are well placed for adjudication and finality only, and that theoretical objectivity demands the impossible. Even by limiting jurisdiction under “standing” or *Chevron* doctrines, for example, appellate bodies muster a subjective power to compromise and then create limitations on when to use such tools.

The structure of appellate courts is thus one where, although we may assume they should be regulated to relinquish power, no objective law, *ex ante*, will function objectively. Judges, politicians, and the public should understand this fundament of appellate courts. Institutional arrangements may *attempt* to achieve society’s ends of providing fruitful—if bargained for—decisions, but they never truly temper and constrain appellate judges’ powers. The power and potential of the court is truly in the subjective assessments that judges act on.

The Article concludes with a brief examination of *stare decisis* theory, and explores the reasons why judges might earnestly attempt to restrict themselves to previous subjective bargains.

II. ARROW’S IMPOSSIBILITY THEOREM: HANSEN’S GRAPHICAL EXPLANATION

A. Arrow’s Theorem

While attempting to derive critical characteristics of a social welfare function,²³ Kenneth Arrow uncovered a characteristic of

²² See *Chevron U.S.A., Inc. v. Natural Res. Def. Council, Inc.*, 467 U.S. 837 (1984).

²³ The search for a social welfare function is an attempt to aggregate preferences in society, allocate commodities to maximize society’s welfare, and in general, provide the maximum amount of utility for all. Currently, this cannot be done. See DENNIS CARY MUELLER, *PUBLIC CHOICE* III 582 (3d ed., Cambridge Univ. Press 2003).

cooperative decision-making theory.²⁴ Arrow's five axioms show that any group, be it a city council, a legislature, or a multimember court behaving at its collective "best," are limited if it chooses to apply itself in the Arrovian scheme. Specifically, Arrow found that no group can cooperate while staying true to four Arrovian assumptions unless there is a "dictator." This shows that an inherent structural limitation exists in any group decision that attempts to abide by the five assumptions.

Arrow's five assumptions about decision-making are:

(1) *The Pareto principle* (Pareto): If an individual's preference is unopposed by any contrary preference of another, the individual's preference is preserved in the social preference ordering outcome. That is, the outcome of the votes must retain that universal characteristic. For example, where three individuals' three choices align perfectly (xyz , xyz , and xyz), the outcome will align with those preferences (*i.e.*, the outcome cannot be anything other than xyz). However, if even one individual of three chose an alternative such as zyx , Pareto does not apply at all.

(2) *Non-dictatorship*: No individual enjoys a position so that among his preferences between any two alternatives, and all others' preferences expressing the opposite, his preferences are always preserved in the social ordering. (For example, if there are two votes for xyz , and one vote for zyx , if the decision-making process allowed all of the latter's preferences, including zyx to "win" as society's preferred outcome, this would violate the Non-dictatorship characteristic).

(3) *Transitivity (and Completeness)*:²⁵ The decision-making process gives a consistent ordering of all potential outcomes. (For example, if everyone agreed that aPb , and bPc , then we must conclude that aPc). Importantly, this assumption demands an output answer will be provided for every possibility.

(4) *Range*: Some universal alternative exists such that for every pair of alternatives, each possible ordering of those two, plus at least a third option (or more), is an admissible ranking of all

²⁴ Arrow, *supra* note 17.

²⁵ "Completeness" is assumed as necessary to transitivity, and states that a decision must be made for every outcome. DENNIS CARY MUELLER, *PUBLIC CHOICE* III 582, 586 (Cambridge Univ. Press, 3d ed. 2003). In part, this occurs because ranking is ordinal in the theorem, thus no "ties" may be offered by individuals. For example, one may rank choices as 1st, 2nd, and 3rd, but *not* 1st and two ties for 2nd. Parts IV and V show how completeness is necessary in the search for objectivity in jurisprudence.

alternatives for the individual. (In the simplest terms, this characteristic means there are always at least three (3) choices for the group to consider.)

(5) *Independence of Irrelevant Alternatives* (“IIA” or “Independence”): The social choice between any two alternatives depends only on the orderings that individuals make over those two alternatives and not on orderings over other alternatives.²⁶ For example, if three individuals prefer x to y (“ xPy ”), the addition of a third choice, z , cannot change the x versus y decision. This will be the most important characteristic to understand when applying the proof to jurisprudence. It is also the most difficult to understand. To restate this characteristic: any value judgment imposed by a social choice rule to resolve one particular preference conflict must hold for *all* other profiles. The key to understanding this characteristic will include a discussion of the difference between “ordinal” and “cardinal” ordering. This is discussed more in depth in Hansen’s illustration below, as it may be the best way to truly grasp the enormous consequences of this characteristic.

The proof is next discussed in two parts. First, the Article introduces Hansen’s graphical illustration of Arrow’s Proof, which analyzes two persons making a decision among three choices. Then the Article shows why, even for group decisions of greater than two persons (perhaps in the millions or greater), intuition must be employed at the core of the proof for the decision among two persons.

i. Hansen’s Graphical Proof:

Between Two Individuals, One is a Dictator

Paul Hansen developed a graphical proof of Arrow’s Theorem as an educational tool using an example of two individuals making a decision.²⁷ The individuals will be referred to as “*Marshall*” and “*Taney*.”²⁸ Due to the Range requirement summarized above, assume *Marshall* and *Taney* are choosing their preferred outcomes among three possibilities: x , y , and z .²⁹ Combinatorial math proves that if two persons

²⁶ *Id.* at 583–84, (publishing the proof of William Vickrey, *Utility, Strategy, and Social Decision Rules*, 74 Q.J. ECON. 507 (Nov. 1960)).

²⁷ Paul Hansen, *Another Graphical Proof of Arrow’s Impossibility Theorem*, 33 J. ECON. EDUC. 217, 218 (June 2002).

²⁸ Foils adopted from Guido Calabresi & A. Douglas Melamed, *One View of the Cathedral*, 85 HARV. L. REV. 1089 (1972).

²⁹ Range means that there must be at *least* three choices, but there may be more. For simplicity’s sake, this Article uses three, as it is the simplest number of choices which still conforms to the Range assumption.

must choose among three preferences, there are thirty-six possible combinations of choices between *Marshall* and *Taney*.³⁰ We may randomly list the combinations, but for simplicity's sake we will make "Profile 1" consist of: *Marshall* choosing (*xyz*), and *Taney* choosing (*xyz*).³¹ Profile 2 consists of: {*Marshall* (*yzx*), *Taney* (*yzx*)}.³² This process is then completed (with no need for any particular ordering as long as all possible combinations are included) for all thirty-six "profiles." The graphical "grid" approach provides a simplified reference.³³

Hansen offers a grid illustration of the choices with thirty-six "3 by 3" boxes, two of which are shown in Figure 1, below. Again, there is no demand that any exact "profile" be called the "first" except that this figure is the simplest to understand. In "Profile 1," *Marshall* ordinarily ranks the three choices of *x*, *y*, and *z* in the following way: *x* is 1st, *y* is 2nd, and *z* is 3rd. Keeping the variables alphabetical, *Taney* chooses the exact same preferences: *x* is 1st, *y* is 2nd, and *z* is 3rd.

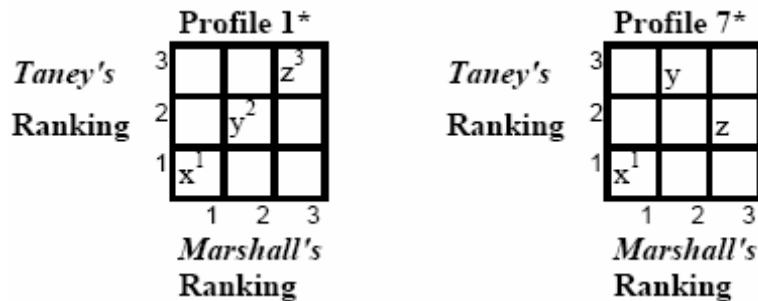


Figure 1

In the "Profile 7" illustration, *Marshall* makes the same choices as in Profile 1: *x* is 1st, *y* is 2nd, and *z* is 3rd. *Taney*, while coincidentally choosing *x* as the 1st preference, differs on the remaining choices: *Taney* chooses *z* as 2nd, and *y* as 3rd.³⁴

Figure 2, below, details the complete list of "boxes." Again, the thirty-six profiles correspond to all possible outcomes for a decision made between *Marshall's* and *Taney's* ordinally-ranked preferences

³⁰ Combinatorial math would use the following equation: $3! \times 3! = 36$ profiles.

³¹ See Figure 1.

³² See Figure 2.

³³ *Id.*

³⁴ See Figure 1.

among choices x , y , and z . The important matter is determining outcomes for all thirty-six potential preference profiles.³⁵ To complete this next task, the Article applies the five Arrovian assumptions and examines the consequences.

First, Range is satisfied in all thirty-six profiles because at least three choices exist in this universe. Second, assume that Non-dictatorship exists. Soon, it becomes apparent that Non-dictatorship is the proof's "punch-line"—it must exist due to the remaining constraints of Transitivity, Independence, and Pareto. Profile 1 can be used to demonstrate the impact of the Transitivity, Independence, and Pareto constraints.

In Profile 1, determining the outcome is simple because the work is done due to the Pareto principle. The Pareto principle mandates ranking x as the unanimous first preference, y as the unanimous second, and z as the unanimous third preference. Applying this to the grid, there is no dispute whatsoever between *Marshall* and *Taney*. The final ordering of xyz is thus the *actual* outcome, *should these be the actual choices made* by both *Marshall* and *Taney*. The potential result is thus determined *ex ante*, i.e., before an actual vote has taken place. That is, if the actual preferences of *Marshall* and *Taney* are known, one could determine the outcome of the vote for Profile 1 before the group's decision is made.

Superscripts attached to the unanimous preferences in the boxes are a reminder of the unanimous outcome, and the successful outcome for Profile 1 is $x^1y^2z^3$. In profiles 2 through 6 of Figure 2, all possible choices are ranked for *Marshall* and *Taney*. Again, these are the "outcomes" if, and only if, *Marshall* and *Taney* actually make the decisions represented in that respective profile.

The outcomes for the possible decision-scenarios made by these two can be determined until Profile 7. At that profile, there is a problem: *Marshall* and *Taney* disagree on a final outcome of z versus y .³⁶ Both agree that x is first, so that characteristic of the outcome is settled due to Pareto. However, it must be determined whether y or z should be second in the final outcome, as well as which choice should be third. Since the decision function demands an output due to a Completeness assumption,³⁷ an arbitrary choice is made between these two individuals.

³⁵ Consider this example parallel to choosing the victor among three politicians or which of three flavors of ice cream the two will eat, etc.

³⁶ The key to grasping the intuition in Hansen's proof is the depiction of two letters southwest-northeast of each other (i.e., * *) which shows agreement, while northwest-southeast (i.e., *) shows disagreement. This visual depiction is useful in easily finding disagreements between *Marshall* and *Taney*. Resolution of the disagreements determines who will inevitably be the dictator.

³⁷ Completeness is a characteristic inherent in the transitivity principle.

If Profile 7's output is $x^1y^2z^3$, *Marshall's* ranking "wins." *Taney* may "win" just as rightfully, but a successful outcome for Profile 7 is obtained when *Marshall* is chosen. But there are consequences—this arbitrary choice now affects other profiles due to the assumptions of Transitivity, Pareto, and, most importantly, the Independence of Irrelevant Alternatives.³⁸

According to the Independence of Irrelevant Alternatives assumption, any value judgment imposed by the social choice rule to resolve one particular preference conflict must hold for *all* other profiles. Consider a profile disagreement visually depicted in two-dimensional space as y_z . That depiction means *Marshall* prefers y to z , and *Taney* the opposite. If y_z is resolved as yPz in the outcome for any *one* preference profile, *all* y_z tensions must resolve as yPz in remaining profiles.³⁹ The third choice, x , may be placed before, after, or even between these two choices. Choice x 's position depends on *Marshall's* and *Taney's* full range of preferences. Regardless, Independence has made its demand: the result of the y_z tension holds true for all profiles where this particular disagreement exists. The outcome yPz must be kept intact for all profiles when that exact tension occurs. This demonstrates the "Independence of Irrelevant Alternatives" restriction at work.

The "Independence" assumption is not the only critical restriction. The transitive property makes demands as well. In Profile 9 of Figure 2, the y_z tension (yPz) exists along with a universally accepted zPx . The yPz determination (made due to "Independence" and Profile 7's arbitrary choice among y and z) forces transitivity to demand the ultimate outcome $yPzPx$ (or $y^1z^2x^3$) for this profile.⁴⁰

³⁸ This arbitrary choice may be made in Profile 7 or any other profile that contains a disagreement. The Independence assumption will still *force* the outcome to "trickle-down" through other profiles.

³⁹ This y_z tension is resolved yPz no matter whether choice x comes "between" y or z , or universally before, or after, y and z .

⁴⁰ Hansen explains:

"In Profile 7 . . . although [*Marshall* and *Taney*] agree that x comes first, (and therefore by the Pareto principle, it must head Profile 7's social ordering), they disagree in their second and third placings of y and z . Recall, the only information available is the individuals' rankings of alternatives and not the strengths of their preferences [this would be cardinal]. Suppose (arbitrarily) that [*Marshall*] is favored so that [his] preference yz prevails and y is *socially* ranked ahead of z , and hence Profile 7's social ordering is determined as xyz (given x is first via Pareto). The key issue henceforth is the application of the independence of irrelevant alternatives (IIA) assumption introduced in the previous section."

Paul Hansen, *Another Graphical Proof of Arrow's Impossibility Theorem*, 33 J. ECON. EDUC. 217, 221–22 (June 2002).

Throughout this process, a single arbitrary decision in Profile 7 “trickles-down” in all thirty-six preference profiles. One might compare this analysis of the outcomes to the popular Sudoku game, where very few arbitrary decisions lead to a complete solution for the entire puzzle. Yet here, only one arbitrary decision is required for a determination of the entire puzzle. The key is the severity of the four assumptions of Range, Transitivity, Pareto, and particularly Independence. After working through the disagreements, the algorithm provides results as stated below each profile.⁴¹

With all of the boxes filled in, an examination reveals that, coincidentally, all of *Marshall's* preferences exactly match the output function results. This occurred because of the influence from the four assumptions of Pareto, Range, Transitivity, Independence of Irrelevant Alternatives, plus one arbitrary decision. That single arbitrary decision could have been made among any tension, and would similarly have “trickled down” through the demands the four assumptions made on the outcomes in other profiles.⁴² The key to the inter-profile demands is the Independence assumption. In the end, *Marshall* is the “Arrovian dictator.”⁴³

Consequently, Non-dictatorship is violated, arbitrariness exists (if not thrives), and majority rule will certainly fail, albeit at unpredictable times. Political and ethical norms preclude these characteristics in a voting mechanism. Thus, the concept becomes Arrow's Impossibility Theorem.⁴⁴

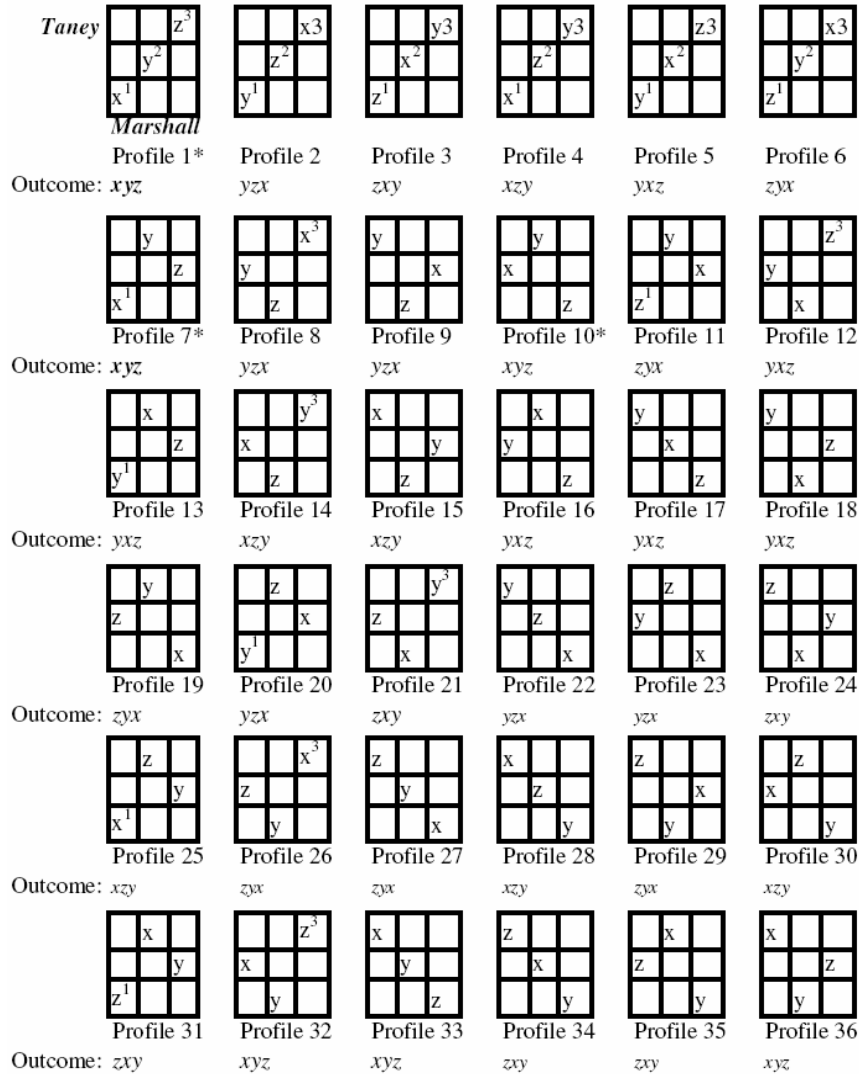
⁴¹ See Figure 2.

⁴² For example, one could have chosen *Taney's* preferences over *Marshall's* in Profile 7 and the consequence would be the same.

⁴³ “In general, therefore, when a value judgment that corresponds to neither individual's ranking is initially imposed (thereby immediately ruling out a dictatorship), it is impossible to socially order all thirty-six preference profiles because of an inevitable intransitivity.” Hansen, *supra* note 27, at 230. Notably, *Taney* could have been the dictator as well, if the arbitrary decision had favored *Taney*.

⁴⁴ See also Allen M. Feldman & Roberto Serrano, *Arrow's Impossibility Theorem: Two Simple Single-Profile Versions*, (Brown University Dept. of Econ. Working Paper No. 2006-11 (2006)) (showing how the four assumptions can work together in examples that remove each assumption, through one example and one assumption at a time).

Figure 2: 36 Preference Profiles for Two Individuals and Alternatives x, y, and z



Superscripts indicate final ordinal ranking due to unanimity/Pareto rule.
 (Figure replicated from Hansen, P., "Another Graphical Proof of Arrow's Impossibility Theorem,"
 2002 Summer J. Econ. Educ. 218, 219 (2002)).

Figure 2

ii. Groups of Greater Than Two Individuals

The Article demonstrates that if only two individuals are responsible for a decision and they follow the Arrovian scheme, then one of the two individuals becomes a dictator. In Figure 2, *Marshall* is a dictator because *Marshall's* preferences perfectly coincided with every possible outcome the decision function could make. The precursor to the proof is that Range must exist (i.e., there must be at least three choices). It follows then, that the Independence assumption, Pareto, and Transitivity (and its necessary complement, Completeness) restrict outcomes in such a way that only *Marshall's* desires (or perhaps only *Taney's* desires) compose the ultimate outcomes. Thus, Non-dictatorship fails. Critically, the result of who eventually becomes the dictator is arbitrary.

Attempting to illustrate the preceding proof with more than two individuals becomes much more complex. The number of profiles that will come into play is significantly higher. For three individuals and three choices, 216 profiles would be necessary.⁴⁵ Following the forced choices due to Independence, Transitivity, and Pareto is more difficult to illustrate. It is possible to show “depth” or the “z-axis” on the grid with a three-dimensional illustration using superscripts. The following subsections offer an alternative based on Condorcet’s Paradox. The proof in the preceding subsection provides the basis for the intuition: an arbitrary choice is made and the consequences of that choice affect all outcomes. Most significantly, the Independence assumption forces other profiles to obey the arbitrary decision.

A. A Majority Rule Problem: Condorcet’s Paradox

If a third member now enters the group, this will force an examination of the tension between the Independence assumption and the fundamental democratic tenet of majority rule. However, before examining the proof with three individuals, a majority rule problem must be acknowledged. The majority rule problem is called Condorcet’s Paradox.⁴⁶ Condorcet’s Paradox refers to the occurrence of a “cycle” created by three or more individuals who attempt to use democratic voting. Condorcet’s insight was that majority rule can fail to provide a clear victor. There may be no majority outcome uncontested by another

⁴⁵ For two individuals who have three choices, thirty-six profiles are required to fully understand the “trickle-down” effects of Pareto, Transitivity, and Independence ($3! \times 3! = 36$, where $3! = 3 \times 2 \times 1$). For three individuals who have three choices, 216 profiles are necessary to account for all possible permutations ($3! \times 3! \times 3! = 216$).

⁴⁶ Arrow, *supra* note 17.

majority. For example, imagine three individuals: *Ben*, *Jerry*, and *Carvel*, where one choice must be made for all: chocolate, vanilla, or strawberry ice cream (abbreviated as “c,” “v,” and “s”). Suppose *Ben* ranks the choices as *c*, *v*, *s*; *Jerry* ranks the choices as *v*, *s*, *c*; and *Carvel* ranks the choices as *s*, *c*, *v*:

	<u>Rank:</u>	1st	2nd	3rd
Ben		c	v	s
Jerry		v	s	c
Carvel		s	c	v

The majority’s wishes are in complete conflict with one another. Majority rule fails to provide a winning answer. Specifically, chocolate should not win because a majority (two persons to one person) prefers strawberry to chocolate. Vanilla should not win because a majority prefers chocolate to vanilla, again by a vote of two to one. Lastly, strawberry should not win because a majority prefers vanilla to strawberry, two to one. Therefore, chocolate is preferred to vanilla, and vanilla is preferred to strawberry, and strawberry is preferred to chocolate. This could be represented as: (Chocolate) P (Vanilla) P (Strawberry) P (Chocolate). However, the result presents a problem.

If one attempted to solve this through pair-wise voting (i.e., only allow a vote on two flavors at a time), a cycle still exists: chocolate beats vanilla in the first run-off. Next, strawberry beats chocolate. In the third run-off, vanilla beats strawberry. This transitivity failure is referred to as a “democratic cycle.”⁴⁷

B. Begin with Condorcet’s Paradox and Apply Completeness

Returning to the Arrowian proof, assume three individuals, *Marshall*, *Taney*, and *Chase*, ordinally rank the three choices of *x*, *y*, and *z*. Condorcet’s Paradox exists where the majority vote results in a cycle; no one agrees on any position. Specifically, of the 216 possible profiles in this scenario, six profiles present this problem.⁴⁸ These six profiles

⁴⁷ For more on cycling, including an insightful illustration of cycling with a five-ninths majority rule, an 89% majority rule, a unanimity rule, and the resolution of cycles through homogeneity, see MUELLER, *supra* note 23, at 99–101. For more on homogeneity and Arrow, see *generally* Feldman & Serrano, *supra* note 44 (discussing simple and complex diversity in conjunction with Arrow’s proof).

⁴⁸ See Figure 3.

account for approximately 3% of the 216 outcomes we might expect to occur if the group is to make a decision among these choices.⁴⁹

Individual Condorcet Paradox Profiles:

	(1)	(2)	(3)	(4)	(5)	(6)
Marshall	xyz	xyz	yzx	yzx	zxy	zxy
Taney	zxy	yzx	xyz	zxy	xyz	yzx
Chase	yzx	zxy	zxy	xyz	yzx	xyz

Figure 3

Placed into a grid-framework, Figure 3's first column of preferences would appear like the following, where the superscripts represent *Chase's* preferences. (See Figure 4)⁵⁰

<i>Taney</i>			
3		y^1	
2	x^3		
1			z^2
	1	2	3 <i>Marshall</i>

Figure 4

(*Chase's* preferences are represented by superscripts.)

To decide which individual wins among the three completely unique preference sets is to arbitrarily pick a solution that will affect outcomes for all other decision-scenarios. Yet this must be done according to Transitivity's "Completeness" requirement: some outcome must succeed.

Following Feldman and Serrano's analysis,⁵¹ first, acknowledge that Completeness means there must be an outcome. No tie or lack of a decision is acceptable. Next, assume some majority will win, so a 2-1 vote must occur, at the very least. Now, assume xPy . It does not matter where one begins. Examine the votes in the first Condorcet Paradox (again, one could start with any of them). In this first example, note that

⁴⁹ This ~3% figure is not insignificant if the group, for example, makes hundreds or thousands of decisions per year, or even 80–110, as in the case of the Supreme Court.

⁵⁰ The superscripts add a "third dimension" that a two-dimensional diagram cannot easily represent. Also, note that this is a different use of superscripts from Figures 1 and 2 above.

⁵¹ Feldman & Serrano, *supra* note 44, at 20–21.

Marshall and *Taney* each individually voted xPy . It can be safely concluded that these two *must* be the decisive majority. Part of the entire group's decision (a decision demanded by Completeness) is xPy . *Marshall* and *Taney* are the majority. Considering z versus x , there are two potential options:

First, perhaps z is preferred, or even simply ties with x . If this were the case, since the group deems xPy , then Transitivity demands zPy . This means *Chase's* preference of zPx was important in the decision, which contradicts the original assumption of who was in the decisive majority. The dissenter, *Chase*, has votes that actually impact the outcome, so he must be part of it. Why? The contradiction is forced by the assumptions, demonstrating a breakdown in the decision-making mechanism. So in the first alternative, it is impossible for the three to follow the rules.

Examining the second alternative, if there is no "tie" between z and x , nor a victor of zPx , then the result is xPz . This is problematic, because *Marshall's* choices are preferred in the face of contrary preferences made by both *Taney* and *Chase*. We thus have an Arrovian dictator: *Marshall*. Arrow's proof demands one of the conditions must be relaxed, and in this second scenario, it is Non-dictatorship.⁵²

Throughout the profiles, the Independence, Pareto, and Transitivity assumptions "trickle-down" to force certain choices, thus sealing the fate of the decision-making mechanism. Who actually wins is not the key; the relevant factor is that the winner was arbitrarily chosen (i.e., no majority vote applied—simply the inherent Arrovian dictator's decisions).

The trickle-down effect functions the same way it did in the discussion of the two-person vote in the analysis of Profile 7 from Figure 1, above. Like in the prior example, when one of the three individuals' unique preferences sets wins, effects of the Independence Transitivity and Pareto assumptions trickle-down here through all 216 profiles. Similar to the example involving two people, the seemingly incongruous result is that the majority vote will not always result in a victory for that majority. Even two-to-one votes will result in outcomes where the lone dissenter's preferences match the actual outcome. For example, when *Marshall* and *Taney* completely agree on the ordering of x , y , and z (which will occur thirty-six times in the 216 profiles, or 16.67% of the

⁵² The focus of this Article is not on the intricacies of Arrow's Proof; for further discussion about the proof, see generally MUELLER, *supra* note 23; Arrow, *supra* note 17; Vickrey, *supra* note 26; Hansen, *supra* note 17; Alex Tabarrok, *Arrow's Impossibility Theorem*, 8–9, (2005), mason.gmu.edu/~atabarro/arrowstheorem.pdf (last visited Feb. 13, 2008); and Feldman & Serrano, *supra* note 44 (explaining why Arrow survives Samuelson's arguments, and showing how to relax one assumption at a time).

time), *Chase* will disagree with both, and could win a 1-2 vote in thirty (83.33%) of these thirty-six profiles, should *Chase* be the dictator.

In Figure 4, above, each possible outcome complies with only one individual's preferences. The tensions are resolved on the arbitrary decisions made when no majority rule exists. In this Condorcet Paradox representation, Independence applies its tension resolution demand to the other profiles. The result again is a dictator. Since Non-dictatorship has failed, Arrow's Impossibility Theorem applies to groups of not only two voters, but also three or more voters with equal weight.

The three-member example does not violate Pareto because there is no unanimous positioning in a Condorcet Paradox. To reiterate, in a Condorcet Paradox consider a profile where chocolate beats vanilla, which beats strawberry, which beats chocolate. This situation does not violate Transitivity because there is no conclusion about which profile ranks ahead of another profile in a cycle. There is no presumption that xPy is used with conclusion yPz to mandate xPz . Thus, nothing exists for Transitivity to operate upon. Because of the Independence assumption, *Marshall* and *Taney* must conform to *Chase's* desires, or *Marshall* and *Chase* to *Taney's*, or *Taney* and *Chase* to *Marshall's* desires. All produce an unacceptable result according to majority rule—one vote will defeat two votes. The culmination that occurs when all profiles are ordered under Arrow's criteria is a final result of Arrovian dictatorship.

The Condorcet Paradox problem and Transitivity's Completeness characteristic illustrate that the dictator defeats a majority vote. Since an outcome was demanded among conflicts where there was no majority, a dictator must have existed. The dictator was chosen arbitrarily, discovered among equal shares in a three-way tie. Current American social norms do not allow this in the political process when, for example, choosing an elected representative. If the dictator was not chosen arbitrarily, but purposefully, why was there a group decision in the first instance?

Since a Condorcet Paradox exists for three persons or three million persons and higher, the decisive outcome will always devolve to one arbitrary decision among any number of individuals, leaving one person, even among millions, as an Arrovian dictator in group decisions. In conclusion, the core intuition of the two-person proof applies to groups of greater than two persons—one dictator exists for arbitrary reasons.⁵³

⁵³ For an alternative proof using a popular "boxes in boxes" metaphor, see MUELLER, *supra* note 23, at 584–85 (citing William Vickrey, *Utility, Strategy, and Social Decision Rules*, 74 Q.J. ECON. 507, 507–35 (Nov. 1960)). In the proof, a "decisive" group successfully controls the outcome among several choices; subsequently, that group is divided into two groups and the process repeats until the decisive group for all

This Article previously explained how Completeness demanded an arbitrary decision. The arbitrary decision operates to make demands on all other possibilities primarily through the Independence of Irrelevant Alternatives characteristic. As a result, majority rule fails, and a dictator exists. Condorcet's Paradox, Completeness, and the tension between Independence and the majority rule illustrate the impact of Arrow's proof for voting between two persons or more.

C. Relaxing Postulates

The intuition behind Arrow's proof should now be clearer—following Arrovian assumptions assures a failure in the decision mechanism. To solve the problem, one assumption must be “relaxed,”⁵⁴ or else, as demonstrated above, an arbitrary decision among ordinal preferences will inevitably lead to an arbitrarily-chosen dictator. If the choice is not arbitrary, then there is no need for a group.

The Independence assumption is the most controversial aspect of the Theorem; consequently, scholars typically suggest that it should be the first assumption relaxed.⁵⁵ Further examination of the Independence principle reveals two characteristics: (1) changes in the set of variables considered may not alter ordinal preference rankings (i.e., if $xPyPz$ and remove y , there should still exist xPz); and, more importantly, (2) Independence implies that a voting system can only respond to *ordinal* information about preferences.⁵⁶ The first implied principle means if one were asked to choose an apple, a banana, or an orange, one's preferences between any two may not change after the removal of one of the choices. This implication should be viewed skeptically. It is not clearly necessary for a “fair” voting mechanism, as the Article later seeks to address.

An example of the second implication is if one were asked to select an apple, a banana, or an orange to eat, but is not permitted to explain

alternatives is found to be one individual. Thus, the principle that one person makes all decisions violates the Non-dictatorship assumption. For another important proof “uncovering the dictator,” see Alan P. Kirman and Dieter Sondermann, *Arrow's Theorem, Many Agents, and Invisible Dictators*, 5 Q.J. ECON. 267, 267–77 (Oct. 1972) (proving that one dictator exists even with infinite numbers of voters).

⁵⁴ The term “relax” in this context means to either partly, or perhaps completely reduce the constraints mandated by the Arrovian assumption.

⁵⁵ Tabarrok, *supra* note 52.

⁵⁶ *Id.* Tabarrok notes there is confusion among economists about why there are in fact two implications to Independence. This confusion is mentioned for the benefit of readers who may have seen alternative explanations written elsewhere. The discrepancy is due, in part, because Arrow himself mathematically defined one implication yet explained the meaning of the second implication in his 1951 paper. Some authors only focus on one of the implications, as with Mueller's 1989 Public Choice text. *Id.* at 6. However, this discussion does not.

how much any one fruit is desired over another. The selector must simply rank the choices as 1st, 2nd, and 3rd. An alternative, but currently prohibited idea, is to allow the selector to rank the preferences *cardinally*. This means the selector would be able to explain how much he desired one product over the other; the apple might be worth ten, and the banana and orange two and one, respectively.⁵⁷

Tabarrok states that Independence is often defended pragmatically, and that the Independence criterion requires individuals to tell the truth.⁵⁸ Some argue that without Independence, it “would be too difficult” to ascertain true cardinal values about preferences.⁵⁹ These defenses should be dismissed. A theoretician’s “ease of use” is no reason to demand the severe restrictions imposed by Independence.

A second defense is that it appears paradoxical that dropping a losing choice “z” may lead to a different winner. Tabarrok explains that these arguments will not suffice.⁶⁰ Using choices from the 1992 U.S. Presidential election, for example, demonstrates the problem with majority rule and dropping “choice z.” The 1992 U.S. Presidential election offered three prominent choices: Clinton, Bush, and Perot. Though the U.S. Presidential election is not based on popular vote, the popular vote hypothetical provides an appropriate illustration.

The Independence criterion implies that the preference between Clinton and Bush is independent of Perot’s presence in the race. However, if Perot receives 18% of the popular vote, Clinton receives 43%, and Bush receives 39%, then Perot’s presence might make a difference. Without Perot in the race, where do the Perot votes “go?” The popular vote result was (Clinton) P (Bush) P (Perot) when Perot was in the race. It should be understandable that, again on popular vote, (Bush) P (Clinton) is possible with Perot out of the race. The latter result would

⁵⁷ The unit of reference is not important: it could be ten dollars, ten yen, or ten bananas. However, there is a problem of “normalizing” cardinal preferences, which is discussed in Part V. Borrowing from science and mathematics, “normalizing” serves to enable comparisons based on comparable units. One may compare feet, inches, and centimeters because these measurements can be objectively compared through a simple algorithm. Without this normalization, we are colloquially comparing “apples to oranges.”

⁵⁸ Tabarrok, *supra* note 52. Independence must apply because without it, theorists have no idea when individuals are using strategy to ensure that their second favorite preference wins. Howard Chang explains Independence as a pragmatic solution. See Howard F. Chang, *A Liberal Theory of Social Welfare: Fairness, Utility, and the Pareto Principle*, 110 *YALE L.J.* 173 (2000). Although the article discusses social welfare, the criticism of the Independence condition is the same. Chang suggests this pragmatic appeal is the collective focus, but asserts Independence is not clearly necessary for “fairness” in society.

⁵⁹ *Id.*

⁶⁰ Tabarrok, *supra* note 52.

occur if Bush received greater than two-thirds of Perot's votes.⁶¹ This represents a 12% "swing" from Perot's 18%. Bush would then defeat Clinton because 51% is greater than 49%.⁶²

Utilizing the preceding example of ordinal versus cardinal distinctions, the mandate of ordinal rankings and the Independence assumption that demands the use of ordinal rankings should both be viewed skeptically. A group making a decision should not be forced into these problems simply because Independence "seems" right. Independence should not be relaxed even if the assumption is problematic. The ultimate resolution is that there is no good answer and this is, in fact, the assumption we should relax. Yet before simply accepting this, the Article will examine several more defenses of the Independence assumption.

Arrow himself defended Independence as a reasonable axiom because a decision-making system with this characteristic ensures an "appealing" result *ex ante*.⁶³ However, the Independence principle is quite restrictive—in fact perhaps more so than the Pareto principle.⁶⁴ As Tabarrok and Chang note, the Independence restriction is controversial.⁶⁵ Chang suggests (perhaps without being convinced by the idea) that there is pragmatic appeal. He explains that because there are large information costs in analyzing alternatives, society must invest scarce public resources in public choices.⁶⁶ The simplified process using Independence may reduce the costs of operating a voting system. Further, the

⁶¹ This Article uses 12% as the key variable, but actually the figure is one vote more than 11.00%. This change would create the necessary "swing" between Bush and Clinton where Perot is not running.

⁶² As another example, the 2000 U.S. Presidential election generated scrutiny for the electoral votes in Florida. According to the 2000 Federal Election Commission results, Bush received less than 600 votes over Gore, but many of Nader's 97,000(+) votes would probably have supported Gore if Nader had not run. A bare majority of Nader's votes, 50.0001%, would have given Gore the critical difference. Thus, the idea that Independence should be seen as an entirely palatable constraint is not clearly correct. See <http://www.fec.gov/pubrec/fe2000/prespop.htm> (last visited Apr. 23, 2007). For a "pop-culture" reference to this voting problem, consider a debate in the film industry regarding Marisa Tomei's Best Supporting Oscar win for the film "My Cousin Vinny" as another "failure" in democratic voting. This could also be a "failure" of the Independence postulate. See <http://movies.msn.com/movies/oscars2007/surprises> (last visited Jan. 5, 2008).

⁶³ Howard F. Chang, *A Liberal Theory of Social Welfare: Fairness, Utility, and the Pareto Principle*, 110 YALE L.J. 173, 226 (2000).

⁶⁴ *Id.* at 228.

⁶⁵ *Id.* at 229.

⁶⁶ *Id.* at 229–30.

alternative requires determining cardinal utilities of all individuals, which is a task that is currently not attainable.⁶⁷

These suggestions are too vague when the positive problem of cycling is so readily present. Perot, Nader, and strawberry are relevant to elections because the presence of each affects the respective election's outcome. The issue remains as to which remaining candidate receives the votes for Perot, Nader, or strawberry when those choices are dropped from the contest. "Ease of use" should not be accepted as a sufficient rationale touting the necessity of the Independence principle. For society to purposefully ignore the third choice is to irrationally ignore what is profoundly relevant. Therefore, since Independence has such unappealing consequences, the assumption should remain a viable option to be relaxed.

Next consider the consequences of relaxing alternative Arrovian assumptions. This Article suggests that it is infeasible to consider whether Non-dictatorship or the Pareto principle should be relaxed. First, allowing Non-dictatorship to be relaxed would mean it is ethically palatable to have a single individual in the Senate, the House of Representatives, or on the Supreme Court controlling the results of that body. A problem which readily presents itself is who to choose? Perhaps Justice X is a highly esteemed and competent arbiter, but should the Justice, picked *ex ante*, speak for all nine Justices forever? Or only this term? Or only for a certain case? The reasonable conclusion that follows this logic indicates that Non-dictatorship cannot be relaxed.

Moreover, the idea of relaxing the Pareto constraint is without promise. If 100 members of the Senate intend to vote for a certain policy, it appears completely absurd to prohibit that policy's enactment. Yet this would have to occur at times if Pareto were relaxed instead of one of the other assumptions. Specifically, outcome zyx may occur when all 100 votes go to alternate xyz in order to refute Non-dictatorship. A clear majority rule victor by 100% vote would not be a permissible outcome in a percentage of the scenarios.⁶⁸

⁶⁷ The cardinal utilities determination problem is, colloquially, the problem of attempting to weigh "apples and oranges." For example, if I say policy x is worth twenty, and A says the policy is worth nine, how do we know which is greater? We do not, because we cannot compare subjective perceptions of utility. This is the problem of weighing cardinal utilities. See MUELLER, *supra* note 23, at 590–91, 595–96.

⁶⁸ For example, in Figure 2, *supra*, one of the Profiles 1 through 6 must fail among two individuals if Pareto is relaxed. All $y \succ z$ tensions would resolve as yPz due to Independence. Transitivity forces multiple outcomes, as well. Range is satisfied because there are at least three choices. What remains are Profiles 1 through 6 and the question of whether Non-dictatorship will be met in this case where Pareto is relaxed. Unless one of those six outcomes does not comport with the unanimous votes, an Arrovian dictator exists, thus violating Non-dictatorship.

Mueller asks whether Transitivity may be relaxed, and says this is possible, but it will either (1) produce an oligarchy, or (2) would simply need a new ethical norm that accepts arbitrariness and inconsistency. Currently, our ethical norms and laws assert constitutional protections against such characteristics.⁶⁹ As an example, consider a situation where 100 members of the Senate find xPy , regardless of their ranking of choice z . The existence of an outcome of yPz seems absurd. Further, it is unpredictable when this should occur, except to conclude that it is controlled by the other four assumptions of Pareto, Non-dictatorship, Range, and Independence. Thus, relaxing Transitivity is infeasible as well.

The final option is relaxing Range, that is, limiting choices to less than three. First, there is the problem of limiting all choices to two options. This cannot occur. Any proposal to limit options to two inherently fails Arrow's proof. Put another way, there is no method to select the mechanism to reduce the options. This is not only itself an inherent Range problem (as there are surely more than two ways of limiting a choice to two options), but there is also the complication of appointing the initial agenda setter if choices are made among pairs. In the Range problem, an Arrovian dictator controls the group decision about how to limit the options to two choices. This dictator is itself the original problem. The latter problem is the "agenda control" problem, where an individual who decides how to choose pairs may strategically control the outcome.

The second alternative is to have someone choose among two options, then pit the winner against the third afterwards, repeating this for all choices until one "winner" exists. If attempted, Condorcet's Paradox may lead to "agenda control." To reiterate, Condorcet's Paradox is the name given to the occurrence of a "cycle" created by three or more individuals who attempt to use a democratic voting in a unique but not necessarily rare scenario. Agenda control is the use of a strategy when a group uses its authority to personally benefit from the situation. Recall the cycling example above of chocolate, vanilla, and strawberry. Although strawberry defeats chocolate, a committee head could undermine the process by never asking this question. Rather, transitivity is assumed, mistakenly, to prove that chocolate wins since chocolate

⁶⁹ See, e.g., *Sacramento v. Lewis*, 523 U.S. 833, 845 (1974) (emphasizing that the "touchstone of due process is protection of the individual against arbitrary action of government" (citations omitted)); *Goldstein v. S.E.C.*, 451 F.3d 873 (D.C. Cir. 2006) (invalidating, due to "arbitrariness," the S.E.C.'s hedge fund rule determining that the word "client" has different meanings in different parts of the same act. *Chevron* deference did not provide sufficient agency protection).

defeats vanilla which beats strawberry. With this possibility in mind, a committee head with agenda control could raise issues strategically in pair-wise voting. The committee head would ensure the defeat of issues that would certainly defeat his own preferences. Thus, limiting Range is infeasible. Not only is the mechanism of limiting range an inherent Arrowian problem, but it also may lead to agenda control issues.

Some argue, however, that limiting Range to two issues at times will benefit society, for legal issues such as standing, certiorari, and jurisdiction stripping.⁷⁰ The feasibility of limiting range is discussed in Parts III and IV. At this point, the Article has articulated how groups experience decision-making problems.⁷¹ The impact of these lessons on the legislature and the judiciary are explored next.

III. DOES ARROW PRECLUDE LEGISLATIVE INTENT?

Statutory and constitutional interpretation is grounded in multiple jurisprudential issues. Broadly, the law's meaning may be derived from three places: (1) the text itself, (2) the intent behind the text, and (3) the judge (as law-reader and law-giver).

A. Legislative Intent and the Limits for Interpretivism

This Article assumes that, when searching for the liberal project's Rule of Law, intentionalism is the high water mark for judicial authority in statutory interpretation cases because it offers the most restriction. The

⁷⁰ Maxwell L. Stearns, *Standing Back from the Forest: Justiciability and Social Choice*, 83 CAL. L. REV. 1309 (1995) (arguing that limiting range is a reason for the standing doctrine).

⁷¹ The Arrowian conditions are extremely easy to misinterpret, partly because much of the language in the proof connotes powerful ideas. A mathematical "dictator" in the proof is quite different than the political version the word normally implies. The Independence condition seems extremely palatable and appealing (perhaps for Chang's pragmatic reasons), but is actually quite a severe restriction on decision-making. Some commentators incorrectly understand Arrow's Impossibility Theorem:

(1) "[D]emocratic decisions that meet certain basic criteria [referring to Arrowian assumptions] are not derivable from any process free from arbitrary or undemocratic constraints on social choice." Ronald A. Cass, *Looking with One Eye Closed: The Twilight of Administrative Law*, DUKE L.J. 238, 245 (1986) (emphasis added). Rather, there are processes that function—today—in legislatures which allow cardinal bargaining and thus relax Independence.

(2) "The Impossibility Theorem is that legislative outcomes may not reflect a coherent outcome because the outcome chosen depends on the order different proposals are considered." Cass R. Sunstein, *Interpreting Statutes in the Regulatory State*, 103 HARV. L. REV. 405, 508, n.148 (1989). This is the voting paradox developed by Condorcet and further studied by Arrow, and is not Arrow's Impossibility Theorem. The Impossibility Theorem instead concerns ordinal rankings in conjunction with the five Arrowian assumptions.

judiciary must act as the legislature's agent unless there is a conflict with the state or federal constitution. In such a case, the judiciary acts as the agent for that constitution. In this way judges might "apply" the laws intended for them rather than "actively legislate" from the bench.

Legal hermeneutics commentators correctly argue that textualism does not act as a further limiting mechanism for statutory interpretation issues. These commentators reason that there are infinite potential meanings for pure text.⁷² In the simplest example, "cane" may have a meaning depending on the language. In English the text may signal a tool used to aid someone walking; in Italian it may mean dog. As Levinson explained, "[t]here are as many plausible readings of the United States Constitution as there are versions of Hamlet, even though each interpreter, like each director, might genuinely believe that he or she has stumbled onto the one best answer to the conundrums of the texts."⁷³

Theoretically there are infinite possible meanings for any text, which are only interpreted into an order through context. However, using context means to use something other than text, and is invalid under "pure" textualism. Thus, out of infinite possible meanings in a text, judges cannot reliably find the Rule of Law. As no objectively correct answer exists, the bounds are limited to "reasonableness," which provides no objective principles to "apply."⁷⁴

This article assumes that it is impermissible for judges to determine intent themselves since that would mean the law-interpreter, or law-reader, is the law-giver. There, a judge is correct in an interpretation simply because the judge has *power*. Subjective power should not be allowed to create the Rule of Law either.

An alternative is to decide cases according to "neutral principles." Mark Tushnet has discredited this position as mandating a "presumed shared understanding of the role of judicial reasoning in our polity."⁷⁵ Tushnet argues that such a proposition is false—there is no presumed shared understanding. Others have similarly commented that any

⁷² The text itself must be an inappropriate place from which to derive meaning. Wittgenstein comments how rules do not determine their own application, while Kelsen and H.L.A. Hart show that the status of a text cannot ultimately be determined by the text itself. See Larry Alexander & Frederick Schauer, *Defending Judicial Supremacy: A Reply*, 17 CONST. COMMENT. 455, 460–61 (2000).

⁷³ Sanford Levinson, *Law as Literature*, 60 TEX. L. REV. 373, 391 (1982).

⁷⁴ According to Fuller's famous case, all interpreters are "correct." Lon L. Fuller, *The Case of the Speluncean Explorers*, 62 HARV. L. REV. 616 (1949).

⁷⁵ Mark V. Tushnet, *Following the Rules Laid Down: A Critique of Interpretivism and Neutral Principles*, 96 HARV. L. REV. 781 (1983).

assertion finding neutral principles is inherently flawed by the subjective suggestion of what is neutral.⁷⁶

What remains is legislative intent, which becomes a necessary guide the judiciary relies on to interpret and decide cases.⁷⁷ Without legislative intent, statutory interpretation issues are left to some other presumably inappropriate power. The focus of this Article thus shifts to examine how “[t]he text only remains an object of interpretation . . . if what the text *is* and what it *means* are determined by the *author’s* intention.”⁷⁸ Consequently, there is a critical importance in finding legislative intent.

B. What is Legislative Intent?

Legislative intent is clarified by Gerald MacCallum’s examination, which revealed that that the fundamental question, “What is legislative intent?” contains multiple questions, including, but not limited to, the following:

How did the legislator intend the words to be understood?

What was the legislator’s intent in enacting the statute—i.e., “what did he intend the enactment to achieve,” versus “what did he intend the enactment to achieve in terms of his own career”?

What is the difference between the legislature’s “intent” and intent of the several legislators?

⁷⁶ RICHARD A. POSNER, *LAW AND LITERATURE*, 218–19, 231 (Harvard University Press (2002)) (commenting that Dworkinism is inherently subjective).

⁷⁷ A second definition of the Rule of Law that comports with these suggestions is that “[l]aw is a normative system backed by a credible threat of physical force against the violator of norms.” RICHARD A. POSNER, *ECONOMIC ANALYSIS OF THE LAW* 266–67 (6th ed. 2003) (citing Hans Kelsen’s definition). Posner proposes that the Rule of Law must have “formal rationality” (Max Weber’s phrasing) which requires the following characteristics in addition to Kelsen’s:

- (1) a capability of being complied with by those to whom it is addressed;
- (2) must treat equally those who are similarly situated in all respects relevant to the command;
- (3) it must be public; and
- (4) there must be a procedure by which the truth of any facts necessary to the application of the command according to its terms is ascertained.

Id. (adopting Kelsen, H., *PURE THEORY OF LAW* (Max Knight trans. 1967); JOHN RAWLS, *A THEORY OF JUSTICE* 237–39 (Oxford University Press 1971)).

⁷⁸ STEVEN KNAPP & WALTER B. MICHAELS, *INTENTION, IDENTITY, AND THE CONSTITUTION: A RESPONSE TO DAVID HOY*, *LEGAL HERMENEUTICS* 187, 191 (Gregory Levh ed., 1992).

Was his intent to enact a statute—i.e., was the enacting not accidental or a mistake?⁷⁹

Do the words mean precisely what he supposed them to mean when he endorsed them?⁸⁰

For purposes of this Article, the issue is narrowed to MacCallum's insight about legislative "meaning" versus "purpose." The Article seeks some version of the former.⁸¹ The paramount issue here is not whether this proper "meaning" is (a) what a reasonable objective person would understand the intent to be, (b) the intent flowing from a compromise, or (c) something related to the psychology of a key legislator. What is important in the examination is that there may be something there to discover. The question that follows next is whether Arrow shows that the legislature cannot create such "intent," and this Article concludes no.

C. Arrow's Theorem Will Not Disprove the Existence of Legislative Intent

Some commentators incorrectly assert that Arrow's Theorem disproves the existence of legislative intent. They are incorrect because they do not sufficiently analyze the "relaxation" of the assumptions. Certain examples of these commentators include:

1. "[Arrow's Theorem] implies that it is not possible to guarantee that a majority rule process will yield coherent choices."⁸² This leads to "incoherence" that will "take the form of the nonexistence of a collectively 'best' alternative."⁸³

⁷⁹ See, e.g., Shear, D., *Va. Error Reinstates Blue Law, Workers Can Insist On Sundays Off*, WASHINGTON POST, July 2, 2004, at A01.

⁸⁰ MacCallum, Jr., Gerald C., *Legislative Intent*, 75 YALE L.J. 754, 755–59 (1965).

⁸¹ MacCallum himself did not conclude that one answer was correct. Rather, for him "[n]o one model of legislative intent is either so strongly or so weakly supported as to make its use either unproblematic or absurd." 75 YALE L.J. at 786. For more discussion on how judges might find legislative intent, see, e.g., Zeppos, N., *Legislative History and the Interpretation of Statutes: Toward a Fact-Finding Model of Statutory Interpretation*, 76 VA. L. REV. 1295 (1990) (arguing that perhaps collective intent is not intractably problematic and citing how the law finds that the collective actions of corporations may contain "intent" to discriminate). How to find intent is not important in this Article. The Article's focus is that the judiciary's group decisions cannot find intent objectively, and thus cannot determine one clear answer.

⁸² Kenneth A. Shepsle, *Congress is a 'They,' Not an 'It': Legislative Intent as Oxymoron*, 12 INT'L REV. L. & ECON. 239, 241 (1992).

⁸³ *Id.*

2. “Arrow’s Theorem reveals that, in theory, public decision making processes cannot be designed in ways that are fair and that preclude the possibility that decisions will cycle”⁸⁴

3. Then Professor, now Judge Easterbrook offered: “it turns out to be difficult, sometimes impossible, to aggregate these lists [of individual legislators’ preferences] into a coherent collective choice.”⁸⁵ Easterbrook has argued that Arrow’s impossibility theorem shows how a judge cannot find and implement legislative intent.⁸⁶

According to Daniel Farber, Easterbrook “would . . . jettison the whole idea of legislative intent as a guide to interpretation,” in part due to Arrow.⁸⁷ Easterbrook has continued to reason that since “there is no virtuous way to aggregate private wills into collective decisions,” then Arrow’s Theorem therefore shows that legislative compromises cannot be interpreted, as they have no single “common spirit.”⁸⁸ He then concludes that “formalism” is the restrictive answer to this problem, so judges must ignore the idea of legislative intent. This Article concludes that Arrow does not mean legislative intent is a fiction. First, however, it reviews some alternative responses to these criticisms.

Arthur Lupia and Mathew McCubbins state that using Arrow to make conclusions about legislative intent is an “exaggeration” of Arrow’s Theorem.⁸⁹ They reason that Arrow’s assumptions are not necessarily principles “required for reasonable and fair democratic decision-making.”⁹⁰ Rather, “fair” decision-making is not precluded unless one equates fairness with Arrow’s short list of conditions. The scholars further argue that Arrow’s Theorem is irrelevant to the

⁸⁴ Richard H. Pildes & Richard G. Niemi, *Expressive Harms, “Bizarre Districts,” and Voting Rights: Evaluating Election-District Appearances After Shaw v. Reno*, 92 MICH. L. REV. 483, 404 n.88 (1993). As another example of an incorrect understanding of “group choice,” see Bernard W. Bell, *Legislative History Without Legislative Intent: The Public Justification Approach to Statutory Interpretation*, 60 OHIO ST. L.J. 1, 37 (1999) (attacking public choice normatively rather than showing how Arrow’s Theorem and cycling are misunderstood).

⁸⁵ Frank H. Easterbrook, *Statutes’ Domains*, 50 U. CHI. L. REV. 533, 547 (1983).

⁸⁶ Frank H. Easterbrook, *Symposium: Changing Images of the State: The State of Madison’s Vision of the State: A Public Choice Perspective*, 107 HARV. L. REV. 1328 (1994).

⁸⁷ Daniel A. Farber, and Phillip P. Frickey, *Legislative Intent and Public Choice*, 74 VA. L. REV. 423 (1988). Farber further comments that Easterbrook’s concern is the “extent to which legislation reflects a coherent congressional view of the public interest.” *Id.* at 424.

⁸⁸ Easterbrook, *supra* note 86, at 1339.

⁸⁹ Arthur Lupia & Mathew D. McCubbins, *New Perspectives on Statutory Interpretation: Lost in Translation: Social Choice Theory is Misapplied Against Legislative Intent*, 14 J. CONTEMP. LEGAL ISSUES 585 (2005).

⁹⁰ *Id.*

importance of legislative intent in statutory interpretation and is therefore misapplied in jurisprudence. However, Lupia and McCubbins fail to provide technical insight into *why* Arrow's assumptions are not "fair."

Next, Farber argues that Arrow's Theorem has been misunderstood, and is in fact normatively impotent for interpretative philosophers. Farber suggests instead that Arrow's Theorem means the attempt to govern inevitably suffers from certain distortions, but this does not make any specific form of judicial interpretation a better answer over another. Farber analogizes this issue to the failure to make a completely accurate two dimensional map of a three dimensional world—something that does not prevent the usefulness of making maps. This is an interesting analogy but it is inconclusive as to what "should" occur in the legislature's creation of statutes.

Farber maintains that public choice supports a "pragmatic approach" to legislative intent, and nothing more. While Easterbrook's position is that Arrow's work "renders legislative outcomes suspect,"⁹¹ Farber indicates that at most, less weight should rest on some background information and more on others.⁹² Rather than debunking the legislative process with cynicism toward political bodies, "public choice models can provide some insights into the realities of legislation and statutory interpretation, without at the same time destroying respect for democratic institutions."⁹³ Farber's answer is more complete and thus better than Lupia and McCubbins' answer. However, Hovenkamp furthers the analysis of legislatures.

D. Hovenkamp: Independence Does Not Apply to Legislatures

Herbert Hovenkamp provides the most sufficient and technically correct insight regarding the way legislatures operate. Hovenkamp posits that the Independence of Irrelevant Alternatives assumption is inapplicable to a legislature.⁹⁴ When Independence is dropped, individual legislators logroll, filibuster, and bargain among political positions. Hovenkamp accurately states this "is no more 'strategic' than a person's market-driven decision to purchase her second choice when she cannot

⁹¹ Farber, *supra* note 87, at 429.

⁹² *Id.* at 469.

⁹³ *Id.*

⁹⁴ Herbert Hovenkamp, *Arrow's Theorem: Ordinalism and Republican Government*, 75 IOWA L. REV. 949, 953 (1990). See also Herbet Hovenkamp, *Legislation, Well-being, and Public Choice*, 57 U. CHI. L. REV. 63, 90 (1990) (commenting that "[i]ndeterminacy . . . exists mostly at the margins" (*Id.* at 90); also commenting that Easterbrook overstates the Arrowian case (*Id.* at 116 n.66)).

afford her first.”⁹⁵ Dropping Independence means legislatures “trade” *cardinally* rather than *ordinally*. This answer solves Arrow, as groups with equal voice can (and in fact do) use a “currency” to bargain.

The “currency” is cardinalized bargaining, which may provide comparative advantages for all. According to James Buchanan and Gordon Tullock, there is a benefit to equal votes finding a means to trade cardinally: the invaluable resource of legislative powers may be traded among preferences, and thus a limited resource may be more efficiently used for the betterment of all.⁹⁶

For example, logrolling may create incentives for representatives “to act even with respect to matters in which they have very little interest.”⁹⁷ The alternative is to leave groups stuck in an ordinal world where the supposed truth-telling benefit of the Independence assumption results in restricted choices that lead to a dictator and worse. These “worse” consequences exist because, as shown above in Part I, without the relaxation of Independence, another assumption must relax. Majority rule will certainly fail at arbitrary times, and whatever characteristic aside from Independence is relaxed, the consequence becomes an ethically unsound process that produces arbitrary results. Society condemns such arbitrary occurrences and this arbitrariness is constitutionally prohibited.

Therefore, instead of rejecting acts of logrolling, these legislative bargains should be recognized not only as legitimate, but also as a necessary predicate for confidence in the legislature’s creation of statutes. Again, the issue of “how” to find the intent is suspended, and intentionalism is presumed to be the most restrictive form of interpretation when applying the Rule of Law. Without these bargains, statutory interpretation of legislative decision-making is a façade; no intent could possibly exist for a statute. Rather, the Rule of Law would be based only on the power of interpreters to cherry-pick among infinite meanings of pure text (textualism), pure power of interpreters (judge as law-giver), or guaranteed arbitrariness and a failure of majority rule in a political body (relaxation of any Arrowian assumption other than

⁹⁵ Herbert Hovenkamp, *Arrow’s Theorem: Ordinalism and Republican Government*, 75 IOWA L. REV. 949, 953 (1990).

⁹⁶ On the importance and benefit of logrolling, see JAMES M. BUCHANAN & GORDON TULLOCK, *THE CALCULUS OF CONSENT: LOGICAL FOUNDATIONS OF CONSTITUTIONAL DEMOCRACY* 132–33 (1962) (explaining how logrolling moves toward Pareto optimality). See also David Crump, *Game Theory, Legislation, and the Multiple Meanings of Equality*, 38 HARV. J. ON LEGIS. 331 (2001) (suggesting logrolling is necessary to prevent cycling). Buchanan won the Nobel Prize in Economics in 1986, largely for this work.

⁹⁷ Clayton P. Gillette, *Plebiscites, Participation, and Collective Action in Local Government Law*, 86 MICH. L. REV. 930, 968 (1988).

Independence). Thus, legislative bargains are the correct paths to creating legislative intent. There is no Herculean answer that Dworkin seeks, anywhere else in statutory interpretation theory.

Perhaps the “most general theory of institutional failure,”⁹⁸ Arrow has provided a convincingly positive analysis about the interaction between the legislature and the judiciary. So far, the Rule of Law is not prohibited through the Impossibility Theorem. It is not yet prohibited because it is, at least in theory, possible for legislative intent to exist. This possibility is not precluded by Arrow’s proof because the legislature relaxes Independence.

The next issue then becomes: How will the judiciary, specifically the multi-member appellate courts, handle interpretive jurisprudence in light of Arrow’s proof? Part IV explores the troublesome positive instruction for interpretation. This problem is predominantly based on the Range and Independence assumptions.

IV. MULTIMEMBER JUDICIAL DECISIONS

This Article shows how a legislature may potentially create a collective “intent.” The prime focus is on the collective decision-making process of legislatures and courts to answer whether it is possible for the appellate courts to “apply” intentionalism in an objective manner, and this Article contends that it is not.

Legislative intent may exist under Arrow’s Theorem utilizing a cardinal preference currency. In a cardinal bargaining currency, legislators accept and use mechanisms such as logrolling, filibusters, and earmarks to act on the legislator’s strength of preferences. In effect, the legislators trade for the limited resources that are other legislators’ votes.

However, there are ethical considerations that consider vote-trading between judges as anathema to the Rule of Law. Arrow demands relaxation of one of the five assumptions in the *judiciary* so that appellate courts can function without a “dictator.” This Article concludes that the Independence assumption must be relaxed in the judiciary, as well as in the legislative branch.⁹⁹

⁹⁸ Bruce Chapman, *Between Markets and Politics: A Social Choice Theoretic Appreciation of the Charitable Sector*, 6 GEO. MASON L. REV. 821, 866 (1998).

⁹⁹ The “division fallacy” is to assume a unitary judiciary. Adrian Vermeule, *The Judiciary is a They, Not An It: Interpretive Theory and the Fallacy of Division*, 14 J. CONTEMP. LEGAL ISSUES 549 (2005). Vermeule claims the division fallacy muddles much theorizing about legal interpretation. Problems arise because commentators overlook the collective nature of a judicial body. That a given approach is good for the whole court does not mean it is good for that judge alone. Vermeule claims the best approach for any individual judge will vary depending on whether other judges adopt the same approach.

This will mean, paradoxically, that the power the judiciary uses to determine legislative intent undermines the Rule of Law because the Rule's capability as a restrictive mechanism founders. Objectivity and the law's capability to be "applied" as a tool are both weakened. That is, the Rule of Law legitimately restricts similar cases to be treated alike, ensuring that all are equal before the law regardless of whatever subjective preferences the judges may hold. This presumption works if the objective Rule of Law is "applied" rather than created by objective power. However, its purpose is undermined unless Independence of Irrelevant Alternatives is relaxed in multimember courts. The next section of this Article examines the jurisprudential consequences of relaxing Independence.

A. Non-dictatorship and Pareto

As they are within the legislature, Pareto and Non-dictatorship should be dismissed as the "relax-able" criteria. Were all judges on a court to prefer y as the best answer, the outcome z is not acceptable from that court (a non-Pareto answer). This must occur, at arbitrary times, if Pareto were relaxed. Nor are one single judge's preferences followed in every single case, as would happen with an Arroviaan dictator.¹⁰⁰ Again, a dictator exists where, *ex ante*, any and all possible future decisions comport with the dictator's preferences, no matter what the content of the other votes. All 216 possible rankings of three choices among three individual judges would have to match with one judge's desires. Majority rule does not apply in such a scenario. What is the purpose of having multimember courts in such a scenario? Who should serve as the lone Justice? It is impossible to find this Herculean individual. There is no purpose in discussing the merits of group decisions if majority rule does not apply. These options would occur in either scenario, and are thus rejected outright.

For example, division fallacy is pervasive in arguments that would justify textualism by its disciplining effect on legislatures that praise canons of construction. *Id.* at 583. Easterbrook has noted that the "entire judiciary is modeled as a single judge on a single court. It isn't." Frank H. Easterbrook, *Some Tasks in Understanding Law Through the Lens of Public Choice*, 12 INT'L REV. L. & ECON. 284, 288 (1992). Easterbrook agrees that courts with multiple members produce "cycling, path dependence, and other unhappy outcomes." *Id.*

¹⁰⁰For evidence that there is no dictator, see any one of the Harvard Law Review's annual Supreme Court issues. The section on "Term Statistics" shows majorities and dissents that contain all Justices, a situation which could never occur with an Arroviaan dictator. See, e.g., Harvard Law Review, *The Statistics*, www.harvardlawreview.org/issues/119/Nov05/Statistics.pdf.

B. Stearns and Standing

Maxwell Stearns has argued that appellate courts prevent Arrovian cycling and arbitrary outcomes by developing procedural doctrines like standing to reduce Range.¹⁰¹ According to this idea, limiting the number of binary comparisons relative to the number of available options removes the decision from the Arrovian framework. Stearns' suggestion that this would help reduce Arrovian problems is correct. In Arrovian terms, Stearns' argument for the standing doctrine is that limiting Range achieves the simple and fewest number of possible issues in a case, and thereby allows Pareto, Non-dictatorship, Independence, and Transitivity to "work" to efficiently lead to a "best" answer.

Path dependence problems would be restricted by standing, but this assumes the law is applied objectively, and that standing is applied objectively. If this were the case, opportunistic ideological litigants could not manipulate path dependence through the three major subsets of (1) no right to enforce the rights of others, (2) no right to prevent diffuse harms, and (3) no right to an undistorted market.¹⁰² However, as Stearns recognizes, the development of the standing doctrine itself was made by judicial powers. Therefore, to say path dependence is restricted by the standing doctrine is to beg the question of how one would objectively apply the "science of interpretation."¹⁰³

However, this Article suggests that there are never less than three jurisprudential issues before a court.¹⁰⁴ Again, attempting to limit Range raises the question of what jurisprudential philosophy exists in the background for cases that do reach courts. During the start of a statutory interpretation case, for example, originalism, pragmatism, or Dworkinism will fail to provide a single, discrete and strict method as to how to limit Range. The same goes for the standing doctrine or *Chevron* deference, as an example of another means of reducing issues in front of

¹⁰¹ Maxwell L. Stearns, *Standing Back from the Forest: Justiciability and Social Choice*, 83 CAL. L. REV. 1309 (1995)

¹⁰² Stearns, *supra* note 101, at 1309.

¹⁰³ Stearns' study of Range examines the New Deal Supreme Court, as well as the Burger and Rehnquist Courts, to prove his thesis on the power of judicial control of standing. *Id.* at 1401. Consider that the determination of a constitutional or statutory "injury" is not clearly defined in the law. *See Lujan v. Defenders of Wildlife*, 504 U.S. 555, 562-63 (1992) (observing that although the desire to observe an animal species for aesthetic purposes is "undeniably a cognizable interest for purpose of standing," there was no standing for the plaintiff to sue because the injury was not definitely predictable).

¹⁰⁴ Outcome voting, rather than issue voting, ensures a decision even when no majority agrees on both the issue and the conclusion (outcome). *See Tracey E. George & Robert J. Pushaw, Jr., Constitutional Law: How is Constitutional Law Made?*, 100 MICH. L. REV. 1265, 1270 (2002) (reviewing MAXWELL L. STEARNS, CONSTITUTIONAL PROCESS: A SOCIAL CHOICE ANALYSIS OF SUPREME COURT DECISIONMAKING (2000)).

federal courts. Consider that the “ideal” originalists on an appellate court might assert differences of opinion as to how to find the original intent while pragmatists are patently fraught with anarchical priorities due to a lack of a guiding star. Dworkin’s Herculean judge would search for the “best answer” with little to assure himself that another Herculean judge will reach the same “best” conclusion. Thus, it is never possible to completely limit Range to the necessary two issues in front of multi-member appellate panels.¹⁰⁵ This remains so whether asserting “standing,” *Chevron* deference, legal ethics or judicial codes, or any other doctrine attempting to limit issues or create responsibilities.

The method used to decide how to limit Range is itself subject to the Arrovian proof. Range, therefore, is *not* the answer to what must be relaxed.¹⁰⁶ There is no objective way to perform this “relaxation.”

C. *Easterbrook and Transitivity*

Easterbrook’s seminal article combining Arrow and Supreme Court jurisprudence attempted to determine which Arrovian assumption must be relaxed. Easterbrook concluded that the Court must keep the four characteristics of Range, Non-dictatorship, Independence of Irrelevant Alternatives, and Pareto, but could lose Transitivity.¹⁰⁷ This is incorrect. First, this Article explains the consequences of relaxing Transitivity and the next section dissects the repercussions of relaxing Independence.

To only relax Transitivity, appellate courts would make decisions like the following example. Assume Profile 7 of Figure 2 from Part II results in the arbitrary decision that the conflict between y and z will be ranked in favor of y (the same arbitrary decision made earlier). Now, assume both *Marshall* and *Taney* (Profile 9) unanimously rank z ahead of x . Transitivity should force outcome yzx from yz (an outcome derived from Independence) with zx (from Pareto). Relaxing Transitivity is a way to prevent A from being the dictator, but may lead to xyz .¹⁰⁸ That is, if z is

¹⁰⁵ Even with one-word responses on appeals subjective bargains would still exist in the background. For example, consider First Amendment obscenity appeals which were either “reversed” or “affirmed.” One judge may have focused on the original intent of the Framers while another applied a “living constitution” interpretation. Such answers are not known and thus, limiting range serves little purpose.

¹⁰⁶ For more on the complexities of the path-dependence issue, see Stearns, *supra* note 101.

¹⁰⁷ *Id.*

¹⁰⁸ See Hansen, *supra* note 17, at 222 (“In general . . . when a value judgment that corresponds to neither individual’s ranking is initially imposed (thereby immediately ruling out a dictatorship), it is impossible to socially order all thirty-six preference profiles because of an inevitable intransitivity.”); Feldman & Serrano, *supra* note 44, at 5 (providing an Arrovian example where only transitivity is relaxed, while the remaining four assumptions hold). Note that Pareto is violated in this example as well.

preferred to x for every profile, and x preferred over y , how and when does a decision making mechanism determine when, precisely, $zPxPy$ will not be the preferred outcome? Why do this for Profile 9 and not another profile? Making this choice for another profile would be just as legitimate as doing this in Profile 9 because it would be just as arbitrary. Such an outcome can *never* be predictable.¹⁰⁹

In Easterbrook's analysis, relaxing transitivity led to inconsistent adjudication, and this was a negative but inexorable result. While a dictatorship is immediately precluded with this choice, jurisprudence theorists should find this is too costly a price—especially since there is an alternative without this cost.¹¹⁰

Before arguing why relaxing Independence is the solution for appellate decisions, this Article discusses why not simply relaxing the “Completeness” element of Transitivity is ineffective. The problem with this argument is determining when the situation occurs, without any definable objective mechanism. Like any attempt to limit Range with the standing or *Chevron* doctrines,¹¹¹ the intractable issue is *how* to determine which cases would qualify. The crux of this Article is the assertion that there is no objective algorithm, according to the Arrovian proof, for determining how and when judges would know to consider certain options. It is itself another Arrovian group problem. Therefore, relaxing the “Completeness” characteristic inherent in Transitivity is a result beyond the pale of possibility.

¹⁰⁹ Mueller offered an oligarchy as the means to provide some stability in this situation. His solution was to empower a select few to make arbitrary decisions. However, determining how to pick these individuals is an intractable problem. In addition, it is difficult to enforce arbitrary powers. Again, society presumably desires to avoid constitutional protections against the arbitrary effects of lawmaking. That the “king [or oligarchy] can do no wrong” is not currently part of our accepted democratic ideals.

¹¹⁰ “[A]s Lon Fuller maintained, knowing what the law is and knowing how to comply are necessary conditions for legality itself.” Larry Alexander & Frederick Schauer, *Defending Judicial Supremacy: A Reply*, 17 CONST. COMMENT. 455, 482 (2000) (citing LON L. FULLER, *THE MORALITY OF LAW* (2d ed. Yale U. Press 1969)). “John Marshall’s claim is nothing less than the observation, later refined by Fuller, that without a single and authoritative interpreter there would be little difference between law and the numerous non-enforced directives we find in philosophy books and advice columns.” *Id.* See also RICHARD A. POSNER, *ECONOMIC ANALYSIS OF LAW* 266 (Aspen Publishers 2003) (quoting HANS KELSEN, *PURE THEORY OF LAW* (Max Knight trans., The Lawbook Exchange, LTD. 2002) (1967); JOHN RAWLS, *A THEORY OF JUSTICE* 237–39 (Oxford University Press 1971)).

¹¹¹ *Chevron U.S.A., Inc. v. Natural Res. Def. Council, Inc.*, 467 U.S. 837 (1984). Justice Stevens reasoned, “when a challenge to an agency construction . . . really centers on the wisdom of an agency’s policy, rather than whether it is a reasonable choice within a gap left open by Congress, the challenge must fail. In such a case, federal judges—who have no constituency—have a duty to respect legitimate policy choices made by those who do.” *Id.*

In sum, deciding in which cases Transitivity should not apply is itself a communal decision subject to Arrow's proof. Therefore, any attempt in this vein is dismissed. Completeness is a necessary characteristic of the appellate court decisionmaking process. Consequently, Pareto, Non-dictatorship, Range, and Transitivity may not be relaxed in an appellate court decision-making mechanism. The Article now considers the Independence assumption.

D. Relaxing Independence of Irrelevant Alternatives: Bargaining is Positively Necessary, and Normatively Acceptable

In review, the Independence of Irrelevant Alternatives characteristic has two elements. Independence imposes both (1) a restriction on changing outcomes due to a change in choice sets, and (2) an initial assumption that a group's members bargain ordinally rather than cardinally.¹¹² Relaxing Independence immediately refutes both characteristics—there is no part-ordinal, part-cardinal means of ranking choices. This provides the most palatable and practical answer to the judiciary's Arrovian decision. In fact, Independence must be relaxed for appellate courts to function.

1. Process of Elimination: Majority Rule Fails Unless Independence is Relaxed

First, the Independence of Irrelevant Alternatives is the suspect axiom by process of elimination, as the preceding sections show. Range can never truly be limited to two jurisprudential methods in any single case. Relaxing the Non-dictatorship principle, Pareto, or Transitivity would lead to decisions society would not tolerate. One person cannot control an appellate court's decisions, which would occur if Non-dictatorship were relaxed. Any group decision must be subject to majority rule, which is destroyed if Pareto or Transitivity is relaxed. If the notion of majority rule losing to a minority's votes (something that must occur at unpredictable and *arbitrary* times) is rejected, then one has to acknowledge that Independence is the axiom relaxed.

2. Majority Rule Survives if Independence is Relaxed

The "intuition" at the heart of Hanson's graphical illustration of Arrow's proof in Part II indicated that among two persons choosing between three options, only one single arbitrary decision (from Profile 7, for example) would "trickle-down" in all thirty-six preference profiles. The example led to a complete solution for the entire puzzle. After all of

¹¹² See Tabarrok, *supra* note 52, at 8–9.

the boxes were filled in, the Article noted that one of the two individuals' preferences coincidentally matched every outcome. This occurred due to the four assumptions of Pareto, Range, Transitivity, and most importantly, Independence of Irrelevant Alternatives. The result was that an Arrovian dictator existed, showing that the fifth assumption of Non-dictatorship was violated.

In an appellate court, even among a large number of options (originalism, textualism, Dworkinism, pragmatism, etc.), only one arbitrary decision would be needed to "trickle-down." There are always more than three choices in a jurisprudential decision-making scenario. The vast power of the Independence assumption is crucial. An alternative means of understanding this proof derives from Feldman and Serrano's analysis: since three judges could potentially choose three outcomes of a Condorcet Paradox, and Completeness demands an outcome, one of the judges must "win" even though no majority would choose that judge's preferences. The result from either point of view is the same—to prevent the Arrovian dictator, one must relax an assumption. That assumption must be the Independence assumption.

To relax Independence, the possibility of an "ordinal" ranking of preferences is lost, and cardinal preferences are used instead. The practical effect of this solution is that judges signal and exert intensities of their preferences, finalizing their demands through cardinal bargains. Appellate bodies resolve their differences among jurisprudential theories in this way. Whether the approach is originalist, Dworkinian, or pragmatist, the issues for resolution are the same. Coherent decisions are allowed after bargains among positions coalesce into a majority, and majority rule triumphs.

Again, cardinal bargaining means that individuals make the group decision by opining and contracting on the importance of their opinions. It is the relationship between an individual judge's impression of the importance of his own opinion and the convictions of other judges that controls the outcome. Since no objective means exists to "normalize"¹¹³ the different impressions, each judge says what the law is because the judge says so. This syllogism at the heart of the interaction among appellate judges is to use power. Even if the law-reader/judge attempts to objectively ascertain the "Rule of Law," it is the resultant interaction between the judges, comprised of subjective determinations, that leads to a final adjudication.

¹¹³ To normalize here would be to conform individual preferences to a certain standard so that they may be weighed against each other. No method exists to ascertain each individual's benefits in an objective manner.

These subjective determinations are anathema to the liberal project, under which judges purportedly ascertain and apply the rule of law to objectively control each case. Rather, multimember courts create the law through personal predilections. They do not “apply” the law as if it could be objectively ascertained. Individual determinations invade each adjudication. All adjudication truly results from this “active” judicial role.

Stearns’s Range problems are satisfied. Among more than three issues, a compromise is reached on one outcome, albeit at times by the narrow margins of one vote. Easterbrook should be satisfied with this solution, as well. Easterbrook has stated that arbitrary precedents arise due to path dependence, creating a general incoherence in the law.¹¹⁴ This would, indeed, be the consequence if Transitivity were relaxed. However, instead of the arbitrariness problem Easterbrook poses due to relaxing Transitivity, majorities—even narrow ones—are created by relaxing Independence instead. Neither textualism nor intentionalism (nor “formalism”) provides an answer as successful as this. Rather, as mentioned above, even members agreeing on the same jurisprudential theory may still disagree when voting, which means only appointment or arbitrary election of a “dictator” would suffice for intentionalist or textualist theories.

How would the ideal originalist, for example, find legislative intent? Should he use legislative history? Or use committee comments only, since the committee was the “expert”? What about conversations between the swing-vote Senator and the Senator’s husband?¹¹⁵ Compromise is the critical role for the judge in the Rule of Law.

Easterbrook posited that the Independence of Irrelevant Alternatives criterion means the determination of a case about the Eighth Amendment should not be influenced by a judge’s beliefs about the negligence system, or “that plaintiffs with red hair (or black skin) ought to lose.”¹¹⁶ This Article maintains that Independence is extremely restrictive when one arbitrary decision “trickles down” in the Arrovian proof. This will mean it is impossible to objectively apply a rule that decides whether an issue is “red-haired” versus “relevant.”

Easterbrook stated, “In any judicial system, irrelevant alternatives must be disregarded. Logrolling, one way of handling intensity of preferences about ‘extraneous’ matters in legislative systems, is excluded

¹¹⁴ See *supra* notes 20, 85, 86.

¹¹⁵ See Ronald Dworkin, *Law’s Empire*, 100 HARV L. REV. 1166 (1987).

¹¹⁶ Frank H. Easterbrook, *Ways of Criticizing the Court*, 95 HARV. L. REV. 802, 825–26 (1982).

...¹¹⁷ Here, Easterbrook makes an incorrect inference about Independence. It is wrong to dismiss an “irrelevant” alternative this way. Rather, logrolling, of a sort, is not excluded from appellate adjudication by simply dismissing the “unreasonable” alternatives.

To illustrate the problem with this consideration of “irrelevance,” consider the prior examples involving the 1992 and 2000 U.S. presidential elections and cycles among chocolate, vanilla, and strawberry. While red hair or beliefs about negligence seem to have little to do with an Eighth Amendment case, what about originalism, textualism, and pragmatism (to say nothing of a coherent theory of *stare decisis*, or the differences among originalists, textualists and Dworkinists)? This is the critical point: there is no clear way to disregard myriad alternatives as “irrelevant.”

No issue or alternative is irrelevant just because it will not be the victor in a case. Neither Ross Perot nor Ralph Nader nor strawberry is irrelevant, but these would be dismissed under the “red hair” analogy. Irrelevance does not mean a “losing conviction” or “losing premise.” Irrelevance is not an empowerment to dismiss a myriad of persuasive factual points in a case, “pure” textual interpretations of a statute or constitution, or versions of “neutral principles.” Further, the attempt to carve the relevant out of a “reasonableness” principle does not prevent a lack of steadfast and objective boundaries to the interpretation. The result is that a judge must weigh, and ultimately prefer, in varying degrees, different options based on the subjective.

One “irrelevant” originalist position in a simplified example involves a panel is dealing with a case where only one judge or justice takes an originalist position. Assume the remaining eight are evenly split (4-4) between one single, unified, and homogeneous textualist interpretation of the case, and one single, unified, and homogeneous pragmatic position. Easterbrook’s explanation of the Independence of Irrelevant Alternatives assumption is impermissible because there is no clear stopping point between the judge’s originalist convictions and the importance of a litigant’s red hair.

If the judge’s intensity of conviction leads him to believe one position or the other is the better outcome for his jurisprudence, then his originalist belief results in the deciding vote. It is not necessary that his pragmatic theories influence the case, but they may be a factor. The same factors influence the judge’s “intentionalist” views. The outcome perhaps unites four judges, who, instead of writing a watershed pragmatic

¹¹⁷ *Id.*

opinion, write a compromise that takes account of the intersection of originalism and pragmatic theory.

This demonstrates that the bargain struck was between intensities of preferences, resulting in a final interpretation between different ideals. The bargain was not a vote among deep, homogeneous, and clear interpretations from different but discrete single schools of jurisprudence.

There is no objective standard available to discern when a jurisprudential theory or factor becomes classified as “red-haired.”¹¹⁸ Rather, the litigants themselves receive different interpretations based on varying presumptions in different situations.¹¹⁹ In the ice cream adjudication example, the judges use differing amounts of chocolate, vanilla, and strawberry in the interpretation. In reality, there would be numerous interpretations of each flavor, thus more thoroughly blending the jurisprudential compromise.

Only where Independence is relaxed do judges consider these issues in a subjective manner, effectively contracting among their

¹¹⁸ The “vehicles in the park” problem lies here—it is an intractable problem without an answer, as shown by the Arrovian analysis. It is a useful pedagogical hypothetical because it can never be solved. For a real-life version of the “vehicles in the park” problem, consider a law prohibiting buildings “other than one detached single-family dwelling.” Does this bar a children’s playhouse? *See* *Traylor v. Holloway*, 142 S.E.2d 521, 523 (Va. 1965) (yes). A concrete doghouse? *See* *Univ. Gardens Prop. Owners Assoc. v. Solomon*, 88 N.Y.S.2d 789 (N.Y. Sup. Ct. 1946) (yes). A wire-mesh cage on a concrete floor designed as a pen for two pet cougars? *See* *Turidic v. Stephens*, 31 P.3d 465 (Or. Ct. App. 2001) (no, because this was a permissible “residential use”). A parking lot and menu board for a drive-in Burger King restaurant? *See* *5011 Cmty. Org. v. Harris*, 548 A.2d 9 (Conn. App. Ct. 1988) (no, these are not “buildings”). The Idaho Supreme Court suggested the principle of free use of land should guide judges when judges find ambiguity. *Pinehaven Planning Bd v. Brooks*, 70 P.3d 664, 667 (Idaho 2003). *See* ROBERT C. ELLICKSON & VICKI L. BEEN, *LAND USE CONTROLS* 553 (3d ed. 2005). The original “vehicles in the park” problem is taken from H.L.A. HART, *THE CONCEPT OF LAW* 125–26 (1961). For a report on a judge’s role in deciding whether the social utility should affect the outcome of the case, *see* BARRY WERTH, *DAMAGES* 48 (Berkeley Books 1999) (reporting that after the judge took an injured baby in his arms at a pretrial conference, the judge stated “This woman needs some money”).

¹¹⁹ *See, e.g.*, ROBERT C. ELLICKSON & VICKI L. BEEN, *LAND USE CONTROLS*, 292–93 (3d ed. 2005) (citing *Consol. Edison Co. v. Hoffman*, 374 N.E.2d 105 (N.Y. 1978)) (providing a public entity with a more favorable version of the state’s “unnecessary hardship” zoning test than other uses); *and* *Sica v. Bd. of Adjustment*, 603 A.2d 30 (N.J. 1992) (providing a for-profit senior citizen care facility with more favorable treatment in the state’s “inherently beneficial” zoning constraint test than for other uses). *See also* *Hurd v. Hodge*, 334 U.S. 24 (1948) (striking down racial covenants as violative of public policy).

preferences.¹²⁰ Consequently, judges may, and indeed do, consider litigants' characteristics free from any objective restrictions.

Another consequence of not relaxing Independence is that if judges are prevented from cardinal bargaining, there is no guarantee that a panel avoid a Condorcet cycling problem. In Arrowian terms, Range is always much larger than the simple three-choice example in Part II.¹²¹ Assume, however, that there are only three choices. If the three judges prefer the following choices, the ordinal preferences lead to no winner, and no loser.¹²²

Judge	Rank:	1st	2nd	3rd
Ben		c	v	s
Jerry		v	s	c
Carvel		s	c	v

Figure 5

How could judges decide cases without intensity-preferences?¹²³ In a Condorcet cycling situation there would be no panel adjudication. Further, without cardinality, as seen in the example of agenda control, a panel using ordinal rankings will eventually result in an arbitrary outcome that no majority would choose.¹²⁴ These examples should

¹²⁰ To see the compromise most clearly, note that judicial opinions are not typically answered with a simple "affirmed" or "reversed" conclusion, but with a rationale. This rationale is a compromise and cannot be predicted.

¹²¹ *But see* Stearns, *supra* note 101, at 1065 (arguing that the number of "genuine" legal issues in a case, which are part of the necessary disposition of a case, are "fairly stable and small").

¹²² See Figure 5.

¹²³ This Article notes that it is "erroneous[] [to presume] that the 'median Justice' wields the bulk of the Court's power. Even if there were a median Justice, it is far from clear whether he would be the Most Dangerous Justice." Paul H. Edelman & Jim Chen, "Duel" Diligence: *Second Thoughts about the Supremes as the Sultans of Swing*, 70 S. CAL. L. REV. 219 (1996). Edelman and Chen offer a mathematical indexing of Justices and apply the index and a median voter theorem to conclude that Justice O'Connor did not wield more than a proportional one-ninth share of decision-making—in fact it was Justices Kennedy and Ginsburg in two respective Court terms. The article concludes that power does not derive from being the median voter. Paul H. Edelman & Jim Chen, *The Most Dangerous Justice: The Supreme Court at the Bar of Mathematics*, 70 S. CAL. L. REV. 63 (1996).

¹²⁴ For articles on the conflict between strategic vote-switching and *stare decisis* in action, see, e.g., Edward A. Hartnett, *A Matter of Judgment, Not a Matter of Opinion*, 74 N.Y.U. L. REV. 123 (1999) (arguing against complete deference to the judicial branch's opinion on Constitutional interpretation because courts decide cases rather than pronounce the law, and may get it wrong due to their multimember make-up); Michael J. Gerhardt, *The Role of Precedent in Constitutional Decisionmaking and Theory*, 60 GEO. WASH. L. REV. 68, 73 (1991) (considering the tension from *stare decisis*, alleged

illustrate that judges must individually bargain about how *this* principle is “[some degree]” more important than *that* principle.

Arrow’s Proof thus shows that jurisprudential methods purporting to restrict judges are inadequate. The “Independence” assumption cannot be allowed to exert its force in a group decision. If it did, the use of majority rule in courts fails.

3. Majority Rule: An Illegitimate Strategy?

Easterbrook and others assert that strategy in appellate court adjudication is illegitimate.¹²⁵ This Article takes an opposing position.

stability, and the problems for judges and theorists who attempt adhere to some unifying principle); Edward A. Hartnett, *Ties in the Supreme Court of the United States*, 44 WM. & MARY L. REV. 643 (2002) (arguing the traditional practice of tie votes affirming the court below is correct because mischief could ensue in the creation of an opinion resolved by a plurality). Hartnett cites Stearns’ suggestion that the deliberations for *Bush v. Gore*, 531 U.S. 1060 (2000) may have faced a judgment impasse if a plurality would have carried the day, as four Justices favored remand. *Id.* at 670. Stearns and Abramowicz speculated that Justices Souter and Breyer failed to convince either Justices Kennedy or O’Connor to switch to a meaningful remand, thus collapsing the possibility of affirmance and forming a majority outcome where the three favoring reversal switched to an empty remand. Michael Abramowicz & Maxwell L. Stearns, *Beyond Counting Votes: The Political Economy of Bush v. Gore*, 54 VAND. L. REV. 1849, 1947–50 (2001). These authors suggested “[the] Chief Justice and Justices Scalia and Thomas accepted Bush’s equal protection argument and Justices O’Connor and Kennedy did not reach Bush’s Article II argument in order to avoid revealing the paradox of Bush winning the judgment even though he lost each issue.” Hartnett, 44 WM. & MARY L. REV. at n.96. As an example of a desire to change the law through personal conviction, or perhaps alternatively, as an example of a changed determination of what the Rule of Law requires, see *Callins v. Collins*, 510 U.S. 1141, 1154–59 (1994) (Blackmun, J., dissenting) (finding the death penalty unconstitutional and vowing to join Brennan, J., and Marshall, J., in dissent to every capital case thereafter).

¹²⁵ Despite all earnestness with which Supreme Court Justices and their clerks perform their duties, one fatal flaw dooms the Court’s decisionmaking process to permanent incoherence and indeterminacy. Like any legislature, the Court makes collective decisions. Kenneth Arrow’s impossibility theory, launched to expose the folly in attributing consistency and rationality to legislative voting, has surprisingly left the judiciary almost unscathed. The academy almost adheres to a fantasy of an almighty, perfectly rational Court that operates in some nonexistent legal nirvana—“almost” . . . because Judge Easterbrook authoritatively demonstrated how the Court’s collective decisions will stay inconsistent. Jim Chen, *The Mystery and the Mastery of the Judicial Power*, 59 MO. L. REV. 281, 297–98 (1994) (citing Frank H. Easterbrook, *Ways of Criticizing the Court*, 95 HARV. L. REV. 802, 814–23 (1982)). Chen incorrectly concludes that “the application of public choice theory to judicial decisionmaking suggests that the most important factors in any Supreme Court case may never explicitly appear [in the U.S. Reports]. . . . [A]ny imaginable rule can emerge from the Court [with the right catalyst, human or not human].” *Id.* at 299. “Arrow’s theory confirms this descent into chaos—this swan dive propelled by the ‘material self-interest of the judges’—is inexorable and irreversible.” *Id.* at 298. This Article suggests that Chen and Easterbrook carry Arrow’s proof too far. First, Farber’s 2D map metaphor offers some insight into the misunderstanding. The position that Arrowian criteria renders any attempt at cohesiveness

Easterbrook concluded Arrow leaves one option: relax Transitivity, and accept its inevitably arbitrary and inconsistent outcomes. A better answer is to relax Independence, and acknowledge that judges may assert intensity preferences. Relaxing Independence in favor of subjective cardinal bargaining (and majority rule) guarantees a statutory interpretation result in an adjudicated case. While the idea that judges objectively “apply” the Rule of Law is lost, the potential to make a single coherent decision in every case is gained. Further, the bargaining does not invoke concerns with the jurisprudential process.

Judges need not rank preferences in an ordinal sequence. Rather, intensities can and should be used. When an appellate court makes a decision, the foresight of the judges is crucial. The judicial query “How will this decision affect the next case?” anticipates future cases as if a judge were making a contract with a future court’s interpretation of a present adjudication.¹²⁶ While this is magnified most obviously by Supreme Court holdings, the analysis applies at all state and federal appellate bodies. Judges make subjective decisions when selecting between approaches for legal interpretations.

Lewis Kornhauser and Lawrence Sager note that strategic behavior for judging seems implicitly pejorative, but assert that in truth, it is the norm for judges to sacrifice details of their subjective beliefs in the service of producing an outcome and opinion attributable to the court.¹²⁷ Simply, sometimes judges will switch votes because of their priorities among different methods of jurisprudential decision-making. However, this Article argues that bargaining is necessary in every single case.

This Article does not contend that filibusters or log-rolling must occur as patently as within a legislature.¹²⁸ The tradeoff, “I’ll vote for your views on *Smith v. Jones* if you vote for me in *Marbury v. Madison*,” is not required to relax Independence. Nor does bargaining require a

useless is not persuasive because Independence may be relaxed. Further, Hansen’s explanation shows there is little to be said by Arrow. It is simply a puzzle proving one fact, but when the rules are relaxed the anathema result is removed as well.

¹²⁶ “The existence of cycles influences the way judges write their opinions. . . . [I]t is important for each group of judges to write separately in order to preserve its options for the next round of cases.” Richard A. Epstein, *The Independence of Judges: The Uses and Limitation of Public Choice Theory*, 1990 BYU L. REV. 827, 840–41 (1990) (citing Frank H. Easterbrook, *Ways of Criticizing the Court*, 95 HARV. L. REV. 802 (1982)).

¹²⁷ Lewis A. Kornhauser & Lawrence G. Sager, *The One and the Many: Adjudication in Collegial Courts*, 81 CAL L. REV. 1, 52–53 (1993).

¹²⁸ Evan H. Caminker, *Sincere and Strategic Voting Norms on Multimember Courts*, 97 MICH. L. REV. 2297 (1999) (considering whether a judge may appropriately engage in strategic behavior). Caminker argues that strategic vote trading may further legitimate judicial objectives, but is not clearly so beneficial as to withstand against objections suggesting that it is improper judicial behavior. *Id.* at 2380 (concluding that there is no clear answer yet).

financial benefit traded for votes. Instead, Independence is sufficiently relaxed by the simple replacement of ordinal preferences with cardinal preferences.

Cardinal bargaining is essentially represented as, “How strongly, on whatever subjective scale you choose, do you, your Honor, care about how to conclude the *Smith* case?” Johnathan Nash cites the strategy in multimember courts to offer an example of what Nash calls the “stopping rule.”¹²⁹ This phenomenon exists where a court explaining a new rule of law deliberately refuses to identify distinct elements of a test, and instead provides for a “balancing test.” One view of such action is that the court allows tensions in the choice of voting protocols to percolate. Alternatively, the court may decide between a desire to adjudicate with “issue voting” or with “outcome voting.” Either way, the judges comprising the majority strike a judicial bargain.¹³⁰

Consider a 2-1 opinion in an appellate court that distinguishes relevant precedent “on the facts.” Alternatively, consider a 2-1 opinion including a balancing test. Such a bargain, although merely a balancing test and not a conclusive and clear “per se” rule, might seem to provide more predictability than an outcome where a three-member court writes a “per curiam” opinion, a concurrence, and a dissent.¹³¹ Predictability in the law does not exist because judges apply an objective Rule of Law. In every subsequent case, the appellate court bargains over the precedent set below, re-interpreting the case, statute, or constitutional issues that surface within the suit. Bargaining occurs whether the precedent is a 2-1 adjudication or an *en banc* 11-0 decision. The interpretation is subjective.

The fear is that perhaps judges could take strategies too far. Kornhauser and Sager suggest that a judge may “cross the line” if a judge “disingenuously joins an opinion dismissing a case on justiciability . . . to avoid an outcome on the merits she regards as unjust.”¹³² The

¹²⁹ Johnathan Remy Nash, *A Context-Sensitive Voting Protocol Paradigm for Multimember Courts*, 56 STAN. L. REV. 75, 158–59 (2003) (recommending *en banc* reviews to limit the doctrinal paradox).

¹³⁰ *Id.*

¹³¹ For another example of judicial bargaining over the direction of antitrust law, see William E. Kovacic, *Antitrust Decision Making and the Supreme Court: Perspectives from the Thurgood Marshall Papers*, 42 ANTITRUST BULL. 93, 97–99 (1997). For an example of a judge who arguably changed his mind about an originalist position, see *Gonzalez v. Raich*, 545 U.S. 1, 33 (2005) (Scalia, J., concurring) (stating that marijuana “grown at home and possessed for personal use [is commerce among the states, partly because it is] never more than an instant from the interstate market . . .”).

¹³² William E. Kovacic, *Antitrust Decision Making and the Supreme Court: Perspectives from the Thurgood Marshall Papers*, 42 ANTITRUST BULL. 93, 97–99 (1997). As an example of bargaining at or near the line, Evan Caminker cites Justice Brennan’s position in *Craig v. Boren*, finding that statutory or administrative sex classifications were subject to intermediate scrutiny, as a strategic vote to establish a

concern is understandable from the law-reader as the law-giver, but there is no objective mechanism in interpretation prohibiting such conduct.

4. The Goal is a Decision

Individual preferences between judges are necessary for appellate court adjudication, so legislative intent alone cannot be the only source fueling interpretations. Rather, as critical legal scholars posit, the Rule of Law depends on the personal and jurisprudential philosophies the judges bring to deliberations.¹³³

This does not undermine the law if courts are properly considered. Though the liberal project must fail, it is not a tragedy since jurisprudential compromises should not be considered awkward or suspicious.

If judges on a court must bargain to avoid Arrovian problems, they use subjective guidance to provide transitivity and coherence to adjudication. But if the alternative is that preferences from a minority of judges control over a majority, the alternative is no longer feasible. Yet this would occur if Pareto were relaxed. Even less promising, if Non-dictatorship were relaxed, only one vote would be necessary to defeat all other votes. However, even this scenario does not comprise the ultimate decision-making failure. The worst option is to relax Transitivity, where at times all persons could vote the same way but could produce an outcome in which the victor is not based on any votes cast. Such incoherence in adjudication is resolved when Independence is relaxed. Each judge identifies the principles of meaning for a statute, judicial

“durable precedent for intermediate scrutiny rather than voting sincerely for strict scrutiny.” Evan H. Caminker, *Sincere and Strategic Voting Norms on Multimember Courts*, 97 MICH. L. REV. 2297, 2380 (1999) (citing *Craig v. Boren*, 429 U.S. 190 (1976)). Compromises between personal, watershed desires and actual outcomes abound in Constitutional Law. For example, Justice Black’s stance on freedom of speech; Justice Brennan on equal protection; *see also* Justice Scalia’s approach to the Commerce Clause using originalism in *Gonzalez v. Raich*, 545 U.S. 1, 34 (2005) (Scalia, J., concurring).

¹³³ *See* Paul Carrington, *Of Law and the River*, 34 J. LEGAL EDUC. 222 (1984); Paul Martin et al., *Of Nihilism and Academic Freedom*, 35 J. LEGAL EDUC. 1, 1–26 (1985) (debating the usefulness of critical legal studies, nihilism, and the Rule of Law). *See also* Nicholas S. Zeppos, *Judicial Candor and Statutory Interpretation*, 78 GEO. L.J. 353, 381 (1989) (noting Judge Calabresi’s suggestion that courts should constantly examine current legal developments, but also current social, economic, moral, and political values). For an additional example, Maxwell Chibundu suggests that legal ideas can be derived from “without law” and are “legal” by virtue of translation into practice of law. His “applied structuralism” approach considers background context, similar to Dworkin’s method, and applies this as a limitation to interpretation. Maxwell O. Chibundu, *Structure and Structuralism in the Interpretation of Statutes*, 62 U. CIN. L. REV. 1439, 1443, 1492–94 (1994). However, such subjective considerations do not show how one would or should interpret a statute, constitution, or prior case law.

opinion, or basic values through personal predilections. This adjudicative use is based on personal power, but is necessary.¹³⁴

How may a judge wield this power in light of the “degradation ceremony” and what Tushnet calls society’s “deep assumptions prevalent in our culture?” The question is whether strategy is inappropriate. Michael Wells has suggested that “[i]ntegrity in adjudication is not necessarily abandoned with strategic bargaining.”¹³⁵ Initially, this may not seem to lead to predictable processes. However, communal adjudication cannot be expected to be 100% predictable since it depends on subjective human desires. This becomes apparent upon acceptance that the law changes when the members of the judiciary shift.

Empirical studies confirm that appellate courts do make policy judgments based on political inclinations.¹³⁶ As anecdotal evidence of this, one Justice famously asked his law clerks “What [is] the most important thing to know about the Supreme Court?” The Justice “would pause, then hold up his five fingers and explain that five votes enable a Justice to do anything.”¹³⁷ This transforms the judge/law-reader into the

¹³⁴ See William N. Eskridge, *Overruling Statutory Precedents*, 765 GEO. L.J. 1361, 1425 (1988) (citing *stare decisis* as a dynamic issue which the Court continues to grapple with, and suggesting it is sometimes beneficial to be “dynamic,” even if that results in the need to contradict express statutory language).

¹³⁵ Wells, M., *Busting the Hart & Weschler Paradigm*, 11 CONST. COMMENT. 557, 579 (1995) (discussing integrity, Dworkinism, and the coherence of the courts).

¹³⁶ See, e.g., Richard L. Revesz, *Environmental Regulation, Ideology, and the D.C. Circuit*, 83 VA. L. REV. 1717 (1997) (finding empirical evidence that judges’ personal policy judgments do intrude into the Rule of Law in the D.C. Circuit); Tracey E. George, *Developing a Positive Theory of Decisionmaking on U.S. Courts of Appeals*, 58 OHIO ST. L. J. 1635 (1998) (demonstrating through mathematical modeling that circuit judges behave according to “attitudinal” models and “strategic” models); Sanford Levinson, *Law as Literature*, 60 TEX. L. REV. 373, 391 (1982) (cautioning that there is no Rule of Law, only power, then likening judicial decision-making to the interpretation of literature to conclude that there may be no limits to judicial proclivities).

¹³⁷ *Panel Discussion: Remembering a Constitutional Hero*, 43 N.Y.L. SCH. L. REV. 13, 21 (1999); Jim Chen, *Correspondence: A Vision Softly Creeping: Congressional Acquiescence and the Dormant Commerce Clause*, 88 MINN. L. REV. 1764, 1799 (2004). See also James F. Simon, *Dialogue: Speech: Politics and the Rehnquist Court*, 40 N.Y.L. SCH. L. REV. 863, 875 (1996) (discussing that, alternatively, this may have been an explanation for how the Supreme Court makes erroneous decisions, as this may more often have occurred “[e]arly in a term, usually after one of Justice Brennan’s new law clerks had raged over a hopelessly wrongheaded majority opinion by one of Justice Brennan’s more conservative colleagues. . . .”); *Transcript: Looking Back on Penn Central: A Panel Discussion with the Supreme Court Litigators*, 15 FORDHAM ENVTL. LAW REV., 287, 307 (2004) (recounting how in a conversation about the *Penn Central* takings case, a former law clerk explained his role and his perception of the Justice’s role: “[F]rom a law clerk’s perspective, the main importance of oral argument was that it was an opportunity to get a sense of what the other Justices thought. [The former clerk then explained legal disputes he would eventually write about in the opinion]” and discussing the writing of the actual opinion: “But I was trying very hard really to hold the Court, that

law-giver if he or she is shifting the law one way or another based on bargains.¹³⁸

In response to nihilist inferences that may mistakenly surface in this Article, there is nothing fundamentally flawed or “wrong” with the conclusion that law may not be “applied.” Rather, properly internalized and expected by the public, politicians, and judges, this analysis shows what the appellate judiciary is useful for, and what it is not. An appellate court may provide a “reasonable” interpretation of any text, may assert a compromise indicating a reasonable analysis of what “legislative intent” was found, and what that intent is, or even make an “unreasonable” decision about a new course of the law.¹³⁹ Under the Arrowian decision-making mechanism, the “unreasonable,” jurisprudentially speaking, is just as legitimate an adjudication as a “reasonable” decision. Majority rule is followed. No guidance may be found before a case is decided by any objective “science of interpretation,” and this should be acknowledged.

Concededly, judges do make decisions based on power rather than with an objective metric. Even the contracts that may exist between judges and future adjudicators cannot prohibit, on any clear jurisprudential principle, an unintended re-interpretation. If the judiciary receives

was the number one objective when you were working on an opinion for [the Justice], to produce an opinion that at least five Justices would join that would hold the Court.”)

¹³⁸ For a critique against using Arrow in the manner applied in this Article, Richard Pildes and Elizabeth Anderson argue against applying Arrow to the law. These authors posit that Arrow, and social choice theory in general, are simply “irrelevant” to democratic values because “the values people care about . . . are plural and often incommensurable [and therefore] cannot be expressed adequately through consistent preference rankings over outcomes described in the sparse terms available to social choice theory.” Richard H. Pildes & Elizabeth S. Anderson, *Slinging Arrows at Democracy: Social Choice Theory, Value Pluralism, and Democratic Politics*, 90 COLUM. L. REV. 2121, 2142 (1990). Pildes and Anderson suggest that public choice is specifically useless regarding incommensurable values of “forming a more perfect Union,” and “securing blessings of liberty” as ideals incapable of being restricted to consequentialist preference rankings. *Id.* at 2146. This Article disagrees with their implicit assumptions. Arrow does not attempt to restrict the search for a “more perfect Union” or “liberty,” nor free speech or equal protection. Rather, Arrow presented a cooperation problem. When a statute is presented, voted upon, and passed, it may have specific aspects such as time limits, quotas, or concepts that must be interpreted. There are indeed democratic principles at work, but without some boundaries, cases could not be decided. Their assertions are too amorphous to apply as a constructive critique of social choice and thus this Article suggests their argument should be dismissed.

¹³⁹ See generally *N.Y. Times v. Sullivan*, 376 U.S. 254 (1964) (finding that the “actual malice” standard protects libel defendants), *Roe v. Wade*, 410 U.S. 113 (1973) (finding most laws against abortion violate constitutional privacy protections), *Lochner v. New York*, 198 U.S. 45, 75 (1905) (Holmes, J., dissenting) (finding that a constitution does not embody a particular economic theory); *Miranda v. Arizona*, 384 U.S. 436 (1966) (delineating constitutional protections for criminal defendants).

support because society assumes the law is applied objectively, and this is the source of legitimate adjudications, injunctions, and judgments, society places its expectations on an empty concept. If it is “wrong” to allow judges to bargain, it should be regarded as equally wrong, if not irrational, to expect the mathematically impossible.

This Article argues that society must acknowledge how judges bargain to escape the Arrovian proof. It is the severity of the proof put forth in this Article that provides legitimacy for the use of cardinal preferences.

V. SUBJECTIVE USE OF A POWERFUL POSITION FORMS THE “RULE OF LAW”

A. Review

This Article concludes that the law-reader is the law-giver in appellate courts. Though the claim is not new, the proof offered is novel. Colin Diver, Sanford Levinson, and many others have stated that statutory interpretation, like literary interpretation, is “unavoidably an act of creating meaning. The very choice of principles by which the search for meaning is to be guided stamps the interpreter’s personality indelibly on the outcome of the inquiry.”¹⁴⁰ This Article is distinguishable from Diver, Levinson, and others not because it disagrees with this notion, but because it shows the severe mathematical *need* for these personal choices by appellate judges. Unlike Levinson, the argument does not make its assertion based on experience; rather, it derives its strength from an important and strict mathematical proof. The discretion of appellate judges allows coherence to exist in judgments; without it, important ethical norms fail and judicial dictators or mathematically arbitrary outcomes would exist.

The consequence is that the appellate courts’ voting mechanism for adjudication is not restrictive. As Henry Hart stated, judges serve to reasonably interpret legislators, who in turn are “reasonable persons pursuing reasonable purposes reasonably.”¹⁴¹ This is not more restrictive or helpful than using the guidance of “political morality.”¹⁴² Appellate adjudication is a continuing argument that morphs based on the powers and political morality wielded by judges. This opens the debate to the

¹⁴⁰ Colin S. Diver, *Statutory Interpretation in the Administrative State*, 133 U. PA. L. REV. 549, 582–83 (1985). See also Sanford Levinson, *Law as Literature*, 60 TEX. L. REV. 373, 391 (1982).

¹⁴¹ HENRY HART & ALBERT SACKS, *THE LEGAL PROCESS: BASIC PROBLEMS IN THE MAKING AND APPLICATION OF LAW* 1415 (10th ed. 1958).

¹⁴² Scalia, *supra* note 9.

“science of interpretation,” and some may find this problematic. What principles pose to a judge, a “cost” or “benefit” within the realm of his personal jurisprudential viewpoint to influence the outcome of the instant case? How does a specific group of judges view a cost-benefit analysis range in any specific case? Judges must bargain over which principles to employ on a case by case basis, wielding subjective preferences to analyze text, intent, or a “living constitution” concept, all framed by restrictions from precedent. The imposition of “precedent” is itself analyzed through subjective preferences, and is always susceptible to the bargains that accompany upcoming cases on the docket.

B. Contracts and Stare Decisis: This Court and the Next

The proclivities of appellate judges are paramount in adjudication since objective correctness can never be achieved.¹⁴³ The fear, however,

¹⁴³ Notably, even the controversial area of judicial lawmaking has support from the American people and Congress. See RALPH E. SHAFFER, *THE BORK HEARINGS: HIGHLIGHTS FROM THE MOST CONTROVERSIAL JUDICIAL CONFIRMATION BATTLE IN U.S. HISTORY* 29 (Markus Wiener Publications 2005). For example, Senator Specter, during the Bork Hearings, stated:

I do not disagree with your interpretation of antitrust law, and I do not intend to pursue it any further. The limited point that I seek to make here on antitrust laws is the difficulty of finding congressional intent and the wide range of judicial discretion which necessarily applies. The practical effect of a judge’s role is to apply that discretion and not to be able to really find what legislators’ [sic] intend, and to try and make some sense out of what a judge may conclude to be a pernicious law, and to try to make some sense out of conflicting statements in the Congressional Record. A judge’s role is to really try to pull the whole picture together, and that is the tradition of the law, and I think appropriately so. . . . But I do think as you apply that beyond the antitrust field, into other legislative lines and into constitutional lines, there is a broader, traditional role of the judge in applying values to the needs of the nation beyond what you can find in some specific intent.

Id. (emphasis added).

However, Judge Bork stated:

If I were a legislator, I would clearly vote for the smoke pollution ordinance and I would vote against the anti-contraceptive ordinance, and as a citizen I would oppose the anti-contraceptive statute and I would vote for the smoke pollution statutes. . . . The judge may not have a hierarchy of values that does not come from the Constitution. He may not say to a consumer: ‘You value your low-cost electricity, but that’s an ignoble value, whereas the other is a noble value’ unless the Constitution tells him to make that choice. . . . That is the only reason I say the judge has no way to tell those two cases apart if the Constitution does not speak.

Id. at 93.

Bork concluded that the difference between elected representatives and unelected judges is something society fails to respect. Robert H. Bork, *The Judge’s Role in Law and Culture*, 1 AVE MARIA L. REV. 19 (2003). See also *Lochner v. New York*, 198 U.S. 45 (1905) (Holmes, J., dissenting) (invalidating legislation seeking to benefit the poor, workers, or other social groups by interfering with individuals’ freedom to contract and

involves any single judge emphasizing principle *x* as important even though it may not be important for all.¹⁴⁴ One may demand Tushnet's "socialization" because of suspicion toward the arbitrary, to foster predictability. Richard Epstein comments, "[w]here there is some awkward compromise and accommodation, there is little to keep the purist in us happy" and, "[l]ike Caesar's wife and baseball umpires, a judge must be above suspicion" [of bias, whence the danger of socializing with lawyers or of judging cases where the judge has financial interest, etc.]"¹⁴⁵

However, even more essential than predictability is the foundational requirement of simple coherence. This Article demonstrates that the solution to Arrow's Impossibility Theorem is to relax an assumption to create coherence in adjudication. To suggest any other restriction that cannot be as restrictive as the Independence assumption is to ask a judicial body to interpret a law, regulation, or perhaps an "ethical code" purporting to guide it. Judges cannot stay objective because this mechanism of restricting themselves is also subject to Arrow's Proof. The appellate body cannot objectively apply the background control. In sum, alternatives cannot restrict the decision-making process once Independence is relaxed.

The last potential restriction available to perhaps save the liberal project is the notion that judges contract to interpret. After dismissing the possible use of this restriction in the following section, the Article examines *stare decisis*.

1. Are Contracts the Answer? No.

Suppose judges attempt to interpret not through objectivity, but by actually attempting to contract with one another? Perhaps this approach

individual property rights). *See, e.g.*, *Callins v. Collins*, 510 U.S. 1141 (1994) (Blackmun, J., dissenting) (finding the death penalty unconstitutional and vowing to join Brennan, J., and Marshall, J., in dissent to every capital case thereafter).

¹⁴⁴ This is a critique of substantive due process. *See e.g.*, *Adkins v. Children's Hospital*, 261 U.S. 525 (1923) (striking down minimum wage laws for women and children); *Lochner v. New York*, 198 U.S. 45, 76 (1905) (Holmes, J., dissenting) (finding "a constitution is not intended to embody a particular economic theory, whether of paternalism and the organic relation of the citizen to the State or of *laissez faire*"); *Lawrence v. Texas*, 539 U.S. 558, 605 (2003) (Thomas, J., dissenting) (finding no Constitutional power to protect "liberty of the person both in its special and more transcendent dimensions."). This social utility problem is illustrated by the problems of determining which groups should be protected as minorities and how to discern the guiding principle for that query. *See United States v. Carolene Prod. Co.*, 304 U.S. 144, 152 n.4 (1938) (suggesting that the anti-majoritarian guide is the principle for protecting "discrete and insular minorities").

¹⁴⁵ Richard A. Epstein, *The Independence of Judges: The Uses and Limitation of Public Choice Theory*, 1990 B.Y.U. L. REV. 827, 834, 855 (1990).

might suffice for society's views of appellate legitimacy. Judges would enter contracts with future judges via single adjudications, in order to interpret the law. In this vein, judges would consider past bilateral as part of their subjective preferences.¹⁴⁶

Yet each case will still demand compromises among a wide field of equally legitimate possibilities under textualism. It will also create the mathematical inability to determine whether an objectively correct adjudication accords with any interpretive mechanism, including intentionalism. If judges prefer to hold themselves to bargains from the past, the argument would demand a formulation of some semblance of predictability. Independence would sufficiently be relaxed, because an objective standard was not attempted. However, a personal preference to uphold a former contract is simply one of many options available to each judge.

The same problem corresponding to textualism and intentionalism surfaces in this instance.¹⁴⁷ A judge's attempt to read the intent of the "old contract" of a prior adjudication (precedent) is subject to the Arrovian problem at the heart of this Article. The result is that contracting forfeits an objective standard. This still fails to provide an "apply-able" mechanism in interpretation. Furthermore, contentious issues pose complexities. How does one contract in the face of changing social mores and expectations? Consider Justice Brennan's "five-fingered approach" to adjudication as an example of the power of one vote.¹⁴⁸

In the end, the imperative use of the subjective illustrates why appellate courts so often seem to struggle when dealing with our nation's important cultural issues, federal and state powers battles, and statutory interpretations. This is not to say that an attempt to promote fidelity with the past is futile. Rather, the attempt is simply one preference to be compared with textualism, pragmatism, Dworkinism, etc., because all potentially provide a determination of "reasonableness," which is the true high watermark for interpretation, without an objective restriction.

¹⁴⁶ Nicholas Zeppos stated that "if the motivations and intentions of the legislature are impossible to discern, it seems equally probable that it is also impossible to extract the 'real' motivations of our often inscrutable courts." Nicholas S. Zeppos, *Judicial Candor and Statutory Interpretation*, 78 GEO. L. J. 353, 412 (1989). Zeppos discussed judicial candor, and concluded that there was not enough knowledge about the judicial process to assert a call for judicial candor. A deeper understanding of the motivations and intentions of the judiciary is necessary to understand the depth and success of the above restrictions. This is an area poised for future research in public choice. *See also* MUELLER, *supra* note 23, at 401 (noting that the motivation of judges "remains largely an empty black box in the public choice literature").

¹⁴⁷ *See supra* Part IIIA.

¹⁴⁸ *See supra* note 137 and corresponding text.

2. *Stare Decisis*

Stare decisis is important in light of Arrow's consequences for jurisprudential theory. Alexander Hamilton wrote of a predicted "feebleness" of the judiciary relative to the other branches because the judiciary should not exert "force of will" to create laws in sufficient number to do damage.¹⁴⁹ Expecting judges to be tied down by precedent, Hamilton found less reason to worry about judicial tyranny.¹⁵⁰

But judges are not "tied down" by the "application" of precedent, as Chief Justice Roberts offers, since that application cannot result from an objective tool.¹⁵¹ To believe otherwise is to incorrectly presume that group-decision limitations are non-existent. Ignorance of the Arrovian failure may lead to a view that an objective application of law seems to support *stare decisis* theory. Discovering the failure may rock one's faith in adjudication, and may taint perception of federal judges who are nearly absolved of restraints after they are appointed.¹⁵² When properly internalizing the capacity of the courts, there is no objective way to show the "correct" interpretation; therefore no interpretation is completely wrong or right.

Consequently, because there is no possible way to determine an objectively correct outcome in communal interpretation, there should be no expectation of legitimate interpretation stemming from an objective application of consistent case law. It follows that since there can be no one "right" interpretation,¹⁵³ then appellate courts can offer nothing more

¹⁴⁹ THE FEDERALIST NO. 78 (Alexander Hamilton).

¹⁵⁰ *Id.*

¹⁵¹ *See supra* note 1.

¹⁵² "A federal judge can be lazy, lack judicial temperament, mistreat his staff, berate without reason the lawyers who appear before him, be reprimanded for ethical lapses, verge on or even slide into senility, be continually reversed for elementary legal mistakes, hold under advisement for years cases that could be decided perfectly well in days or weeks, leak confidential information to the press, pursue a nakedly political agenda, and misbehave in other ways that might get even a tenured civil servant or university professor fired; he will retain his office." RICHARD A. POSNER, *OVERCOMING LAW* 111 (Harvard University Press 1995). *See also* United States v. Microsoft Corp., 253 F.3d 34, 108 (2001) (citing multiple statements by the trial court judge regarding his "distaste for the defense of technological integration," while commenting on Bill Gates' business ethics failings, and an overall bias against the defendant).

¹⁵³ Such subjective decisions may be cases involving fundamental rights. *See* Planned Parenthood v. Casey, 505 U.S. 833, 851 (1992) (finding certain rights to abortion protected under Constitution—"At the heart of liberty is the right to define one's own concept of existence, of meaning, of the universe, and of the mystery of human life. Beliefs about these matters could not define the attributes of personhood were they formed under compulsion of the State."); *see also* Lawrence v. Texas, 539 U.S. 558, 574 (2003) (adopting the language of *Planned Parenthood v. Casey*, finding adult consensual conduct protected by Constitution); S. Burlington County. N.A.A.C.P. v. Mount Laurel, 92 N.J. 158 (1983) (encouraging a municipality to require a developer to set aside 20% of

than debates about which argument is more persuasive than another. The courts, at best, vacillate on the bell curve of “reasonable judges interpreting reasonably,” and continuing discussion ensues rather than rote algorithms. Appellate courts are thus never objectively nor concretely applying *stare decisis*; they only create a reasonable interpretation of precedent.

Judge Easterbrook has argued that precedent “cuts down on idiosyncratic conclusions by subjecting each judge’s work to a test of congruence with conclusions of those confronting the same problem.”¹⁵⁴ This may be true, but it only indicates that an appellate court is signaling the course of future cases to future litigants. Lawyers may internalize the facts of cases to make predictions, but there is no application of objective criteria.

Easterbrook also claims that *stare decisis* will create “path dependence”—the phenomenon of arbitrary factual predicates developing the law.¹⁵⁵ This idea should be dismissed if it is posed as an objective control, because each case includes a re-interpretation of previous cases. Judges “bargain” over former meanings. In other words, they alter outcomes using intensity preference to “fix” the effect of specific precedents, perhaps by “distinguishing” them, thus avoiding the path dependence problem.¹⁵⁶ Stated another way, there can be no path dependence when there is no objective rule of law applied. Even the

proposed housing units for “inclusionary,” as opposed to exclusionary, purposes, under state constitutional substantive due process and equal protection grounds).

¹⁵⁴ Frank M. Easterbrook, *The Federalist Society Sixth Annual Symposium on Law and Public Policy: The Crisis in Legal Theory and The Revival of Classical Jurisprudence: Stability and Reliability in Judicial Decisions*, 73 CORNELL L. REV. 422, 423 (1988).

¹⁵⁵ *Id.* at 426 (stating that “[n]o sound system of law allows such fundamental questions to turn solely on the order in which cases arrive for decision—but *stare decisis* could do so unless tempered”).

¹⁵⁶ Many commentators agree there is a path dependence problem. *See, e.g.*, Cass R. Sunstein, 106 HARV. L. REV. 741, 786 n.150 (1993) (“A strong theory of *stare decisis*, combined with commitment to analogical thinking, may alleviate some of the cycling problems and this produce greater stability in law, but it will be difficult to achieve real coherence through decentralized, multimember courts. . . . [A]nalogical reasoning [may] diminish cycling; but the problem of path dependence will result in a high degree of arbitrariness.”); Lewis A. Kornhauser & Lawrence G. Sager, *The One and the Many: Adjudication in Collegial Courts*, 81 CAL L. REV. 1, 11 (1993) (“The fact that a court in a rather simple case . . . could face a choice between two voting protocols, each of which seems quite reasonable . . . yet discover that the outcome of the case will turn on the choice between them, is the product of a structural paradox latent in appellate adjudication.”). Kornhauser and Sager suggest that a multimember court should first ask how it should collectively decide the case in light of the complexities of issues versus outcome voting. *Id.* at 30. The authors conclude that at times multimember courts should adopt issue-by-issue voting. Otherwise, arbitrary identities and personal beliefs of any particular judge will be overly important. *Id.* at 38.

seemingly “black letter law” cases must always be bargained for using the cardinal tool of the intensity of conviction.

In conclusion, many people, including judges, expect courts to simply “apply” *stare decisis* in a case, or perhaps at the very least not suffer from choosing among an open array of irreconcilable yet equally plausible terms in every single case. Appellate decisions inherently carry a limitation controverting the assumed legitimacy and purported strength of *stare decisis*, if that strength derives from a legal “application.” Hamilton’s Federalist Papers argument may be best: the efficacy of judges and *stare decisis* depends on the reasonable, and security for liberties rests ultimately in “public opinion, and on the general spirit of the people and of the government.”¹⁵⁷ Paraphrasing Hart, reasonable judges make decisions about how legislators and judges are reasonable persons seeking reasonable purposes, reasonably.¹⁵⁸ The description captures the essence of jurisprudential *stare decisis*.

VI. CONCLUSION

This Article examines the impact of Arrow’s proof on appellate jurisprudence. It considers whether the current understanding of the interaction between legislatures and the judiciary is correct—specifically within the multimember courts. The Article first reviewed Arrow’s Impossibility Theorem, and then applied Arrow to legislatures to reach the conclusion that legislative intent is critical to the liberal project’s Rule of Law.

Legislative intent is not precluded by Arrow’s Theorem, which is an important realization in the analysis of the relationship between the judiciary and the legislature. The legislature does not necessarily carry the roots of the judiciary’s failure to apply the law. The Article argues that appellate courts cannot ordinally rank preferences to decide cases, but must bargain to perform statutory interpretation. Ordinal rankings demand a dictator, but the Article proves how the dictator problem is solved with cardinal preference ordering which relaxes the Independence axiom. The Article then demonstrates that cardinal bargaining is a necessary precursor for legislative intent and functions as a jurisprudential contradiction in the judiciary for the liberal project’s Rule of Law.

¹⁵⁷ THE FEDERALIST NO. 84 (Alexander Hamilton). The desire to create “legitimacy” restricts judges on an individual basis. Judges must mind their acts because “beyond comparison [the judiciary is] the weakest of the three departments of power . . . [and] all possible care is requisite to enable it to defend itself against their attacks.” THE FEDERALIST NO. 78 (Alexander Hamilton).

¹⁵⁸ See *supra* note 141.

This result seems to contradict a “purist” view of the Rule of Law. Vote-trading, strategizing, or bargaining over the precious Rule of Law seems beneath the conduct of appellate judges, and more like activity in a sausage factory.¹⁵⁹ However, relaxing the Independence of Irrelevant Alternatives axiom is not just practical, but also the only axiom that may be relaxed in multimember courts. This method sustains fidelity to majority rule in the decision-making process, providing an avenue for adjudication of cases. The realization should not shatter assumptions of predictability desired in the Rule of Law. Rather, it explains what functions appellate courts may be fit to fulfill and where they will fail. If mere finality is desirable, then allowing appellate courts to interpret regulations provides greater potential for individuals to internalize expectations of how courts in the future would treat similar legal issues. Unpredictability remains, but future potential parties internalize this so settlements may occur within range of unpredictable outcomes. Alternatively, if society expects appellate courts to avoid political morality judgments in all cases, the expectation is irrational. The only workable expectation is that political power must be wielded by judges, and is not objectively “applied.”

Without some sort of cardinal bargain, incoherence is inevitable—the judiciary’s interpretation of statutes would be arbitrary with inconclusive adjudications punctuated by random failures of the majority rule. Consequently, the law would develop in an irrational, piecemeal manner.¹⁶⁰ However, this does not occur.

The existence of the conflict between objectivity and political power is confirmed by this Article. However, bargaining should not be considered hidden, secretive, or invidious—and is certainly not “wrong.” It is necessary and thus “acceptable,” notwithstanding fears of “nihilism.” Interpreting G. Calabresi, the search for truth should trump fears that the foundation for the rule of law is upon gossamer cables. This is the task when looking in jurisprudence’s “dark corners.”¹⁶¹

The result of an Arrovian analysis applied to decision-making in appellate courts reveals that the most controversial cases in law are

¹⁵⁹ “I have seen sausage being made (for two summers, when I worked my way through college by working the graveyard shift at a meat packing plant), and I have seen the [Supreme] Court make law. It is not like making sausage. Instead, our system of Constitutional liberties, protected by our state and federal courts, has made us the envy of the world. The newly emerging democracies seek to emulate our legal system, and our greatest export has become our Bill of Rights.” 7 RONALD ROTUNDA, *MODERN CONSTITUTIONAL LAW* v (7th ed. Supp. 2005).

¹⁶⁰ ANTONIN SCALIA, *A MATTER OF INTERPRETATION: FEDERAL COURTS AND THE LAW* xi (Amy Gutmann ed., Princeton University Press 1997).

¹⁶¹ Calabresi, G., *Letter*, 34 J. LEGAL EDUC. 1, 23 (1985).

problematic and predictably irreconcilable, if not seemingly hypocritical, but there is a mathematical reason for this. The reason for inconsistency is not necessarily insincerity or deceit by judges, nor even some contemptible strategy by those who appoint them. Rather, institutional limitations exist in the communal procedures of group decision-making in the courts.

The subjective determinations of appellate court judges control the direction of *stare decisis*, which manifests in contracts among judges between themselves and with their future replacements. Yet the legitimacy of *stare decisis* does not result from an “application” of law because that application is impossible. This latter aspect may seem strange, but nevertheless must be accepted as fact. Chief Justice Roberts does not “apply” law. Likewise, the Article’s introductory quotes from Justices Stevens and Ginsburg and Judge and Professor Bork are hortatory refrains; their principles are not “apply-able” either.

Legislative bargaining, and thus the non-existence of the Independence of Irrelevant Alternatives assumption in the legislature, enables the creation of laws. Judicial bargaining, and the same non-existence of the Independence assumption in appellate courts, enables adjudications. Appellate court judges make decisions based on personal perceptions of the best arguments and rhetoric available in a case. While subjective authority is required in judicial decisions, bargains are also necessary because Dworkin’s reputed Herculean decision-maker does not exist and is never appointed to rule. This Article relates how Arrow’s proof reveals the theoretical problems in jurisprudence, but also illuminates how Arrow influences the process of appellate adjudication.