

WHERE DO CONSTITUTIONAL MODALITIES COME FROM?
COMPLEXITY THEORY AND THE EMERGENCE OF INTRADOCTRINALISM

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Justice Oliver Wendell Holmes famously said “hard cases make bad law,”¹ and constitutional scholars and judges generally believe that the hardest constitutional cases involve “modal conflicts,” *i.e.*, conflicts between two methods of constitutional interpretation. So, it would seem, the worst constitutional decisions involve modal conflicts. This essay draws from complexity theory, the study of the unpredictability inherent in complex systems, to argue that resolutions of modal conflicts are not necessarily bad but they are often lawless.

Part I briefly examines the longstanding debate over how courts interpret the Constitution. This discussion will be important to understanding why lawyers and courts have been so uncomfortable with the notion that constitutional law is an evolutionary and creative enterprise; they fear that such a notion will imply that judicial power is arbitrary and therefore illegitimate. In reviewing the most prominent attempts to save law from creativity, Part I focuses on Ronald Dworkin’s interpretationism, which holds that the ideal judge could determine the right answer to a legal question by interpreting the law as a whole, and Phillip Bobbitt’s modal approach, which claims that lawyers and courts interpret the Constitution by considering six and only six modalities of constitutional interpretation. Part I argues that Bobbitt’s modal approach is by far the most satisfying account because, unlike Dworkin’s interpretationism, Bobbitt’s approach complies with the hermeneutic notion that public understanding must rest on common meanings. Part I then observes that even Bobbitt’s account has problems: it fails to explain how lawyers and courts interpret the Constitution when confronting a conflict between the modalities, and it fails to account for or permit the emergence of new modalities.

Part II then discusses some proposed solutions to these two defects in Bobbitt’s modal approach. In particular, Part II focuses on Ian Bartrum’s recent proposal to use metaphor theory to explain how combinations of modalities, or “hybrid-modalities,” can emerge from cases that raise modal

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¹ *Northern Securities Co. v. U.S.* (1904) 193 U.S. 197, 400-01 (Holmes, J., dissenting).
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conflicts. Part II concludes that although Bartrum's use of metaphor theory represents a significant advancement in the debate over this issue, it is still incomplete because it does not capture the unpredictability and randomness in the emergence of new modalities.

Part III proposes that complexity theory, with its focus on the unpredictability and non-linearity of complex systems, provides a better way of understanding the creation of new modalities. After providing some background on the leading complexity theories, this section argues that modal conflicts are instances of legal chaos, analogous to far-from-equilibrium systems in thermodynamics, in which complex forces resonate to produce outcomes that are *ex ante* unpredictable.

Part IV explores precisely how complexity theory can apply to cases involving modal conflicts. Part IV argues that some modal conflicts resemble near-equilibrium systems and do not generate new modalities; some modal conflicts resemble far-from-equilibrium systems and do generate a new combination of modalities, what we can call "hybrid-modalities"; and a final category of modal conflicts are even farther from equilibrium and create new modalities altogether. In describing this final category of modal conflicts, Part IV identifies an emerging modality, what we might call "intradoctrinalism," the interpretation of a particular doctrine in a way that makes all of the Court's doctrines logically cohere.

The paper concludes with some reflection on how complexity theory can apply to other legal problems, such as how courts can reconcile conflicts between competing legal regimes.² The paper thus has both a narrow purpose, to use complexity theory to fill in the gaps in Bobbitt's modal approach, as well as a broader purpose, to advance complexity theory as a means of examining legal problems in general. With this broader purpose, the paper stands alongside recent efforts to place complexity theory at the forefront of the debate over how to explain social phenomena.

I. The Birth of the Constitutional Modalities

Perhaps the most enduring controversy in constitutional law is over how to interpret the U.S. Constitution. This controversy has been going on since the

² For discussions of how courts can reconcile this conflict, see Robert B. Ahdieh, *Dialectical Regulation* (2006) 38 Conn. L. Rev. 863; Robert A. Schapiro, *Toward a Theory of Interactive Federalism* (2005) 91 Iowa L. Rev. 243; Robert B. Ahdieh, *Between Dialogue and Decree: International Review of National Courts* (2004) 79 N.Y.U.L. Rev. 2029.

founding of the republic, but it wasn't really brought to the fore until Herbert Wechsler's famous 1958 Holmes Lecture at Harvard Law School.³ In that lecture, Wechsler contended that for the U.S. Supreme Court to justify its power to review the constitutionality of laws, it must interpret the Constitution according to "neutral principles." This ignited a long debate over how and whether the Court could accomplish this task, leading scholars to reject the neutral-principle enterprise and begin examining the modalities of constitutional interpretation.

A. The Search for Neutral Principles

According to Wechsler, a neutral principle consists of two elements: content generality and equal applicability. Wechsler thus defined a principled decision as one resting on "reasons quite transcending the immediate result that is achieved," and applying to all parties equally, "whether a labor union or a taxpayer, a Negro or a segregationist, a corporation or a Communist."

Wechsler's lecture started a debate over which judicial decisions were actually neutral. Wechsler and some of his followers claimed that *Brown v. Board of Education*⁴ did not rest on a neutral principle because the opinion used education-specific social science to invalidate the "separate but equal" doctrine. But other scholars contended that the *Brown* opinion did in fact rest on a neutral principle, such as the "antisubordination" principle that the government may not discriminate against any racial minority.⁵

The debate turned a corner when Robert H. Bork led a conservative movement in the 1970s arguing that courts must be neutral not only in how they *apply* constitutional principles, as Wechsler had urged, but also in how they *derive* such principles.⁶ For these conservatives, the only neutral way for the Court to derive constitutional principles was to interpret the Constitution according to its original intent, and thus, they concluded, if the Constitution was drafted to favour free enterprise over communism, then courts should simply favour corporations over workers.

³ The following year, this lecture was turned into a Harvard Law Review article. Herbert Wechsler, *Toward Neutral Principles of Constitutional Law* (1959) 73 Harv. L. Rev. 1.

⁴ (1954) 347 U.S. 483.

⁵ See, e.g., Louis H. Pollack, *Racial Discrimination and Judicial Integrity: A Reply to Professor Wechsler* (1959) 108 U. Pa. L. Rev. 1.

⁶ See, e.g., Robert H. Bork, *Neutral Principles and Some First Amendment Problems* (1971) 47 Ind. L.J. 1.

Seeing that conservatives and liberals would not agree on what constituted a neutral principle, many leftist constitutional scholars began to reject the entire neutral-principles enterprise. Many of these scholars drew from hermeneutic philosopher Charles Taylor, who, in his famous essay “Neutrality in Political Science,”⁷ argued that because human interpretation and understanding are value-laden, normativity imbues any study of human relations. As Taylor put it, no theoretical framework is absolutely value-neutral because each framework “secrete[s] a certain value position.”⁸

In a significant Harvard Law Review article in 1983, Mark Tushnet applied this thinking to constitutional law.⁹ In that article, Tushnet drew from hermeneutic philosophy to argue that both Wechsler’s neutralism and Bork’s originalism wrongly assumed a stability and determinacy in interpretation. Tushnet’s argument was part of a broader movement within the legal academy, the critical legal studies movement, which claimed that there is no such thing as a legitimate exercise of judicial power and that there are no right answers to legal questions. According to these critical legal theorists, most judges and lawyers do not actually believe there is such thing as legal truth, but they *act* as though this truth exists so that they can maintain their power over the adjudicative process. For these theorists, fancy legal verbiage serves only to disguise politics as law.

Perhaps unsurprisingly, many in the legal academy shunned these critical legal scholars. As Yale Law Professor Robert Burt recounts, there were “fierce attacks on [critical legal scholars] as ‘nihilists,’ even extended by some to argue for their exclusion from the legal academy and relocation in humanities departments such as political or perhaps even military science.”¹⁰

Seeking to save law from this nihilism while also repudiating originalism’s conservative values, a group of liberally minded scholars claimed that courts can derive neutral constitutional principles by interpreting America’s “fundamental values.” While these “interpretationists” have diverged in what they perceive as America’s guiding fundamental values, they all have agreed that there is such thing as an intelligible fundamental value, and almost all have

⁷ This is the second of many essays in Charles Taylor, *Philosophy and the Human Sciences, Philosophical Papers 2* (1985).

⁸ *Ibid* 73.

⁹ Mark V. Tushnet, *Following the Rules Laid Down: A Critique of Interpretivism and Neutral Principles* (1983) 96 Harv L. Rev. 781.

¹⁰ Robert A. Burt, *The Constitution in Conflict* (1992) 10.

agreed that of all the interpretationist theories, Ronald Dworkin's account is most powerful.

B. Ronald Dworkin's Interpretationism

Ronald Dworkin set out to prove that both the originalists and the critical legal theorists were wrong. Dworkin countered originalists like Bork by declaring that constitutional interpretation involves much more than simply reading the Constitution or determining what its framers intended in drafting that text. Rather, Dworkin argued, the Constitution contains general concepts, not historically contained commands, and each generation must determine particular *conceptions* of those general concepts.¹¹

This would seem to open Dworkin up to the claim that there is not just one correct constitutional interpretation, but Dworkin preempted this claim by arguing that there is only one right conception, the one that comports with moral and political philosophy. So Dworkin's ideal judge would decide cases by applying "a theory of the constitution, in the shape of a complex set of principles and policies that justify that scheme of government."¹² Dworkin aptly named this ideal judge Hercules, because discerning the right principle would prove to be a Herculean task.

The difficulty of this task became clear when Dworkin's jurisprudence took a hermeneutic turn almost a decade later in *Law's Empire*.¹³ In that book, Dworkin explained that law is an "interpretive practice" in that lawyers and judges, to identify the right principle to apply in a given case, must engage in "constructive interpretation."¹⁴ This constructive interpretation consists of three stages: (1) a preinterpretive stage in which a community identifies the relevant rules and standards that apply to a given practice; (2) an interpretive stage in which the community settles on a justification for the practice; and (3) a postinterpretive stage in which individuals consider that justification to determine for themselves what the practice actually requires.

Dworkin offers an example to illustrate this process.¹⁵ Dworkin asks us to imagine an aristocratic community that requires all non-nobles to remove their

¹¹ Dworkin has made this argument in several works, but his first prominent enunciation of this view appeared in Ronald Dworkin, *Hard Cases* (1975) 88 Harv. L. Rev. 1057.

¹² Ronald Dworkin, *Taking Rights Seriously* (1977) 107.

¹³ Ronald Dworkin, *Law's Empire* (1986).

¹⁴ *Ibid* 52.

¹⁵ *Ibid* 47-49.

hats in the presence of nobles. In the preinterpretive stage, members of the community simply follow the rule. But after mechanically applying this rule for some time, the community moves on to the interpretive stage, assigning some purpose to the rule, such as that the rule promotes courtesy. After assigning that purpose, the individual members then move on to the postinterpretive stage, determining for themselves what courtesy requires in a given context. This stage is highly individualized, as each member of the community will engage in “a conversation with oneself, as joint author and critic.”¹⁶ As a result of these independent and internal conversations, the community will divide over whether courtesy actually warrants the rule that non-nobles must remove their hats for nobles. This division among interpreters, Dworkin claims, is how the practice of constructive interpretation creates social change.

Dworkin’s interpretationism fails to explain our adjudicative process, primarily for three reasons. One, Dworkin’s interpretive scheme is too individualistic to account for how courts and lawyers publicly debate legal issues. In his book *Law and Truth*,¹⁷ legal philosopher Dennis Patterson criticizes Dworkin precisely on this ground. In mounting this attack, Patterson cites Charles Taylor’s essay “Interpretation and the Sciences of Man”¹⁸ for the proposition that public understanding requires “common meanings,” which are for Taylor “objects in the world that everybody shares.”¹⁹ These meanings essentially “are the basis of community.”²⁰ So when a society’s discussion of a subject turns on an issue where there is not such common meaning, a gap of understanding emerges, creating a split within the society.²¹

Drawing from Taylor’s essay, Patterson explains that common legal meanings enable communities to share an understanding of legal norms, and without such common meanings, legal interpretation would lead to, in Dennis Patterson words, “an infinite regress of justification.”²² We can see this type of infinite regress in Dworkin’s postinterpretive stage, where members of the community determine for themselves what a particular principle will mean in a given context. For example, we can imagine members of Dworkin’s hypothetical community challenging each other *ad infinitum* about why courtesy warrants a

¹⁶ Ibid 58.

¹⁷ Dennis Patterson, *Law and Truth* (1996).

¹⁸ This is the first essay appearing in Charles Taylor, *Philosophy and the Human Sciences, Philosophical Papers 2* (1985).

¹⁹ Ibid 39.

²⁰ Ibid.

²¹ Ibid 54.

²² Ibid 94.

particular rule; without a common meaning of courtesy, there is no stopping point to this debate. Because Dworkin bases his interpretive scheme on individuals looking inward for meaning, rather than on common meanings, Dworkin does not seem to provide a way out of this infinite regress.

Another problem with Dworkin's scheme is that by arguing that there is only one coherent justification for a law's existence, Dworkin assumes that interpretation is univocal. But interpretation seems to yield a plurality of meanings. As Charles Taylor has written, even interpretations resting on common meanings are not univocal. Taylor offers several reasons for the plurivocity of interpretation, the principal reason being that each human "is a self-defining animal,"²³ and each change in self-definition alters our understanding of human values.

A third problem is that Dworkin assumes that all legal propositions require some sort of political or moral theory to be accepted as true, but this assumption appears false, at least for easy legal propositions. As Patterson notes, we can answer an easy legal question, like what is the speed limit in a given state, by simply reading the state speed limit.²⁴ This is an easy legal question to answer because a conventional mode of legal justification (*i.e.*, reading the law's text) easily disposes of the question. Moreover, even in the hard case involving an ambiguous law, lawyers and judges reason not by turning inward and considering the "law's grounds" as a whole, as Dworkin argues, but by analysing that particular law with the different modes of legal justification, such as by looking at the specific intent of the relevant lawmaking body.²⁵

Given these defects in Dworkin's interpretationism, many scholars have rejected it and looked instead for a way for constitutional interpretation to rest on a public activity guided by intersubjecting meanings. Philip Bobbitt took up this challenge in two books, *Constitutional Fate: Theory of the Constitution*²⁶ and *Constitutional Interpretation*.²⁷

C. Philip Bobbitt's Turn from Interpretation Toward Action

In *Constitutional Fate*, Bobbitt argued that constitutional theorists should abandon the idea that some constitutional interpretations are more legitimate

²³Taylor, above n 18, 55.

²⁴Patterson, above n 17, 94-5.

²⁵Ibid.

²⁶Phillip Bobbitt, *Constitutional Fate: Theory of the Constitution* (1982).

²⁷Phillip Bobbitt, *Constitutional Interpretation* (1991).

than others, because such an idea assumes some deeper, metaphysical significance to constitutional interpretation. Nearly ten years later, Bobbitt elaborated his theory in *Constitutional Interpretation*. Drawing from Ludwig Wittgenstein’s philosophy of language, Bobbitt explained that constitutional interpretation is an action, not a metaphysical phenomenon, and in performing this action, lawyers and judges have established by custom that only six factors will guide their interpretations of the Constitution. Bobbitt argued that these factors form the modalities of constitutional interpretation, making any interpretive technique outside these modalities “illegitimate” – not as a metaphysical matter, but in the pragmatic sense – because the practitioners of constitutional interpretation adhere only to these six modalities. According to Bobbitt, the six modalities are:

- (1) Text (questioning what a particular word or term would mean to “a person on the street”)²⁸
- (2) History (considering the intentions of the constitutional framers and ratifiers)²⁹
- (3) Structure (looking to the Constitution’s structure as a whole to understand an individual provision’s meaning within the document)³⁰
- (4) Doctrine (drawing from the rules, principles, and standards that courts have established in prior cases)³¹
- (5) Prudence (weighing the policy consequences – *i.e.*, the practical costs and benefits – of various interpretations)³²
- (6) Ethos (consulting the American ethic as expressed in the Constitution)³³

²⁸ Justice Hugo L. Black famously held textualism as his principal modality, applying it to conclude that nearly all restrictions on speech are unconstitutional because the text of the Free Speech Clause absolutely provides that “Congress shall make *no law* . . . abridging the freedom of speech.” (emphasis added). For examples of Black’s textualism, see *Youngstown Sheet & Tube Co. v. Sawyer* (1952) 343 U.S. 579; *Adamson v. People of State of California* (1947) 332 U.S. 46, 68-92 (Black, J., dissenting).

²⁹ All members of the current U.S. Supreme Court use this modality, though Justices Scalia and Thomas are most outspoken and systematic in their use of it.

³⁰ For example, under the structural modality, a court will interpret the scope of its jurisdiction by considering the Constitution’s separation of powers, which distributes power among the three branches of the federal government, and federalism, which allocates power between federal and state governments. Charles Black is most famous for promoting structuralism.

³¹ According to the doctrine of *stare decisis*, the Court’s affords its prior decisions different weights, depending on several factors.

³² The pragmatic approach is most popular among law-and-economic scholars and judges, such as Seventh Circuit Judge Richard A. Posner.

³³ One such ethical principle is the Lockean notion that the government has limited powers and

These six modalities, according to Bobbitt, form our constitutional grammar. So to form a sensible statement about the Constitution, we must rely on at least one of these modalities. Bobbitt's approach has been incredibly influential and well-received because his approach moves constitutional interpretation away from an obsession with legitimacy and solipsism. Indeed, by describing what lawyers and judges actually do in practice, Bobbitt largely dissolved the abstruse philosophical questions about what is a legitimate way of interpreting the Constitution and how individual interpretations can lead to public understanding.

Unfortunately, however, Bobbitt's scheme has two major defects that have threatened his entire enterprise. One defect can be characterized as "the modal-conflict problem": Bobbitt's scheme does not adequately explain how courts decide cases when two or more modalities conflict with one another. The second defect can be characterized as "the modal-stasis problem": by limiting constitutional arguments to a grammar consisting of only six modalities, Bobbitt seems to ignore the evolutionary and creative component of constitutional law. Indeed, for Bobbitt to argue that all extra-modal arguments are nonsensical, *i.e.*, illegitimate, he must commit himself to a static vision of constitutional law, a vision that is belied by the fact that lawyers continue to create novel arguments and constitutional law continues to evolve.

Bobbitt did attempt to solve the modal-conflict problem in *Constitutional Interpretation* by claiming that judges do and should turn inward to their consciences to resolve modal conflicts. Bobbitt calls this inward movement a "recursion to conscience,"³⁴ which he sees as "the crucial activity on which the [modal] constitutional system of interpretation . . . depends."³⁵ This recursion is so crucial for Bobbitt because it provides "[t]he space for moral reflection on our ideologies, just as garden walls can create a space for a garden."³⁶

Many scholars, however, have not found this solution satisfying, for it makes judging modal conflicts an individualistic and largely unprincipled exercise. Indeed, just as Dennis Patterson has criticized Dworkin's interpretationism,

ultimate authority thus resides in the individual. For one of the most systematic – and controversial – accounts of Lockeanism's role in the American ethos, see Louis Hartz, *The Liberal Tradition in America* (1955).

³⁴ Bobbitt, *Constitutional Interpretation* (1991) 184.

³⁵ *Ibid.*

³⁶ *Ibid.* 177.

Patterson has also argued that Bobbitt's proposed solution similarly fails because it makes judging an inward and subjective experience. In making this argument, Patterson again points to Charles Taylor's claim that communities construct understanding through common meanings.³⁷ Similar to how Patterson charges Dworkin for not resting his interpretationism on Taylor's notion of community understanding, Patterson likewise argues that Bobbitt fails to provide a mechanism whereby lawyers and judges resolve modal conflicts with common meanings. In a sense, Bobbitt's "recursion to conscience" is even more threatening to his modal scheme than Dworkin's individualism is to his interpretationism, because Bobbitt's entire modal scheme rests on Wittgenstein's notion that meaning arises only through public action; Bobbitt's scheme therefore does not seem to fit with his claim that judges resolve modal conflicts by consulting their consciences. For Bobbitt's modal scheme to succeed – and thus for constitutional interpretation to be rescued from critical legal theory's threat of nihilism and interpretationism's threat of solipsism – we must find a public mechanism by which lawyers and judges can resolve modal conflicts.

II. Ian Bartrum's Use of Metaphor Theory to Resolve the Problems in Bobbitt's Modal Approach

Such a public mechanism is proposed in a recent article by Ian C. Bartrum, who looks to Max Black's theory of metaphors to resolve both the modal-conflict and the modal-stasis problems.³⁸ Bartrum begins his article by explaining the traditional Aristotelian theory of metaphors, which holds that a metaphor is "the application of an alien name by transference either from genus to species, or from species to genus, or from species to species, or by analogy, that is, proportion."³⁹ Under this view, a metaphor simply compares concepts.

Bartrum then discusses how twentieth-century theorists challenged this account by arguing that metaphors are different from similes in that metaphors do not merely compare concepts but actually produce new meanings. In particular, Bartrum examines two theorists, Ivan Richards, who claimed that the interaction of two distinct ideas produces metaphors,⁴⁰ and Max Black, who extended Richards's notion of interaction to develop the theory that a

³⁷ Patterson, above n 17, 145.

³⁸ Ian C. Bartrum, *Metaphors and Modalities: Meditations on Bobbitt's Theory of the Constitution* (2008) 17 Wm. & Mary Bill Rts. J. 157.

³⁹ Aristotle, *Poetics* 21 (1997) 41.

⁴⁰ I.A. Richards, *The Philosophy of Rhetoric* (1936).

metaphor is the combination of two entities, a frame and a focus.⁴¹ The frame, according to Black, is the principal idea that a metaphor expresses, and the focus is the secondary idea that interacts with the frame to create the metaphor.

Bartrum explains Black's example of the war-chess metaphor. We often use chess terms to describe battles; for example, we might say that a particular battle placed the enemy in check. Black argues that this metaphor consists of a frame (the battle) and a focus (the chess vocabulary), and their interaction enables us to understand war in a way we could not understand it through literal description. To illustrate Black's theory further, Bartrum offers his own example of how "playing more than one musical note at a time can produce a chord [in which] the overlapping notes create a new sound that cannot be understood simply in terms of its constituent parts."⁴²

Linking metaphor theory with Bobbitt's constitutional modalities, Bartrum argues that just as the interaction of ideas create metaphors, the interaction of modalities create new modalities, what Bartrum calls a "modal metaphor." Bartrum offers three examples of such modal metaphors.

One modal metaphor is "intratextualism," an interpretive methodology most often associated with Akhil Amar's influential 1999 Harvard Law Review article by that name.⁴³ In that article, Amar explains how intratextualism is different from Bobbitt's textual modality. Whereas Bobbitt's textual modality defines words "as they would be interpreted by the average contemporary 'man on the street,'"⁴⁴ intratextualism defines words as they are used within the Constitution as a whole.

The most famous example of intratextualism is *McCulloch v. Maryland*,⁴⁵ where the Supreme Court considered whether the federal government's creation of a national bank was constitutional under the Necessary and Proper Clause. Maryland argued that the bank violated this clause because the national government did not *need* to create a national bank for it to regulate interstate commerce. Maryland's argument seemed iron-clad if the "necessary" in the Necessary and Proper Clause had this strictly logical meaning of being required for another act. But Chief Justice Marshall, looking to how the word "necessary" was used in other parts of the Constitution, concluded that in the

⁴¹ Max Black, *Models and Metaphors: Studies in Language and Philosophy* (1962).

⁴² Bartrum, above n 38.

⁴³ Akhil Reed Amar, *Intratextualism* (1999) 112 Harv. L. Rev. 747.

⁴⁴ Bobbitt, *Constitutional Interpretation*, 13.

⁴⁵ (1819) 17 U.S. (4 Wheat.) 316.

Constitution “necessary” does not have a strictly logical meaning but rather a practical meaning. According to Marshall, the Constitution’s use of the term “necessary” means something like “reasonable” rather than “required.” So even though the national bank was not actually required to regulate interstate commerce, the Court held that the bank was constitutional because it was *reasonably related* to regulating interstate commerce.

Bartrum points out that Marshall’s intratextual reading of “necessary” in *McCulloch* is actually a combination of two constitutional modalities, textualism and structuralism. Marshall did not just apply the textual modality, for that would involve looking only to the actual meaning of “necessary.” Marshall instead considered its meaning within the *total structure* of the document, thus combining textualism with structuralism.

Bartrum argues that intratextualism arose from the interaction of two modalities, just how a metaphor arises from an interaction of a frame and a focus. Indeed, Bartrum explains that by using textualism as a frame and structuralism as its focus, Chief Justice Marshall created the modal metaphor of intratextualism, and this modal metaphor, according to Bartrum, “may allow us to perceive constitutional meanings of which we were not yet aware.”⁴⁶

Another hybrid-modality for Bartrum is “doctrinal-prudentialism,” which was largely created by Louis Brandeis before he became a Supreme Court Justice. While still a practicing lawyer, Brandeis wrote a 113-page brief in *Muller v. Oregon*,⁴⁷ in which Brandeis urged the Supreme Court to uphold the constitutionality of an Oregon law limiting the hours women could work each day in particular trades. Brandeis’s brief is famous for being the first to rely principally on social-science data rather than legal precedents. To the surprise of many, this brief convinced the Supreme Court to uphold the Oregon law, even though the decision came at the height of the *Lochner* era, a time in which the Supreme Court consistently invalidated many similar labour regulations for violating the sacrosanct liberty to contract.⁴⁸

Facing a conflict between Supreme Court doctrine and public policy, Brandeis created the modal metaphor of doctrinal-prudentialism. Brandeis clearly adhered to the doctrinal modality, expressly accepting the Supreme Court’s doctrine that labour regulations must be reasonably related to legitimate government interests. But Brandeis also used the prudential modality by

⁴⁶ Bartrum, above n 38, 174.

⁴⁷ (1908) 208 U.S. 412.

⁴⁸ See, e.g., *Lochner v. New York*, (1905) 198 U.S. 45.

arguing that this particular regulation of women was reasonable because the regulation's benefits (improving the health of women) outweighed its costs (limiting the contractual rights of women workers and their employers). Combining these modalities, Brandeis argued that the Supreme Court could uphold the Oregon law without overruling its prior decisions. This combination of doctrinalism and prudentialism was, according to Bartrum, an "act of constitutional creativity,"⁴⁹ fusing social science and law, thus "mov[ing] the entire practice [of law] forward."⁵⁰

A third hybrid-modality for Bartrum is "ethical-prudentialism." This hybrid-modality allows courts to create a controversial ethical right by prudentially limiting the application of the right due to the political costs of a more expansive interpretation. As an example of ethical-prudentialism, Bartrum offers *Brown v. Board of Education*, where the Court confronted a host of conflicting modal arguments: whereas the Fourteenth Amendment's text guaranteed "equal protection" for all citizens, the governing equal-protection doctrine allowed "separate but equal" treatment of different racial groups, and the constitutional history suggested the permissibility of racial segregation in public schools.

To resolve this modal conflict, the Court created a new hybrid-modality, using the ethical modality to invalidate the "separate but equal" doctrine but then using the prudential modality to put the decision into practice. Given the racism at the time, the Court knew that many states would resist a judicial mandate to integrate their schools immediately. And massive disobedience would undermine the ethical principle announced in the Court's opinion. So the Court, relying on the prudential modality, ordered schools to integrate "with all deliberate speed," allowing states to take an unspecified period of time to effectuate the Court's controversial opinion. This ethical-prudential hybrid allowed constitutional law to evolve.

Overall, Bartrum's project represents a significant advancement in the debate over constitutional interpretation because it seems to repair the two major defects in Bobbitt's modality approach. Indeed, Bartrum's metaphor theory seems to resolve the modal-conflict problem by demonstrating that courts create new hybrid-modalities to reconcile modal conflicts. Bartrum's theory also seems to resolve the modal-stasis problem because, under his theory, modal conflicts generate new ways of interpreting the Constitution, thus accounting for the evolutionary dimension of constitutional law.

⁴⁹ Bartrum, above n 38, 178.

⁵⁰ Ibid 188.

A major shortcoming of Bartrum's theory, however, is that it fails to account for the unpredictability and randomness often present in the creation of new modalities. Moreover, Bartrum largely ignores the fact that there are different types of modal conflicts. Some modal conflicts do not create new hybrid-modalities at all; in these instances, a court just decides the case by trumping one modality over its conflicting counterpart. Other modal conflicts, however, do create hybrid-modalities, like the ones discussed in Bartrum's article. But a third category is unlike the other two in that it arises from a conflict within one modality, stirring up so much legal chaos that it has the potential to create a new modality altogether. This third category is much like Bartrum's comparing a metaphor to a musical chord, whereby the chord produces a sound that is greater than the sum of its constituent parts. The following section will argue that the richest and most accurate account of this creative process is not metaphor theory but rather complexity theory.

III. Using Complexity Theory to Resolve the Problems in Bobbitt's Modal Approach

Complexity theory is the study of how complex systems operate. A common feature of these systems is that their constituent parts interact and in the process aggregate properties greater than their sum, self-organize spontaneously, and cooperate emergently. A summary of some leading works of complexity theory will reveal how we can conceive of constitutional interpretation as a complex system in which modal conflicts spontaneously create new modalities.

A. Background on Complexity Theory

A leading proponent of complexity theory was the chemist Ilya Prigogine, who in 1977 won a Nobel Prize for his work on dissipative systems in thermodynamics. His book *The End of Certainty*⁵¹ challenges the traditional view that natural phenomena operate mechanistically. Prigogine explains that while isolated systems might operate like machines, as the Newtonian model holds, most systems in the real world operate dynamically because they are not isolated but are in fact open. Whereas near-equilibrium open systems do not evolve internally, far-from-equilibrium systems do evolve internally. Prigogine calls a far-from-equilibrium open system a "dissipative system," because such a system arises from a dissipative process – *i.e.*, a process by which energy is exchanged between the system and its surrounding environment.

⁵¹ Ilya Prigogine, *The End of Certainty* (1996).

These dissipative systems evolve internally through several steps. When a system can no longer absorb energy, fluctuations occur, prompting a bifurcation point. The system must then choose between opposing directions, what Prigogine calls the “pitchfork bifurcation.”⁵² This presents an *ex ante* unpredictable decision of which pitchfork path the system will take. Once the system “chooses” a path, further bifurcation follows, again forcing the system to re-organize itself. Significantly, this unpredictable process can produce chaos or order, regression or evolution. Prigogine sees this process as an act of creativity.

What makes Prigogine’s discoveries in thermodynamics relevant to the social sciences is that Prigogine argues that the chaotic creativity found in thermodynamic systems is amplified in the human experience. As Prigogine puts it, “We see that human creativity and innovation can be understood as the amplification of laws of nature already present in physics or chemistry.”⁵³ When we are far from equilibrium, we, just like the dissipative system, spontaneously form new alignments to create new orders.

Similar to Prigogine, biologist Stuart A. Kauffman views human activity as a lawless and creative enterprise. Accordingly, Kauffman attacks physical reductionism – *i.e.*, the reduction of all phenomena to particles in motion – for failing to account for the values and creativity that we encounter in the world. In his book *Reinventing the Sacred*,⁵⁴ Kauffman discusses how biological evolution illustrates the world’s creativity and unpredictability. One of Kauffman’s favourite examples is the heart.

The heart’s apparent function is to pump blood, so, Kauffman explains, Darwin’s natural-selection theory would hold that the heart was *selected* for that purpose. But the heart of course does things in addition to this purpose; it also, for example, makes thumping sounds. For Kauffman, the heart’s sound-making feature challenges physical reductionism, because physics will allow us only to identify all the heart’s physical properties, not to identify its biological *purpose* to pump blood.

Kauffman explains that the heart’s blood-pumping feature is its adaptation, but its sound-making feature is a Darwinian preadaptation, that is, a feature of an organism that has no selective significance in its normal environment but

⁵² Ibid 65.

⁵³ Ibid 71.

⁵⁴ Stuart A. Kauffman, *Reinventing the Sacred* (2008).

nonetheless might be useful in an abnormal environment. In other words, the heart was "preadapted" to produce the novel function of producing sound. Kauffman explains that whenever an organism is the subject of natural selection in its normal environment, a novel feature for an abnormal environment will be part of the natural-selection process.

Importantly, though, this preadaptation is not *ex ante* predictable. For example, we could not tell just by examining the heart that because its purpose is to pump blood, it also will produce sound. According to Kauffman, this unpredictability challenges Newtonian science because, under that methodology, the scientist derives predictions by first determining the set of all relevant possibilities.⁵⁵ Since we cannot know all the relevant possibilities, we cannot use the Newtonian method to calculate the evolution of the biosphere. Kauffman concludes that we therefore must accept the radical unpredictability and creativity of evolution.

Like Prigogine, Kauffman argues that this unpredictability applies not only to natural phenomena but also to human culture, creating a world of possibility or, in Kauffman's words, "the adjacent possible." For example, Kauffman writes, technological inventions operate in unpredictable ways, such as the invention of the tractor.⁵⁶ In trying to create the tractor, engineers realized that they would need a massive engine block, but after trying such a block on a chassis and seeing the chassis break, engineers realized that the massiveness and rigidity of the engine block would make it useable as the chassis itself. And this is how we make tractors now, using the engine block as the chassis. Kauffman argues that the block's feature of rigidity was like a Darwinian preadaptation, in that the block's rigidity was a feature that was not its primary function in its normal environment of serving as an engine block but its rigidity then became useful as a chassis in its new environment.

Kauffman argues that, just like our inventions, our economy is also ceaselessly creative and unpredictable because it consists of these Darwinian preadaptations. Due to this unpredictability, "the best venture capitalists are more often wrong than right,"⁵⁷ and even when they are right, it is usually a short-sighted prediction "rely[ing] as much on intuitions as on strict algorithms."⁵⁸

⁵⁵ Ibid 133.

⁵⁶ Ibid 152.

⁵⁷ Ibid.

⁵⁸ Kauffman, above n 54, 153.

In much of his work, political economist Mark Blyth has similarly noted this uncertainty of economics. In his book *Great Transformations: Economic Ideas and Institutional Change in the Twentieth Century*,⁵⁹ Blyth explores the move in the 1970s and 1980s away from Keynesianism and toward supply-side economics. Blyth argues that what explains this shift is not solely the structure of the economy but also the *ideas* of political agents at the time. And these ideas stemmed not just from the economic interests of those in power but rather from their identities. During times of economic uncertainty, Blyth argues, political agents make decisions based on how actions resonate with their identities. Indeed, “in moments of crises when agents are uncertain about their interests, they resort to repertoires of action that resonate with their core identities.”⁶⁰

This resonance between action and identity appears prominently in political theorist William Connolly’s work. In his *Capitalism and Christianity, American Style*,⁶¹ one of the most ambitious applications of complexity theory to social phenomena, Connolly explores the surprising but supremely powerful alliance in American politics between nonreligious capitalists and working-class evangelicals. Connolly argues that given the differences separating these two groups, we cannot understand their coalition by considering only their interests. Indeed, Connolly writes, there is very little that these groups have in common. What unites them, however, is their existential realities: they are resentful, the capitalists resenting any governmental action that limits their wealth-maximizing efforts and the evangelicals resenting those who have not embraced their view of salvation. According to Connolly, “the spirit of evangelical and corporate leaders resonates together across a set of doctrinal differences,”⁶² and this resonance “sets the stage for a consolidation of a movement larger than the sum of its component parts.”⁶³

Connolly adeptly anticipates and counters the argument that complexity theory cannot apply to social systems. Some might argue, of course, that complexity theory is limited to natural science, because social systems, unlike their physical counterparts, stem from human agency. So this capitalist-evangelical alliance might merely be a rational decision by politically savvy agents seeking to maximize their power in one political party. But Connolly explains that agents of the capitalist-evangelical resonance machine, such as George W. Bush and

⁵⁹ Mark Blyth, *Great Transformations: Economic Ideas and Institutional Change in the Twentieth Century* (2002).

⁶⁰ *Ibid.* 267.

⁶¹ William Connolly, *Capitalism and Christianity, American Style* (2008).

⁶² *Ibid.* 41.

⁶³ *Ibid.*

Bill O'Reilly, do not construct but merely “dramatize the resonance machine.”⁶⁴ In other words, “[t]hey are catalyzing agents and shimmering points in this machine; their departure will weaken it only if it does not acquire new personas to replace them.”⁶⁵

In applying complexity theory to social organizations, Russ Marion makes a similar argument in his *The Edge of Organization: Chaos and Complexity Theories of Formal Social Systems*.⁶⁶ In that book, Marion contends that we can apply complexity theory to social systems because charismatic leaders, such as Martin Luther King, inherit rather than start political movements.⁶⁷ So although political leaders must have their particular traits to trigger the movement, the movement will arise because of a special convergence of factors, not because of the leaders themselves. To put this in Prigogine’s language of resonance, a political concept might circulate without consequence for many years before, due to a shift in circumstances, the concept “resonates” with other ideas and individuals, thereby creating a new movement. The resonance and not the political actor is the cause of change.

B. Applying Complexity Theory to Constitutional Theory

So what does complexity theory have to do with constitutional modalities? The answer has to do with the similarity between constitutional interpretation and far-from-equilibrium systems. In *Reinventing the Sacred*, Kauffman presses on but does not fully engage this analogy, dedicating only a few pages to how complexity theory might apply to law. In those pages, Kauffman explains that, just like a biological organism, law is a complex system that, through self-organization, “can change dramatically in fully unexpected, unpredictable ways.”⁶⁸ Kauffman notes that the law changes partly as a result of our struggle to find the Pareto optimal moral policy, and that the law changes even though the doctrine of *stare decisis* limits the alteration of precedent. Thus, Kauffman concludes that for the law as a whole to change coherently, precedents must co-evolve harmoniously from moral conflicts. But, Kauffman asks, what coordinates this harmonious co-evolution? Kauffman speculates that perhaps one day we can find a meta-law that accounts for this coordination, but even if

⁶⁴ Ibid 50.

⁶⁵ Ibid.

⁶⁶ Russ Marion, *The Edge of Organization: Chaos and Complexity Theories of Formal Social Systems* (1999).

⁶⁷ Ibid 216-17.

⁶⁸ Kauffman, above n 54, 269.

we did, “it is extremely unlikely that any such law, power law or otherwise, will predict the specifics of the evolution of the law [as a whole].”⁶⁹

But the chaos in law is much greater than even Kauffman seems to appreciate. Not only do moral conflicts push courts to decide cases in divergent ways, but these meta-laws, the very tools that courts use to stabilize the law, are themselves unstable and subject to realignment. We can see this in Bobbitt’s modalities, which are meta-laws that lawyers and courts use to anchor and stabilize constitutional interpretation. These very modalities are constantly evolving as a result of their own framework. Recall what Bartrum identified in the modalities: new hybrid-modalities – what Bartrum calls “modal metaphors” – can emerge when there is a conflict between modalities. Instead of viewing this as a linguistic process, as Bartrum sees it, we can better see its creativity, unpredictability, and mutability by viewing constitutional interpretation as a complex process by which the modalities self-organize and produce new modalities.

The various complexity theorists discussed above shed light on this process. For example, the process of modal conflicts yielding new modalities is just like Prigogine’s dissipative system in thermodynamics: in both situations, the law that generally governs the interaction is no longer suitable, and in this lawless universe, the parts of the system interact to produce an unpredictable reaction that is larger than the sum of its parts. Put more concretely, whereas Bobbitt’s modal approach generally governs cases in which there is no conflict between the modalities, his approach cannot govern cases involving modal conflicts. So this case is *ex ante* lawless. But the interaction of the conflicting modalities might generate a hybrid-modality that the court then uses to decide the case. This hybrid-modality is more than a sum of the conflicting modalities; it is an entirely new way of interpreting the Constitution. And as Bartrum explains in his paper, some of these hybrid-modalities somehow stick with us and become permanent fixtures in our modal system.

Kauffman’s notion of Darwinian preadaptations provides further insight into this process. In our modal system, the modalities are selected to dispose of normal cases in the way in which Bobbitt contends – with lawyers and judges using individual modalities to resolve controversies. So this feature is the adaptation applicable in the normal environment of when there is no conflict among the modalities. But the feature that allows modal conflicts to produce new modalities is a Darwinian preadaptation, becoming useful only in the abnormal environment of modal conflicts.

⁶⁹ Ibid at 271.

Connolly's complexity theory also provides insight into how phenomena, whether natural or social, can resonate with one another to produce events that were *ex ante* unpredictable – even unpredictable, perhaps, by those human agents involved in the creation. Likewise, judges and lawyers can create new modalities by resolving modal conflicts, without even realizing that they have created a new method of interpreting and viewing the Constitution.

Together, these complexity theorists represent a new model of thought. Under the old model, natural and social phenomena were considered predictable, linear, and expressible in simple time-independent laws. By contrast, the new model holds that many phenomena are unpredictable, nonlinear, and expressible only in time-dependent pluralities. But it does not appear that the new model requires the wholesale abandonment of the old model. Indeed, the old model still works for equilibrium or near-equilibrium systems. So while we can still apply linear formulations to these systems, we will need to think in a less linear and more contextual way when dealing with far-from-equilibrium systems. The following section will flesh out precisely how a case involving a modal conflict can act like a near-equilibrium system, thus making complexity theory inapplicable, but how other cases involving modal conflicts will act like a far-from-equilibrium system, making complexity theory the best explanation for how the law operates.

IV. Three Types of Modal Conflicts and the Emergence of Intradocrinalism

In cases involving modal conflicts, the modalities can interact with one another in three ways. Some modal conflicts resemble near-equilibrium systems and do not generate new modalities; some modal conflicts resemble far-from-equilibrium systems and generate hybrid-modalities; and a final category of modal conflicts are even farther from equilibrium and create new modalities altogether. In describing this final category of modal conflicts, this section identifies an emerging modality, what we might call “intradocrinalism,” the interpretation of a particular doctrine in a way that makes all of the Court's doctrines logically cohere.

The first category involves a court trumping one modality over a conflicting modality, thereby removing the conflict. This case operates similarly to a case in which there is no modal conflict, a case we can call an “equilibrium case” in which the modalities effectively cohere with each other to push the court toward a particular conclusion. So when a court resolves a modal conflict by trumping one modality over its conflicting counterpart, it operates like a “near-

equilibrium case.” In such a case, complexity theory does not apply because no new modalities emerge.

A good example of this first category of modal conflict is *Lawrence v. Texas*.⁷⁰ In this case, the Supreme Court invalidated a Texas sodomy ban on the ground that it violated the constitutional right to engage in private, consensual, intimate conduct. The case raised a sharp conflict between the doctrinal and ethical modalities. The doctrinal modality clearly called for the Court to find that there is no constitutional right to engage in such conduct, because only 17 years earlier, in *Bowers v. Hardwick*,⁷¹ the Court rejected an almost identical claim by a gay couple prosecuted for engaging in oral sex while in the privacy of the bedroom. But the ethical modality pushed the Court in *Lawrence* toward another direction. Writing for the majority, Justice Kennedy explained that a fundamental principle of the American constitutional ethos is that the government may not regulate conduct that does not harm others.⁷² So the doctrinal modality commanded the Court to uphold the Texas sodomy ban, and the ethical modality mandated the Court to invalidate the ban. The Court resolved the modal conflict by trumping the ethical over the doctrinal, a move that infuriated Justice Scalia. This clearly was not a far-from-equilibrium case because the Court simply chose an already-existing modality to resolve the modal conflict.

The second category of modal conflicts likewise involves a conflict between two or more modalities, but, unlike the first type of modal conflict, this type can generate a hybrid-modality, like the “modal metaphors” discussed in Bartrum’s article. Such cases operate like far-from-equilibrium systems in that we cannot predict which hybrid-modalities will emerge.

An example of a conflict between modalities is the *Muller v. Oregon* case, which as discussed above, involved an Oregon law that regulated women labourers in a way that appeared unconstitutional under the Supreme Court’s governing precedents, namely, the *Lochner* case decided only a few years earlier. So the doctrinal modality called for the Court to invalidate the Oregon law. But because men in power during this time viewed women as frail and in need of governmental protection, all of the Supreme Court Justices at the time believed that the Oregon law was extremely beneficial, presenting a conflict between the doctrinal and prudential modalities. The Court reconciled this conflict by creating a new modality, what Bartrum calls doctrinal-prudentialism. Applying

⁷⁰ (2003) 539 U.S. 558.

⁷¹ (1986) 478 U.S. 186.

⁷² This ethical principle is of course traceable to John Stuart Mill’s no-harm principle.

this hybrid-modality, the Court was able to uphold the prevailing *Lochner* doctrine while at the same time upholding the Oregon law. More specifically, the Court interpreted its precedents to ban unreasonable regulation of labour, and then used the prudential modality to argue that given the costs and benefits of regulating women workers, the Oregon law was reasonable and thus constitutional.

The *Muller* case acted like a far-from-equilibrium system because the conflict between the Court's doctrine and prudence prompted the Justices to view constitutional law in a different light so that it could create a way of interpreting the Constitution that had not yet existed. The doctrinal and prudential modalities resonated with one another to generate a new approach to constitutional interpretation.

A third category of modal conflicts differs from the first two in that this third category involves a conflict not between modalities but *within one modality*. Such an intramodal conflict is about as far as we can get from equilibrium because it causes the entire modal structure to collapse around one modality. This intramodal conflict creates so much tension and chaos within the law that the conflict can create a new modality altogether.

*Locke v. Davey*⁷³ provides an excellent example of this process. That case involved a Washington State program that awarded college scholarships to students who satisfied various academic and financial conditions. One student, Joshua Davey, satisfied these conditions but Washington State nevertheless denied him a scholarship because the Washington State Constitution forbids government funding of theological education and Davey sought to use the funding to train for the ministry at Northwest College, a religious school.

Davey sued the state for violating the First Amendment's Free Exercise Clause.⁷⁴ Davey had a strong free-exercise claim because of the Court's precedent, *Employment Division v. Smith*,⁷⁵ which had changed free-exercise law so that it prohibited governmental discrimination on the basis of religion. Between *Sherbert v. Verner*⁷⁶ and the *Smith* decision, a period covering almost 30 years, the free-exercise rule was that when a religious individual sought an

⁷³ (2004) 540 U.S. 712.

⁷⁴ Davey also claimed that the state violated the First Amendment's Free Speech Clause and the Fourteenth Amendment's Equal Protection Clause, but those claims are not relevant for our purposes here.

⁷⁵ (1990) 494 U.S. 872.

⁷⁶ (1963) 374 U.S. 398.

exemption from a law because the law burdened her religious exercise, the issue was not whether that law discriminated on the basis of religion but rather whether that burden to the individual was “substantial.” If a court found the burden substantial, then the issue was whether the government had a “compelling interest” in exempting the individual from the law; if not, the individual did not need to follow the law.

But in several cases leading up to *Smith*, the Supreme Court applied this rule inconsistently, and finally, finding this standard too difficult to apply, the Court changed the rule in *Smith*. There, the Court held that the Free Exercise Clause allows the government to impose whatever types of burdens on religious activities, even so-called “substantial burdens,” so long as the burden is religion-neutral and generally applicable. In other words, the only prohibition contained in the Free Exercise Clause is that the government must not discriminate on the basis of religion. So the Court in *Smith* converted the Free Exercise Clause to a non-discrimination provision, preventing the government from treating religion and non-religion differently.

Under this rule, Joshua Davey had an extremely powerful argument because Washington State, by denying him funding, clearly singled out religion for disfavoured treatment. Indeed, the state had said that Davey could use the scholarship funds to study whatever he wanted at whichever school he wanted, except he couldn’t study religion at a religious school.

But there was a countervailing group of Supreme Court precedents pointing the *Davey* Court in the opposite direction. Almost 20 years before the *Smith* decision, in *Lemon v. Kurtzman*,⁷⁷ the Supreme Court ruled that government funding of religion violates the First Amendment’s Establishment Clause if the funding either (1) lacks a secular purpose, (2) has the primary effect of advancing religion, or (3) entangles religious and governmental authority excessively. Throughout the 1970s and 1980s, the Court applied this *Lemon* test to invalidate several funding programs that had the effect of funding religious education. For example, in *Committee for Public Education v. Nyquist*,⁷⁸ the Supreme Court considered the constitutionality of a New York program that gave various types of aid to private schools and parents who sent their children to private schools. The Court held that the Establishment Clause prohibited New York from including religious institutions among these private schools because, by reducing expenses for the religious schools, the program would have the primary effect of supporting religion, in violation of the *Lemon*

⁷⁷ (1971) 403 U.S. 602.

⁷⁸ (1973) 413 U.S. 756.

test's second prong.

Although the Supreme Court eventually retreated from this strict application of the *Lemon* test by upholding some government programs that funded religious education, such as a Cleveland program that indirectly funded religious schools through third-party beneficiaries,⁷⁹ the *Lemon* test was still the predominant doctrine in Establishment Clause law at the time the Court decided *Davey*. Moreover, when the Court heard the *Davey* case, some of its stricter applications of the *Lemon* test, such as the *Nyquist* decision, had not been overruled and were thus binding precedents. So while it was clear in *Davey* that the Establishment Clause allowed Washington State to fund Joshua Davey's religious training, it was also clear that the Establishment Clause of the 1970s and 1980s would have prohibited such funding, and the *Lemon* test – the very doctrine that had been used to prohibit such funding in the 1970s and 1980s – was still the predominant judicial test governing the Court's Establishment Clause jurisprudence.

Thus, Joshua Davey's claim, though framed as a case about the Free Exercise Clause, was really about both Religion Clauses.⁸⁰ Indeed, it was really a battle between the Court's free-exercise precedents and its disestablishment precedents. Importantly, no legal scholars or judges seemed to anticipate these groups of precedents colliding with another. This collision was unpredictable because, before the *Davey* case, the Supreme Court had never considered whether a government's decision to fund a particular individual or activity might violate the *Smith* free-exercise doctrine. So no one thought that the Establishment Clause prohibition on government funding of religion would ultimately clash with the Free Exercise Clause prohibition on government discrimination on the basis of religion.

We can thus envision these two assemblages of precedents as two glaciers that had been still in the water for a long period of time, until a spontaneous change in wind impelled them to drift toward one another, making their collision ineluctable. Once the drift was initiated, there was no way for one set of precedents to prevail without destroying the other.

⁷⁹ *Zelman v. Simmons-Harris* (2002) 536 U.S. 639.

⁸⁰ As I have previously explained in other articles, the *Davey* case was really about both Religion Clauses, even though the case formally involved only the Free Exercise Clause. Jesse R. Merriam, *Finding a Ceiling in a Circular Room: Locke v. Davey, Religious Neutrality, and Federalism* (2006) 16 Temp. Pol. & Civ. Rts. L. Rev. 103.

So how did the Court resolve the matter? In a 7-2 opinion, the Court rejected Davey's claims. The Court found that Washington had imposed a minimal burden on Davey's religious exercise because this burden was just like being denied the scholarship for failing to satisfy one of the scholarship's various economic and financial conditions. Moreover, the Court ruled that Washington State had a substantial interest in enforcing the church-state separation required by its own state constitution, even if this separation exceeded what the Court had found required by the Establishment Clause. Given Davey's minimal burden and Washington state's substantial interest, the Court concluded that the state had the discretion not to fund Davey's religious training.

The Court based this ruling on a "play in the joints" principle.⁸¹ To the frustration of many legal scholars, the Court did not outline – and still has not outlined – the contours of this principle. But the principle appears to mean that when a case presents a conflict between the Court's Establishment Clause prohibition on government funding of religion and the Free Exercise Clause prohibition of religious discrimination, the government has the discretion to choose how to navigate the boundaries. Some state governments might want to protect church-state separation more vigorously; others might want to go in the opposite direction by ensuring absolute equality between religion and non-religion. Governments may go in either direction without triggering close judicial scrutiny.

The majority's reasoning infuriated Justices Scalia and Thomas, who each wrote dissenting opinions arguing that the Free Exercise Clause doctrine required Washington State to include Davey in its scholarship program. In his dissenting opinion, Scalia argued that there was no basis in the law for this flimsy "play in the joints" principle. In fact, Scalia wrote that we can "use the term 'principle' [only] loosely, for [play in the joints] is not so much a legal principle as a refusal to apply any principle when faced with competing constitutional directives."⁸²

But what Scalia and Thomas failed to appreciate is that while the "play in the joints" principle was not explicated in the Court's precedents, the principle *emerged* from a conflict between the Court's precedents. Moreover, this principle was not just a mere refusal to apply a principle, as Scalia claimed, but was rather an application of the law of contradiction. Deontic logic, the area of logic dealing with obligations, holds that it is a logical contradiction for the

⁸¹ *Davey*, above n 73, 718.

⁸² *Ibid* 728.

same act to be both required and prohibited.⁸³ That is, it is logically contradictory to prohibit that someone perform the same act that the person is required to perform. Applying this rule of deontic logic to constitutional law, the Free Exercise Clause cannot require that the government fund religious schools in a way that the Establishment Clause had at one point prohibited the government from doing.

Although the *Davey* Court of course did not cite this rule of deontic logic, there is evidence that this intuitive proposition of logic resonated with the Court's free-exercise and disestablishment doctrines to generate the "play in the joints" principle. For example, in oral argument, Justice Kennedy expressed concern about how if the Court held the Free Exercise Clause to require the inclusion of *Davey* in Washington's scholarship program, the Court would then run up against the Establishment Clause rationale for excluding *Davey* from the program. Indeed, Kennedy said to Joshua *Davey*'s counsel that "if we decide in your favour, we necessarily commit ourselves to the proposition that an elementary and secondary school voucher program must include religious schools if it includes any other private schools . . . [and this commitment] would foreclose this Court on the voucher issue."⁸⁴

We might call this use of a logical rule to harmonize judicial precedents an instance of "intradoctrinalism." Recall that Bartrum explained how intratextualism emerged from the combination of the structural modality, which interprets a particular constitutional provision in light of the entire document, and the textual modality, which interprets a particular constitutional provision by considering the provision's meaning to the common person. Similarly, the *Davey* court reached its decision by examining the Court's particular doctrines in light of all the Court's doctrines. That is, the Court interpreted the governing free-exercise doctrine in a way that allowed Washington's exclusion of *Davey* on the basis of religion, and the Court's basis for this interpretation was that the Court's still-extant disestablishment doctrine had at one point required the exclusion. So the Court interpreted a particular doctrine in a way that made all of its doctrines logically cohere.

But this intradoctrinalism is not a mere combination of modalities. Indeed, it is very different from the hybrid-modalities that Bartrum identified in his article.

⁸³ See Stanford Encyclopedia of Philosophy, *Deontic Logic* <<http://plato.stanford.edu/entries/logic-deontic/>> at 30 March 2009.

⁸⁴ Transcript of Oral Argument, *Davey*, 540 U.S. 712 (No. 02-1315), 2003 WL 22955928,35-36 (Dec. 2, 2003). For the audio of the oral argument, see OYEZ, *Locke v. Davey* <<http://www.oyez.org/oyez/resource/case/1631/audioresources>> at 30 March 2009.

We can clearly see this difference in the *Davey* decision. Instead of just combining doctrinalism and structuralism in the *Davey* opinion, the Court *reconceptualized* the doctrinal and structural modalities by applying the law of contradiction to its precedents. This reconceptualization can be captured only by calling it a new modality altogether. And this new modality was triggered by the intramodal conflict that arose when the Court's free-exercise precedents collided with its disestablishment precedents. The intramodal conflict created so much chaos in the law that the Court could reconcile the conflict and decide the case only by creating a new method of interpreting the Constitution altogether.

Conclusion

This paper began by recounting the crisis in constitutional theory over what makes a court's interpretation of the Constitution a legitimate exercise of judicial power. Bobbitt's modal approach largely solved this crisis, but in the process, that approach raised two problems: How do lawyers and courts use the modalities when the modalities conflict, and how does the modal approach account for new methods of constitutional interpretation?

The answers, it seems, lie in the complexity of the modal system. The modalities provide fertile ground for new modalities to emerge and burgeon. Some modal conflicts, as we have seen, are resolved just like normal cases. But other modal conflicts are abnormal and create hybrid-modalities. And still others, like the modal conflict in the *Davey* case, are so legally chaotic that they generate new modalities altogether. Viewed in this light, the modal system is a self-organizing structure that continuously recreates itself. So we do not need to look outside that system for answers about where the modalities come from or how to reconcile modal conflicts: the answers are within the modal system itself.

Complexity theory aids us in understanding the law's unpredictability, self-referentiality, and creativity. Of course, there have already been many works on these features of the law. For example, legal philosopher Peter Suber has written about the law's reflexivity⁸⁵ and the critical legal movement has detailed the many ways in which law is indeterminate or at least vastly underdeterminate. These works all have come close to using complexity theory to explain how the law evolves and creates itself, but they have not taken that last step of placing

⁸⁵ Peter Suber, *The Paradox of Self-Amendment: A Study of Logic, Law, Omnipotence, and Change* (1990).

law in the landscape of a world of becoming, an incomplete world that cannot rest still.

The legal academy, along with social scientists, should look to complexity theory to explain how courts reconcile legal conflicts. For example, scholars are currently engaging with major questions about how courts harmonize competing regulatory regimes,⁸⁶ arbitrate conflicts between the federal and state governments,⁸⁷ and manage interactions between international and national judicial bodies.⁸⁸ Complexity theory promises to shed light on all of these issues.

Complexity theory's application to law poses a serious obstacle for those legal scholars and judges who would prefer conceiving of the law as a closed and linear system. These scholars, though they must come to grips with the law's complexity and unpredictability, can at least take solace in what Prigogine calls a "narrow path" in the conclusion of his book, *The End of Certainty*. Prigogine writes that in the narrow path between strict determinism and absolute randomness, causation and indeterminacy co-exist harmoniously. Prigogine's narrow path is a world in which chance produces novelty, but determinate chains constrain the resulting creation. Perhaps the legal formalists and legal realists can similarly find such harmony, agreeing that while the constitutional modalities constrain constitutional interpretation, there is always the chance that a modal conflict will produce new modalities, engendering a new constitutional method and meaning for future generations.

⁸⁶ Robert B. Ahdieh, *Dialectical Regulation* (2006) 38 Conn. L. Rev. 863.

⁸⁷ Robert A. Schapiro, *Toward a Theory of Interactive Federalism* (2005) 91 Iowa L. Rev. 243.

⁸⁸ Robert B. Ahdieh, *Between Dialogue and Decree: International Review of National Courts* (2004) 79 N.Y.U.L. Rev. 2029.