The Common Law as an Iterative Process: A Preliminary Inquiry

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THE COMMON LAW AS AN ITERATIVE PROCESS:
A PRELIMINARY INQUIRY

Lawrence A. Cunningham*

INTRODUCTION

This Article considers how the common law is a remarkably stable system that constrains judicial discretion through a complement of initial conditions linking cases over time with the possibility of bifurcations that enable it to chart significant changes in course. This Article draws upon but recasts legal theories of path dependence to reveal the common law as an iterative process—a system of endless repetition that is simultaneously stable and dynamic, self-similar but evolving, complex but simple.

The first two Parts give an account of the common law as an iterative process, a modern perspective on an ancient problem of understanding the evolutionary nature of the common law. The common
law’s iterative process consists of continuously repeated dispute resolution in discrete cases. Each case creates a legal result available for use in succeeding cases, where it can be used to reach a new legal result, available for use in reaching yet new legal results in later cases, and so on without end. By this endless iteration, all cases are systemically linked to all prior cases, by the conditions—the facts and circumstances—present in the first case and all intervening ones. Hence the common law exhibits sensitive dependence on initial conditions. This is a principle developed in the past twenty years by physicists studying iterative systems and illustrated at work in the common law in Part I.

These initial conditions thus generate a path dependency in the common law from which it may sometimes be hard to escape. Yet the paths are escaped, and Part II pursues the question of how by presenting a second principle of iterative processes, called self-similarity. Self-similarity in an iterative process exists to the extent that the output of one operation bears a close resemblance to the output in the next operation. Applications of an existing legal rule to new legal disputes bear that quality when legal disputes generated by the rule’s initial conditions continue to be resolved in the same way. Non-self-similar applications of a legal rule involve material departures from the way the rule is first formulated and applied.

When self-similarity dominates the way a legal rule is applied during a phase of the common law process, the population of legal disputes cognizable under that rule is relatively stable. The evolution and articulation of social norms promote the growth of non-self-similarity and that growth threatens the stability in the population of legal disputes. The threat to stability and the path dependency created by initial conditions is overcome by judicial bifurcation of the input rule in a later dispute so that the population of legal disputes attracted by the population of legal rules regains stability.

The next two Parts draw normative implications of understanding the common law as an iterative process, sensitively dependent upon initial conditions subject to transformation by bifurcation. This Arti-

open by asserting that strong legal rules are those that tend to reduce social costs or, equivalently, to promote efficiency. While this explanation rested on neoclassical economic models that made narrow assumptions about human behavior, a parallel but more capacious literature written by sociobiologists emerged. It sought explanations of common law evolution rooted in more descriptively accurate accounts of human behavior. In the past decade, vigorous devotion to these efforts by both legal economists and legal sociobiologists reemerged, with Oona Hathaway contributing important insights from path dependence, which this Article deepens and extends. See Oona A. Hathaway, Path Dependence in the Law: The Course and Pattern of Legal Change in a Common Law System, 86 IOWA L. REV. 601 (2001).
cle shows, in Part III, that a result of this process is a dominant systemic tendency in the common law towards stability in the population of legal disputes attracted by the population of legal rules. This Article then shows, in Part IV, that this systemic tendency puts limits on the systemic significance of judicial discretion. The fabric of the common law absorbs social norms, more than any idiosyncratic prejudices or tastes of particular judges.

The final Part draws the implications of the descriptive and normative points made in the first four Parts for studying law. The importance of facts captured by the sensitive dependence on initial conditions entails a substantial complexity in law that demands a close and careful reading of individual cases to understand law. Yet, the resulting systemic stability and the influence of bifurcations reveal a systemic simplicity in the common law process, entailing also a need to study the rhythms of case law dispute resolution. It is only from the cases of the common law that its systemic complexity and simplicity can be yoked, so selective examples will be the centerpiece of the account that follows.

I. INITIAL CONDITIONS

A conception of the common law as an iterative process can be stated abstractly. The primary basis of this conception is the idea of sensitive dependence on initial conditions. Initial conditions are the facts and circumstances accompanying a given case and how a court resolving the case articulates them (what Karl Llewellyn called situation sense).2 Sensitive dependence on initial conditions refers to how later courts are constrained by what earlier courts said about those conditions.

Available to any court when resolving a dispute is a population of potentially applicable rules, one or more of which a judge applies when resolving the dispute. The rule so invoked may be called an input rule. By applying such an input rule to the situation, the case yields a new result, which may be called an output rule. The linkage between the input rule and the output rule of cases over time defines the characteristic essence of the common law as an iterative process.

While this abstract summary offers a useful introduction to conceiving of the common law as an iterative process, a more animated

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account can be offered by providing doctrinal examples. In what follows, the foregoing abstract points are animated using two venerable doctrines that will be recognizable to any lawyer familiar with the common law: the contract law of third-party beneficiaries and the tort law of privity. These examples are furnished to animate the conception of the common law as an iterative process, not to prove it; the analytical appeal of this conception should exist apart from the illustrations.3

An important systemic reason why laws vary across jurisdictions within a common law system is sensitive dependence on initial conditions.4 Each formulation of a legal rule depends on the facts of the case germinating the rule, and each later formulation of a legal rule depends on both the preceding formulations and on the facts of the preceding cases where the rule was applied.

Take third-party beneficiary law. Lawrence v. Fox5 involved facts not directly covered by the existing population of legal rules.6 Law-
rence loaned money to Holly, who in turn loaned the same amount to Fox, with Fox promising Holly to repay that amount to Lawrence. In Lawrence’s suit to enforce Holly’s contract with Fox, the court rejected Fox’s two arguments. It rejected as legally irrelevant his argument that Lawrence could not enforce the contract since the consideration had flowed not from him but from Holly. More significantly, it drew on the law of trusts to reject his argument that Lawrence could not enforce the contract because he lacked privity with Fox. The trust analogy recognized a constructive promise from Fox (the promisee) to Lawrence (the beneficiary).

The crucial fact in Lawrence v. Fox was that the promisee had been indebted to the beneficiary and was seeking through the promisor’s promise to have that debt discharged. The court’s input rule was from the law of trusts and produced an output rule of contract law that permitted a stranger to a contract to enforce it. The reformulated rule from Lawrence v. Fox attracted an addition to the population of legal disputes in Vrooman v. Turner, a foreclosure action by a mortgagee against a mortgagor and his grantees. The mortgagor had given a mortgage on property to the mortgagee and later the mortga-


7 It seems Holly’s debt to Lawrence arose from illegal gambling so that Lawrence could not have enforced his own contract with Holly. See Waters, supra note 5, at 1123–27.

8 Lawrence, 20 N.Y. at 273–75.

9 Id. at 274–75.

10 Id. at 273–74.

11 The doctrinal hurdles surmounted in Lawrence v. Fox are clear from the separate dissenting and concurring opinions in the case. A dissenting judge seemed to accept the majority’s position on the consideration question but could not accept the disposition or analysis of the privity claim. Id. at 275–81 (Comstock, J., dissenting). The dissent observed that the majority was using trust concepts that were inapplicable and that the majority could cite no authority for the conclusion it reached. Id. at 281. The trust concepts had never before been used in the way the majority was using them. Id. Two concurring judges argued another route for enforcing the contract: an agency theory, treating the promisee as the agent and the beneficiary as the principal. Id. at 275 (Johnson, C.J., and Denio, J., concurring) (concluding that “promise was to be regarded as made to the [beneficiary] through the medium of his agent [the promisee]”). The conceptual problem of how the beneficiary could be the principal if he had not made the promisee his agent was handled by deciding that the promisee created the relationship by his actions and that the beneficiary ratified them. Id.

12 69 N.Y. 280 (1877).

13 Id. at 280.
gor sold the property to a nonassuming grantee.\textsuperscript{14} After a series of further sales to nonassuming grantees a final conveyance was made to an assuming grantee.\textsuperscript{15}

The court took \textit{Lawrence v. Fox} as its starting point, deciding that the dispute was not within the scope of that case because the promisee (the last grantor) was not obligated to the beneficiary.\textsuperscript{16} In \textit{Lawrence v. Fox}, there had been a creditor relationship and the purpose of the promisor’s promise was to discharge the promisee’s debt.\textsuperscript{17} Not so in \textit{Vrooman v. Turner}, because the purported beneficiary (the mortgagee) was not a creditor of the promise—the promisee (the last grantor) had not assumed.

Emphasizing this essential factual difference between \textit{Lawrence v. Fox} and \textit{Vrooman v. Turner}, the \textit{Vrooman} court refused to permit the contract stranger to enforce rights under the contract.\textsuperscript{18} Thus, the result in \textit{Vrooman v. Turner} is dependent on \textit{Lawrence v. Fox} because it furnished the basis to distinguish the facts of the cases. At the same time, \textit{Vrooman v. Turner} created a new formulation of the legal rule: the two cases together implied that a creditor relationship between the promisee and the beneficiary was critical to permitting the beneficiary to enforce the contract.\textsuperscript{19}

The line between these cases was tested in \textit{Seaver v. Ransom},\textsuperscript{20} where the court forged a new category of third-party beneficiaries. A niece sued her uncle’s estate on a promise the uncle had made to the aunt calling for him to leave the family home to the niece.\textsuperscript{21} He had not done so, leaving the home to the Society for the Prevention of Cruelty to Animals (SPCA).\textsuperscript{22} As in \textit{Lawrence v. Fox}, the existing popu-

\begin{itemize}
  \item \textsuperscript{14} \textit{Id.}
  \item \textsuperscript{15} \textit{Id.} at 280–81.
  \item \textsuperscript{16} \textit{Id.} at 284–85.
  \item \textsuperscript{17} \textit{Id.} at 285.
  \item \textsuperscript{18} \textit{Id.} at 286.
  \item \textsuperscript{19} Other cases decided after \textit{Lawrence v. Fox} but before \textit{Vrooman v. Turner} that contributed to this distinction are cited \textit{infra} notes 67–68.
  \item \textsuperscript{20} 120 N.E. 639 (N.Y. 1918).
  \item \textsuperscript{21} \textit{Id.} at 640.
  \item \textsuperscript{22} On the aunt’s deathbed, the uncle proposed that she sign a will he had prepared leaving him the family home for life, remainder to the SPCA. \textit{Id.} at 639. The aunt objected to this, expressing her desire that the home pass to the niece following the uncle’s death. \textit{Id.} The uncle then promised that if the aunt would sign the will he had prepared, he would leave the niece the equivalent of the home in his will. \textit{Id.} at 639–40. The aunt accepted this proposal and signed the will. \textit{Id.} By the time of the uncle’s later death, however, he had not performed this promise, prompting the niece’s lawsuit against the uncle’s estate to enforce his promise to the aunt. \textit{Id.} at 640.
\end{itemize}
loration of legal rules did not cover the dispute in Seaver v. Ransom.23 The New York Court of Appeals had limited third-party beneficiaries to the pecuniary obligation class defined by Lawrence v. Fox and Vrooman v. Turner and a class of intimate beneficiaries composed of wives, fiancées, and children.24 Nevertheless, the court said the aunt-niece relationship was close enough to the intimate categories to justify permitting the niece to enforce the contract as a third-party beneficiary—the aunt-niece relationship created a sufficient moral duty in the aunt to make the niece’s claim plausible.25

The court defended this expansion by a rhetorical characterization of Lawrence v. Fox, agreeing with the lower court that the third-party beneficiary doctrine is “progressive not retrograde.”26 The pivotal fact in Seaver v. Ransom was precisely the niece’s credibility, no doubt bolstered in her contest with the SPCA by evidence that the aunt was no pet lover.27 Using Lawrence v. Fox as the input rule, the court created a new output rule: third-party “donee” beneficiaries could also enforce contracts to which they were strangers.28

An astounding consequence of Lawrence v. Fox, Vrooman v. Turner, and Seaver v. Ransom was the expanded scope of rights in third parties accorded protection under government contracts. Numerous cases in the early twentieth century permitted third parties to recover under government contracts, driven by evolving social norms which elevated the importance of the role of the state in daily life. In response to this swing in the pendulum toward dispute-promoting rules, and the resulting increase in the population of legal disputes, courts began to reverse course and to prescribe new boundaries for recovery, creating an expanding category of citizen beneficiaries not entitled to enforce

23 The lower court in Seaver v. Ransom imposed liability on a trust theory, concluding that the uncle’s promise made him a constructive trustee of the home for the niece. Seaver v. Ransom, 168 N.Y.S. 454 (App. Div. 1917), aff’d on other grounds, 120 N.E. 639. In a 4-3 affirmance on other grounds, the New York Court of Appeals rejected the trust theory because there was no trust res, the uncle having held the home only as a life estate (an interest that died with him). Seaver, 120 N.E. at 640.

24 Id. at 640.

25 Id. at 641. The court also drew the analogy between a testamentary gift and this oral contract for the niece’s benefit, id. at 642, although the former are of course ordinarily required to be in writing under the law of wills and the aunt’s deathbed “disposition” hardly satisfied the requisite formalities.

26 Id. at 641.

27 See Seaver, 168 N.Y.S. at 456.

28 Seaver, 120 N.E. at 642.
contracts to which they are not parties.\textsuperscript{29} Third-party beneficiary law has continued to vacillate since the middle of the twentieth century.\textsuperscript{30}

Throughout, the legal rule formulated by each later case has depended on the formulation of the legal rule, and particularly the factual context in which it germinated, in each of the prior cases. Indeed, if a case having the facts of \textit{Seaver v. Ransom} had preceded one with the facts of \textit{Lawrence v. Fox}, a sustained challenge to the privity and consideration constraints would have been hard to mount. To see this, consider the development of English law in these third-party contests. The 1677 decision of the King’s Bench in \textit{Dutton v. Poole}\textsuperscript{31} involved factual circumstances analytically identical to those of \textit{Seaver v. Ransom}. In \textit{Dutton v. Poole}, a father planned to sell wood to raise a dowry for his daughter.\textsuperscript{32} The eldest son, seeking to inherit the wood, interceded and promised the father that he would provide for the daughter, if the father would not sell the wood.\textsuperscript{33} The father agreed. After the son failed to pay, the daughter sued him.\textsuperscript{34} The court allowed the lawsuit, rejecting the son’s arguments that the consideration did not proceed from the daughter and that she was not in privity with him.\textsuperscript{35}

\textsuperscript{29} In \textit{H.R. Moch Co. v. Rensselaer Water Co.}, 159 N.E. 896 (N.Y. 1928), for example, Cardozo denied that a warehouse owner was a third-party beneficiary of a water supply contract between a city and a public contractor. Cardozo said the contractor could not have consciously assumed the risk of a city burning to the ground in exchange for the trivial reward of payment for water supply. \textit{Id.} at 898. Following such dispute-discouraging iterations of the rule, while creditors and donees could enforce contracts to which they were not parties, a class of incidental beneficiaries could not. \textit{Id.} at 898–99.

\textsuperscript{30} In a series of formulations of dispute-promoting rules, mainly concerning third-party rights to recover under government funded contracts creating broad public benefits, courts transformed both the doctrinal shape of third-party beneficiary law, as well as the broader fabric of public policy and social theory. Third parties were entitled to sue on a wide range of contracts involving such issues as affirmative action in hiring handicapped employees, compliance with Medicare regulations, and admitting minority children to desegregated public school systems. This process led to a dramatic expansion in third-party beneficiary claims, followed by a substantial reduction during the late 1960s and early 1970s and, more recently, another rebound. \textit{See}, \textit{e.g.}, Waters, \textit{supra} note 5, at 1176–92 (discussing increases and decreases in the number of claims based on third-party beneficiary theory from 1964–1985, a period during which the Supreme Court created and later contracted certain private rights of action under federal law).


\textsuperscript{32} \textit{Id.} at 523.

\textsuperscript{33} \textit{Id.}

\textsuperscript{34} \textit{Id.}

\textsuperscript{35} \textit{Id.} Though \textit{Dutton v. Poole} is the most famous of the English cases, it had in fact been preceded by numerous other donee cases dating back to as early as 1597,
While *Dutton* prevailed as the rule in a few subsequent English cases, English courts later repudiated it. In the 1861 case of *Tweddle v. Atkinson* the court expressly denounced *Dutton*, declaring that it was settled law in England that a party cannot enforce a contract unless the consideration in that contract “moves from the party to whom it is made.” This remains the law in England, the House of Lords having declared in *Dunlop Pneumatic Tyre Co. v. Selfridge & Co.* that it is a fundamental principle of English law that “only a person who is party to a contract can sue on it.” While the English Law Revision Committee in 1937 sought to jettison this formulation and in effect adopt the law of third-party beneficiaries as it had developed in New York, that proposal died on the vine. Since then, moreover, English courts have repeatedly refused to abdicate the positions announced in *Tweddle* and *Dunlop*.

A critical difference between the evolution of third-party beneficiary law in New York and England is, therefore, that in New York the creditor relationship case came first and the donee relationship case afterwards, whereas in England the fact patterns came in the opposite order. Once *Lawrence v. Fox* paved the way, the stretch to the donee beneficiary rule in *Seaver v. Ransom* was a relatively short analogical step. Without the springboard of a fact pattern like *Lawrence v. Fox* from which to make such an incremental iteration, the English courts

and there had been one earlier creditor case, *Bourne v. Mason*, (1669) 86 Eng. Rep. 5 (K.B), that insisted on the presence of some special relationship between the promisee and the beneficiary. *Id.* at 6. It remains fair to say that the first case in England, and indeed the first dozen or so cases, were donee cases.


38 *Id.* at 764.


40 *Id.* at 853.


43 Cf. Buchanan v. Tilden, 52 N.E. 724, 727 (N.Y. 1899) (“In a jurisdiction where the doctrine of *Lawrence v. Fox* is the settled law, there is no difficulty in sustaining both in law and equity, the kindred principle announced in *Dutton v. Poole*.”). Classical contract theory emphasized the element of bargain in an exchange by recognizing the need for a promissory quid pro quo. Gratuitous promises were unenforceable. This stance makes *Lawrence v. Fox* an easier case than *Seaver v. Ransom*. 
would have needed to take broader leaps. And while factual circumstances analogous to *Lawrence v. Fox* have been presented to English courts, since the first major leap was taken in a fact setting more nearly like *Seaver v. Ransom* and that leap was repudiated, the iterative processes are moving along different courses.44

The important role of initial conditions also explains why the law of third-party beneficiaries evolved differently in Massachusetts than in New York. As in England, the first third-party beneficiary fact pattern in Massachusetts involved a donee beneficiary.45 While Massachusetts courts upheld liability in that and a series of subsequent donee cases,46 in later explaining those cases the Supreme Judicial Court of Massachusetts in *Mellen v. Whipple*47 characterized all of them as constituting exceptions to the general rule against third-party enforcement rights.48 Rather than full repudiation against recognizing third-party rights to enforce contracts as the English courts had done, however, the Massachusetts court chose to limit the category to donee cases as an “exception” to the ordinary rule.49 As in England, on the other hand, and unlike in New York, the early broad doctrinal leaps were narrowly circumscribed. As in each jurisdiction, that classification contributed an important element to the way Massachusetts third-party beneficiary law has evolved.50

44 *Cf.* KEVIN M. TEEVEN, A HISTORY OF THE ANGLO-AMERICAN COMMON LAW OF CONTRACT 229 (1990) (“It is perhaps regrettable that *Tweddle v. Atkinson* did not simply resolve the donee beneficiary’s rights . . . on the grounds that love and affection was no longer sufficient consideration in [an] era different than *Dutton v. Poole’s* and thereby preserve . . . the possibility that creditor beneficiaries could show consideration . . . .”).

45 Felton v. Dickinson, 10 Mass. (8 Tyng) 287 (1813) (permitting son to recover on promise made to his father though father was not obligated to son).


47 67 Mass. (1 Gray) 317 (1854).

48 *Id.* at 321.


50 It is possible to identify other reasons for the very different evolution and state of law concerning third-party rights in contracts in these jurisdictions. Professor Eisenberg has argued, for example, that one can understand the earlier cases in England and Massachusetts permitting third-party donee claims to have been reversed in tandem with the rise of the classical theory of contract. Eisenberg, *supra* note 6, at 1360–74. Earlier judges acknowledged contract rights in third parties because they were less troubled with the formal structure of contract promoted by the classical school, which worshipped at the altars of privity and consideration. *Id.* at 1365.
To deepen this animation of the common law’s iterative process and related sensitive dependence on initial conditions, take another example, that of privity in tort law. The privity rule met its demise in the evolution of the rule of inherently dangerous goods. The issue addressed by this rule and its line of cases was under what circumstances a seller or owner should be liable for injuries sustained by one other than the buyer or person dealing directly with the owner. The English courts’ first formulation of the inherently dangerous products rule came in 1851 in *Longmeid v. Holliday*. The court refused to hold

Those constraints assumed axiomatic importance to judges during the classical period who, in Professor Eisenberg’s view, retreated from the earlier formulations to deny third-party contract rights. As the hold of the classical school finally abated, contract rights in third parties were once again recognized. *Id.* It is the rise and fall of classical contract theory, according to Professor Eisenberg, that best explains the evolution in the law of third-party beneficiaries in New York, England, and Massachusetts. *Id.* at 1366–69. Professor Eisenberg’s explanation of the evolution of third-party beneficiary law in terms of the rise and fall of classical contract theory is certainly appealing. Yet the description contains some chronological anomalies. The Massachusetts and English courts refused to uphold third-party contract rights as early as 1854 in Massachusetts (Mellen v. Whipple, 67 Mass. (1 Gray) 317)) and 1861 in England (Tweddle v. Atkinson, (1861) 121 Eng. Rep. 762 (Q.B.)). This was many years before Langdell and Williston emerged to propound the formalist thinking in contract law that is the hallmark of the classical period. And it was not until 1979 in *Choate, Hall & Stewart v. SCA Services, Inc.*, 392 N.E.2d 1045 (Mass. 1979), that Massachusetts finally abandoned its resistance to recognizing third-party rights generally as a matter of contract law, long after the decline of classical contract theory, and, as noted, England has yet to do so. Nor does the rise and fall of classical contract theory account for why New York escaped the clutches of classical contract theory’s formalism. After all, New York courts permitted recovery to third parties in 1859 (in *Lawrence v. Fox*, 20 N.Y. 268 (1859)) and 1918 (in *Seaver v. Ransom*, 120 N.E. 639 (N.Y. 1918)) and throughout the intervening period of classical contract theory’s reign. New York courts may have been influenced by classical contract law, even after *Lawrence v. Fox* retreated from potentially broader implications. Despite this possibility, an alternative account of these cases in terms of the iterative theory of the common law being discussed seems equally plausible.


52 (1851) 6 Exch. 761, 155 Eng. Rep. 752. The English courts had first grappled with this kind of fact situation by invoking rules from the law of agency. In *Dixon v. Bell*, (1816) 105 Eng. Rep. 1023 (K.B), the court had permitted a third party to recover for gunshot wounds inflicted by the owner’s servant because the owner had left the gun “in a state capable of doing mischief.” *Id.* at 1024. In a later fact pattern where the gun had misfired in the child’s hands, the child was permitted to recover from the seller on the formula that the seller knew the child would use the gun. Langridge v. Levy, (1837) 2 M. & W. 519, 531–32, 150 Eng. Rep. 863, 868 (Exch. P.). In doing so, the court in *Langridge* rejected the seller’s argument, which seemed to draw on *Dixon v. Bell*, to distinguish between things “immediately dangerous or mischievous by the act of the defendant” and “such as may become so by some further act
the seller of a lamp liable to the wife of the buyer largely on the grounds that the lamp, though containing naphtha that scorched the woman, was not in its nature a thing of danger.\textsuperscript{53} The next year, the New York court in \textit{Thomas v. Winchester}\textsuperscript{54} permitted recovery to a consumer of poison erroneously bottled as a tonic against the manufacturer precisely on the grounds that the manufacturer’s negligence had “put human life in imminent danger.”\textsuperscript{55}

The defining initial conditions of the inherently dangerous products rule in England and New York, therefore, consisted of two elements. The primary element—the factual context—differed in the kind of good that had caused harm, a lamp in England and a bottle of poison in New York. The secondary element—the legal rule formulated—was identical in each case, but in its application the courts classified the thing at issue on different sides of the rule. In terms of initial conditions, the lamp case of \textit{Longmeid v. Holliday} is conceptually equivalent to the donee beneficiary case that came first in England (both denied recovery), and the poison case of \textit{Thomas v. Winchester} is conceptually equivalent to the creditor beneficiary case that came first in New York (both permitted recovery).

These different initial conditions led courts in England and New York faced with analytically identical fact situations to employ different legal rules to resolve the disputes. Both courts were asked to permit a third party to recover against the constructor of defective scaffolding. The New York court in \textit{Devlin v. Smith}\textsuperscript{56} held that scaffolding to be used in the painting of a courthouse was an inherently dangerous article justifying liability to the third party.\textsuperscript{57} In England the next year, the court in \textit{Heaven v. Pender}\textsuperscript{58} also permitted recovery to a worker injured as the result of defective scaffolding used in the painting of a ship but based its decision not on the inherently dangerous product rule but on the grounds that the dock owner had invited to be done to it.” \textit{Id.} at 867. The court expressed concern about dabbling in any such distinction, for doing so may invite lawsuits by “\textit{any person}” who may come to possess the gun and be injured by it. \textit{Id.} at 868 (emphasis added). In \textit{Winterbottom v. Wright}, (1842) 10 M. & W. 109, 152 Eng. Rep. 402 (Exch. P.), the court distinguished these cases to deny recovery to the operator of a defective coach on the grounds that the nexus between the gun seller and the child/user had been tighter in those cases. \textit{Id.} at 404–05.

\textsuperscript{54} 6 N.Y. 397 (1852).
\textsuperscript{55} \textit{Id.} at 409.
\textsuperscript{56} 89 N.Y. 470 (1882).
\textsuperscript{57} \textit{Id.} at 478.
\textsuperscript{58} (1883) 11 Q.B.D. 503.
the worker onto the property. Similar to the evolution of third-party beneficiary law—where the chronology of fact patterns created initial conditions leading to the formulation of different legal theories with which to enforce third-party contract claims—in these cases the nature of the respective initial fact patterns led to the use of different legal theories to enforce third-party tort claims.

There is a potentially troubling objection to the positive fact that this constraint exists in the common law. Professor Kress has noted that the temporal ordering of common law dispute resolution, coupled with the doctrine of precedent, implies that legal rights are determined with an indifference to morality. Emphasizing the role of initial conditions (or path dependence) in the evolution of the common law may be seen to make this concern more acute.

But the importance of initial conditions in the common law should not be understood to mean that the different legal landscapes that result from the iterative process always imply different results in similar cases or that the doctrine of precedent disables judges from reaching just results. On the contrary, since the iterative process is driven by facts and consists in reflecting and articulating social norms, the judicial process in the common law enables sufficient doctrinal malleability to suit the needs of justice in individual cases. For example, courts circumvented the injustices that would sometimes result from denying third-party rights by liberal use of trust and agency concepts in England and by manipulating trust, property and tort concepts in Massachusetts. While such approaches do pose adverse consequences for doctrinal coherence, and therefore promote instability in the population of legal disputes, they do not rob the common law of a moral dimension.

A second objection to this account of the common law can be anticipated on grounds of parsimony. Is not the evolution of third-party beneficiary law and tort privity law equally and satisfactorily ex-

59 Id. at 514.
60 See Kenneth J. Kress, Legal Reasoning and Coherence Theories: Dworkin’s Rights Thesis, Retroactivity and the Linear Order of Decisions, 72 CAL. L. REV. 369, 371–72 (1984) (“[T]he doctrine of precedent lead[s] to a morally troubling linear ordering problem: legal rights depend upon the temporal order in which cases are decided.”); see also Hathaway, supra note 1, at 605 (describing as “unsettling” that “the order in which cases arrive in the courts can significantly affect the specific legal doctrine that ultimately results”).
plained in terms of path dependence alone? This is the proposition that the course of any process at a given time is constrained by the prior course of that process. The QWERTY keyboard is the common example—originally designed to slow a typist down to accommodate mechanical weaknesses of early typewriters, typing could be faster today if the keys were reorganized. While path dependence theories offer various mechanisms for escaping initial conditions that put limits on later evolution, they typically lack an adequate systemic account of the process for overcoming the path dependence—e.g., how existing systems might facilitate a switch from the QWERTY keyboard to a superior one.64

Theories of common law precedent that contemplate defeating undesirable lock-in effects of initial conditions must go outside path dependence models for the solution to overcoming path dependency.65 Viewing the common law as an iterative process does not require such an excursion. Rather, as the next Part will show, the characteristic of sensitive dependence on initial conditions is coupled with a systemic mechanism that facilitates overcoming the resulting constraints while at the same time resisting sustained threats to instability, a mechanism I call bifurcation.66

II. Bifurcation

The concept of bifurcation can be introduced abstractly. The announcement of a surprising legal result in a case, such as in Lawrence v. Fox, creates instability in the population of legal disputes cognizable under that case. The announcement cannot define with certainty or even high probabilities what population of legal disputes it will sustain. The attracted population will eventually stabilize, however, as the result in that case is repeatedly used as an input rule in later cases. The later cases that use the first case and its result as an input rule

66 In other words, a process that is path dependent may be characterized by sensitive dependence on initial conditions, but it is also characterized by systemic constraints binding the process to the path and thwarting deviation. A path dependence account must go outside of the system it describes for such a mechanism. The iterative process of the common law is characterized by sensitive dependence on initial conditions that set the course in motion but that process also contains within it a mechanism for overcoming that constraint.
yield an output rule that comes to resemble very closely the relationship between the input rule and the output rule in prior iterations. That close resemblance between such cases defines the property of self-similarity. While this abstract account offers a useful introduction to this feature of the common law as an iterative process, it can be animated by the two doctrinal examples so used in the preceding discussion of initial conditions.

Consider the third-party beneficiary cases following *Lawrence v. Fox*. The first cases involved uncertainty in the scope of the input rule. But cases such as *Vrooman v. Turner* enhanced the stability of the population of legal disputes by delineating more clearly the population of legal disputes the rule would sustain. Though the facts of later cases were of course different from those in *Lawrence v. Fox*, the differences constituted variations on the theme. The third party seeking to enforce the contract was granted or refused that right according to whether it was a creditor of the promisee. Applying the result of *Lawrence v. Fox* in those cases was straightforward and involved no material reformulation of that result. The input rule in each case closely resembled the output rule in each case, and the relationship between the input and the output rule in each case resembled that relationship in other cases. In short, the series of cases exhibited self-similarity, which in turn meant that it offered greater stability in the population of legal disputes the rule attracted.

Likewise, following the New York court’s announcement of the “inherently dangerous” rule in *Thomas v. Winchester*, a period of self-similarity of rule application ensued. In a series of cases, the New York Court of Appeals posed the issue as to whether a particular good was or was not a thing inherently dangerous. In *Losee v. Clute*, it put a boiler that had exploded on the “not inherently dangerous” side while, as noted, in *Devlin v. Smith*, it put scaffolding to be used in the painting of a courthouse on the “inherently dangerous” side. This sorting out of liability based on the characteristics of the thing in-

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67  E.g., Durnherr v. Rau, 32 N.E. 49 (N.Y. 1892) (finding that *Lawrence v. Fox* requires relationship of debtor and creditor); Garnsey v. Rogers, 47 N.Y. 233, 240 (1872) (denying recovery because party was not a creditor).

68  Indeed, courts often insisted explicitly on self-similarity. E.g., Lorillard v. Clyde, 25 N.E. 917, 919 (N.Y. 1890) (noting that “courts have repeatedly said that the principles of *Lawrence v. Fox* should be limited to the cases having the same essential facts”); Wheat v. Rice, 97 N.Y. 296, 302 (1884) (“We prefer to restrict the doctrine of *Lawrence v. Fox* within the precise limits of its original application.”).

69  51 N.Y. 494 (1873).

70  89 N.Y. 470 (1882).
volved continued, exhibiting the property of self-similarity and sustaining a stable population of legal disputes.71

The emergence and articulation of new social norms and the discarding of old ones constantly test the depth of self-similarity that arises from repeated applications of a legal rule. New dispute-promoting rules increase the population of legal disputes attracted by the population of legal rules, and that increase in turn creates instability in the population of legal disputes. For example, the category of intimate relationships that came to be granted the right to enforce contracts to which they were strangers pressed the limits of *Lawrence v. Fox.*72 The population of legal disputes attracted by the emerging line of cases began to threaten the stability in the population of legal disputes that was otherwise being maintained by the self-similar line of cases that did not depart materially from the *Lawrence v. Fox* paradigm.73 So too with later applications of the inherently dangerous products rule, in which the classes of goods considered to be inherently dangerous began to expand. In *Torgesen v. Schultz,*74 the court characterized as inherently dangerous a bottle of aerated water and in *Statler v. George A. Ray Mfg. Co.*75 the court put a defective coffee urn in the group.

As the attracted population of legal disputes expands in response to new dispute-promoting rules, it also becomes unstable and puts pressure on the input rule. That pressure is released by an instance of bifurcation—the application of that legal rule to a new dispute reveals a marked departure from prior applications. In a bifurcation, the input rule remains intact but the output rule represents a distinct break from it: the output rule is a new legal rule that will attract a different population of legal disputes. In particular, the input rule will continue to attract the stable portion of the population of legal disputes, and the output rule will attract the unstable portion of that population.

71 Self-similarity also characterized the English cases in this period. *E.g., George v. Skivington,* (1869) 5 L.R. Exch. 1 (finding that consumer of hair wash purchased by her husband could recover against the seller for injuries the hair wash caused on grounds that the hair wash was inherently dangerous product).

72 *E.g., Buchanan v. Tilden,* 52 N.E. 724 (N.Y. 1899) (husband and wife); *Todd v. Weber,* 95 N.Y. 181 (1884) (father and daughter).

73 *Cf. Benjamin N. Cardozo,* *The Nature of the Judicial Process* 99 (1921) ("We get a striking illustration of the force of logical consistency, then of its gradual breaking down before the demands of practical convenience in isolated or exceptional instances, and finally of the generative force of the exceptions as a new stock, in the cases that deal with the right of a beneficiary to recover on a contract.").

74 84 N.E. 956 (N.Y. 1908).

75 88 N.E. 1063 (N.Y. 1909).
Seaver v. Ransom is an instance of bifurcation that may be seen as intended to alleviate the instability in the population of legal disputes threatened by the expanding classes of cases allowing third parties to enforce contract rights. The Seaver v. Ransom court in effect had to choose between two possible sources of sustaining stability in the population of legal disputes. It could have refused to permit recovery to the category of donee beneficiaries entirely. That would have promoted stability in the population of legal disputes by limiting the doctrine to the class of creditor beneficiary cases. But it would also have had the possible effect of promoting instability in other portions of the population of legal disputes.

For example, the rules in Massachusetts and England denying contract claims of third parties are dispute-discouraging rules with respect to the population of legal disputes defined in terms of contract. But those rules would risk increasing the population of legal disputes attracted by other rules, such as the rules of trust law and agency law that Massachusetts and English courts sometimes employed as the basis for third-party recoveries. Such a move in Seaver v. Ransom would, therefore, have created as an output rule a new dispute-discouraging rule but could have promoted instability in the population of legal disputes attracted by previous output rules in trust law and agency law.

The other option available to the Seaver v. Ransom court, and the one it chose, was to inject stability into the creditor class of cases by segregating the stable portion of the population of legal disputes from the unstable portion of the population of legal disputes. By breaking off the category of donee beneficiaries into a separate class, the court would lend stability to the population of legal disputes attracted by the old dispute-promoting rule governing creditor beneficiaries, and permit the fluid working out of the contours of the new dispute-promoting rule governing donee beneficiaries.

Bifurcations that create either dispute-promoting rules (as in Seaver v. Ransom) or dispute-discouraging rules (the alternative not taken in Seaver v. Ransom) seek to restore stability in the population of legal disputes with respect to the input rule and tolerate instability in the population of legal disputes attracted by the output rule or pre-existing output rules. Bifurcation always results in the evolution of the rules upon separate courses. The input rule tends to operate in a region with enhanced stability in the population of legal disputes it attracts and a return to an evolution characterized by self-similarity. The output rule or the other pre-existing output rules tend to operate

76 See supra notes 20–30 and accompanying text.
77 See cases cited supra notes 62–63.
with respect to a population of legal disputes characterized by a tolerable level of instability set on a course toward acquiring the characteristic of self-similarity and eventual stability in that population.\textsuperscript{78}

In a completely stabilizing bifurcation, stability in the population of legal disputes attracted by the input rule immediately returns, and the instability in the population of legal disputes attracted by the output rule or the pre-existing output rules will be short-lived. The immediate return of stability in the population of legal disputes attracted by the input rule depends on whether applications of the input rule reacquire the characteristic of self-similarity. If so, the population of legal disputes it attracts will stabilize. The instability in the population of legal disputes attracted by the output rule or the pre-existing output rules will be tolerable if the rule or rules eventually acquire the characteristic of self-similarity in application. If so, the population of legal disputes that the rule or rules attract will stabilize and the tendency toward stability would be reinforced by a later bifurcation that arrests any tendency to stray from stability.

A partially stabilizing bifurcation can arise from one of three circumstances: the input rule not immediately reacquiring the characteristic of self-similarity in its application, the output rule exhibiting no tendency toward self-similarity in its application, or the pre-existing output rules developing non-self-similar applications. In any of these circumstances, the affected rule instead evolves chaotically and the pressure of intolerable instability in the population of legal disputes it attracts is intense and immediate. Rather than evolving toward an instance of bifurcation, therefore, a partially stabilizing bifurcation leads to eradicating the rule that attracts an unstable population of legal disputes.\textsuperscript{79}

A. A Partially Stabilizing Bifurcation

To determine whether \textit{Seaver v. Ransom} turned into a completely stabilizing or a partially stabilizing bifurcation, we must examine the

\textsuperscript{78} Each bifurcation therefore involves an implied judicial forecast about the probability that the output rule (or pre-existing output rules) will eventually stabilize and that the use of the output rule (or pre-existing output rules) distinct from the input rule will restore stability to the population of legal disputes attracted by the input rule.

\textsuperscript{79} A nonstabilizing bifurcation arises if both the input rule and the output rule (or a pre-existing output rule) evolve without self-similarity. The effects that apply following a partially stabilizing bifurcation apply to both rules, or else the rules simply meet obscurity (as by being ignored in later iterations). \textit{Cf. Cardozo, supra} note 73, at 22 (“Not all the progeny begotten of principles of a judgment survive . . . to maturity.”).
degree to which subsequent applications of the creditor beneficiary rule germinated by Lawrence v. Fox reacquired the characteristic of self-similarity and the degree to which later applications of the donee beneficiary rule germinated in Seaver v. Ransom eventually acquired that characteristic. The creditor beneficiary rule following Seaver v. Ransom did resume a stable course of development. Numerous cases were decided once again based on whether a creditor-debtor relationship existed between the beneficiary and the promisee.80

The donee beneficiary rule following Seaver v. Ransom, in contrast, underwent a more chaotic evolution, vacillating between various formulations of the rule and inhibiting stabilization in the population of legal disputes being attracted. On one hand, third parties were permitted to enforce contracts though they were owed no duty by the promisee. For example, construction workers were permitted to enforce contracts between their employer (a contractor) and the owner for promises by their employer-contractor to comply with the law81 or to pay workers specified wages.82 On the other hand, courts sometimes emphasized the absence of such a duty to refuse third-party enforcement of a contract that expressly identified the third party as a donee beneficiary.83 As a result of these widely different formulations and applications, the class of donee cases never achieved the kind of self-similar quality that characterized the creditor beneficiary line of cases that followed after Lawrence v. Fox and after Seaver v. Ransom.

The lack of self-similarity in the donee beneficiary category led judges to shift the inquiry to focus on the intentions of the promisor and the promisee rather than on the promisee’s relationship with the beneficiary.84 The authors of the Restatement (Second) of Contracts reflected this shift in their formulation of the rule by distinguishing between intended and incidental beneficiaries. They explained this change as designed to avoid unnecessary confusion they believed had followed from the creditor-donee distinction.85 Yet in that formul-
tion, strong strands of the creditor branch of the earlier rule remain, whereas barely any strand of the donee branch of the earlier rule survived. Thus, the Restatement (Second) of Contracts expressly refers to situations where the promisee was the beneficiary’s debtor,\footnote{Id. § 302(1)(a).} but it is not explicit about the making of a gift to a beneficiary.

In short, the greater uncertainty in the third-party beneficiary doctrine and the instability in the population of legal disputes being attracted existed with respect to the parameters of the donee category rather than the creditor category. The donee category did not achieve self-similarity, but the creditor category did.\footnote{See 9 CORBIN, supra note 6, § 827, at 268–71. Cf. Eisenberg, supra note 6, at 1373 (arguing Seaver v. Ransom’s “recognition of prior moral obligations as a basis for enforcement was inherently much more expansive, less standardized, and more openly dependent on social propositions than was the earlier restriction to pre-existing legal obligations”).} Seaver v. Ransom was, therefore, a partially stabilizing bifurcation because, while its input rule reacquired the characteristic of self-similarity, its output rule did not. As a result, that output rule was eradicated, as the Restatement (Second) of Contracts suggests.\footnote{The decision of the Massachusetts court in 1979 to reject its approach to these third-party disputes by manipulation of trust, property, and tort theories and instead to adopt contract law rules, see Choate, Hall & Stewart v. SCA Servs., Inc., 392 N.E.2d 1045 (Mass. 1979), may also be understood as a bifurcation. The court sought to jettison its input rules, which created instability in the population of legal disputes being attracted because it necessarily altered the law of trusts, property, and tort from which the manipulated rules were borrowed. See supra text accompanying notes 61–63.}

B. A Completely Stabilizing Bifurcation

Just as in the donee cases leading up to Seaver v. Ransom, the category of inherently dangerous goods leading up to MacPherson v. Buick\footnote{111 N.E. 1050 (N.Y. 1916).} began to exhibit a sufficiently expansive character as to threaten the stability of the population of legal disputes it would attract.\footnote{See supra text accompanying notes 74–75.} Cardozo’s MacPherson opinion is a bifurcation that responds to evolving social norms and recognizes this signal as a threat to destabilize the population of legal disputes being attracted by this input rule. Noting recent cases extending the scope of the inherently dangerous products rule, Cardozo announced a commitment to the judicial trend toward that extension. Breaking from the input rule formulation,
Cardozo criticized the distinction between inherently dangerous and potentially dangerous goods as involving “verbal niceties.”

In refusing to be constrained by that formulation, Cardozo defined a new, expanded legal rule: “If the nature of a thing is such that it is reasonably certain to place life and limb in peril when negligently made, it is then a thing of danger.” This bifurcation reflected the insight that “[t]he principle that the danger must be imminent does not change, but the things subject to the principle do change.” Because things included were expanding beyond what sense might say were inherently dangerous, Cardozo needed a release against the pressure of instability.

Cardozo clarified that those things in one category clearly created a duty but those things in the other category still might create a duty, though perhaps for different reasons. In other words, this break is a bifurcation precisely in the sense that, whereas it had become clear that a special duty existed for the category of things inherently dangerous, this did not mean there could not be a duty in the others. As a result, the bifurcation is intended to produce stability in the line of cases involving products more easily characterized as inherently dangerous, such as poison, and to tolerate some instability in the output line governing more ambiguous product types.

The bifurcation in MacPherson was a completely stabilizing one. The input rule and the output rule each quickly came to be applied in a manner characterized by the quality of self-similarity. The input rule line, governing inherently dangerous products, continued for many years to be applied by New York courts. For goods that were not in that category, liability could still be premised on a negligence theory. In this line of cases, the central question concerned whether the good was manufactured negligently, not whether the good was or

91 MacPherson, 111 N.E. at 1055.
92 Id. at 1053.
93 Id.
94 Note the analogy to the bifurcation in Seaver v. Ransom—liability in creditor cases was as clear as liability in inherently dangerous products cases. What was unclear, and what the bifurcations sought to move toward, was liability in the donee cases and in cases involving other product types negligently manufactured, respectively.
96 See Prosser, supra note 51, at 1102 nn.24 & 26 (citing cases).
was not inherently dangerous.\textsuperscript{98} The output rule, therefore, emerged as a general rule of negligence while the input rule continued to apply to particularly dangerous goods without regard to the manner of manufacture.\textsuperscript{99} In each case, applications of the rule were characterized by self-similarity and therefore attracted a stable population of legal disputes.\textsuperscript{100}


\textsuperscript{100} Decades later, not surprisingly, iterative applications of the output rule led to sufficient modifications of the negligence rule in this context that a new bifurcation was necessary to release the consequent pressure of instability, a bifurcation first announced by Justice Traynor in \textit{Greenman v. Yuba Power Products, Inc.}, 377 P.2d 897 (Cal. 1963). See Nicolas P. Terry, \textit{Collapsing Torts}, 25 Conn. L. Rev. 717, 737–38 (1993).

You could also explain the tort-privity doctrine leading up to \textit{MacPherson} in other ways. The decline of the privity rule in tort—as well as the decline of privity as a requirement in the third-party beneficiary context—can be seen as part of a broader transformation of the common law. A strong rule of privity came to be seen by many as a primitive artifact of pre-industrial society. The privity rule was substantially weakened during the nineteenth century as competitive markets emerged and was rendered anachronistic by the early twentieth century as the impersonality of those markets became clear. See TEEVEN, supra note 44, at 231. Professor TEEVEN points out that Seaver \textit{v. Ransom} and \textit{MacPherson} were decided at around the same time when “[a]n equitable aversion to the shortcomings of privity was in the air in New York.” \textit{Id.} Cardozo also made this link explicit in cases concerning tort liability for economic loss to a third party resulting from the provision of false information pursuant to a contract with another. \textit{E.g.}, Ultrameres Corp. \textit{v. Touche}, 174 N.E. 441, 444–48 (N.Y. 1931) (concluding that creditors and shareholders of a corporation could recover from an independent auditing firm who certified to the corporation incorrect financial statements); Glanzer \textit{v. Shepard}, 135 N.E. 275, 276–77 (N.Y. 1922) (saying that “the bounds of duty are enlarged by knowledge of prospective use” and holding that the buyer was entitled to recover from public weigher who certified to the seller an incorrect weight for goods). But these forces are not entirely true. The doctrine of privity has been invoked by a large minority of states as a basis to refuse adopting U.C.C. § 2-318(1)(a)’s extension of contract warranties to parties not in privity with the seller of goods. Even if true, moreover, those forces at most account for background conditions influencing social evolution, translated indirectly into the social sub-system of the common law. Understanding the common law as an iterative process offers a more particularized account of how that translation happens and hence of the mechanisms of common law evolution.
III. Stability

The foregoing discussion used two doctrinal illustrations—from third-party beneficiary law in contracts and privity law in torts—as tools to animate this inquiry into the common law as an iterative process with sensitive dependence on initial conditions and the possibility of bifurcations. These illustrations are intended to animate the broader conceptual features of the common law being identified abstractly (not to prove a story, for which a far larger "sample size" would be necessary). The common law as an iterative process so animated bears normative implications, most generally concerning its systematic stability. Three generations of law students have been introduced to legal reasoning through Edward Levi’s famous description of the common law process.101 Levi used the inherently dangerous products line of cases to identify a spiraling motion in the evolution of legal rules in the common law through three phases.102 Levi identified these three phases as moving from the search for a statement of a legal rule, the essential fixing of that formulation once sufficiently articulated and, finally, the eventual breakdown of the formulation.103 In Levi’s story of the inherently dangerous products line of cases in New York, the search began with Thomas v. Winchester and underwent a period of fixing leading up to MacPherson v. Buick, which in turn marked the breakdown of the older formulation.104 For Levi, the breakdown generates the need for a new search, restarting the process and carrying it forward in an endless spiraling process.105

Levi’s story is certainly appealing, especially as an introduction to legal reasoning. As an account of the process of the common law, however, it fails to capture the systemic tendency toward stability. Levi’s phase of fixing corresponds to the period when a rule is characterized by self-similarity—much of the period between Thomas v. Winchester and MacPherson, for example. The moment in the iterative understanding equivalent to Levi’s breakdown phase is the instance of bifurcation—the MacPherson example in both cases. But Levi’s breakdown would follow from an implosion of the rule under the stress of the category and lead to a completely new formulation. In contrast to each of these points, a bifurcation occurs when the stability of the

101 See Steven J. Burton, An Introduction to Law and Legal Reasoning 36 (2nd ed. 1995); Edward H. Levi, Introduction to Legal Reasoning (1949); see also Hathaway, supra note 1.
102 See id.
103 See id. at 8–27.
104 See id. at 27.
105 See id. at 14–20.
population of legal disputes being sustained under the input rule is threatened and represents the formulation of a new and separate rule that coexists along with the old and prior rule.

Self-similar applications need not be jettisoned and substituted with a new formulation, but rather the old and the new endure side-by-side. Thus, MacPherson did not discard the inherently dangerous products rule but instead split from it in creating a new output rule of negligence. Similarly, Seaver v. Ransom did not discard the creditor beneficiary rule but instead split from it in creating a new output rule of donee beneficiaries. It was only the lack of self-similarity in the donee beneficiary cases that ultimately led to the discard and eradication of that rule and that consequence of a partially stabilizing bifurcation does represent an instance of Levi’s breakdown phase. The common law process does not entail so much a perpetual spiraling motion but rather is iterative and better captured imagistically by a continuously bifurcating series of lines through time.

As for Levi’s initial search phase, instances of bifurcation may be seen to represent starting nodes of such a phase. And, as with each judicial application of a legal rule, a bifurcation is driven by the initial conditions in which it is applied. Instances of bifurcation, as well as other applications of legal rules, therefore recall Karl Llewellyn’s distinction between how a judge announcing a legal rule understands that rule and how later judges interpret that understanding.\textsuperscript{106} For Llewellyn, the distinction meant that the announcement of a novel legal result cannot itself constitute a legal rule.\textsuperscript{107} Rather, its rule characteristic would not arise until later courts applied the earlier court’s result.\textsuperscript{108} Later courts could therefore conclude that the result in the earlier decision was narrower or broader than the earlier court thought it was.\textsuperscript{109} This distinction implies that through narrowing or broadening the results of earlier decisions, later courts could substantially break any link between successive cases over time. But sensitive dependence on initial conditions implies a closer link between these events than Llewellyn explicitly recognized.

\textsuperscript{106} K.N. LLEWELLYN, THE BRAMBLE BUSH: ON OUR LAW AND ITS STUDY 52 (1960) (explaining “distinction between the ratio decidendi, the court’s own version of the rule of the case, and the true rule of the case, to wit, what it will be made to stand for by another later court”).

\textsuperscript{107} See id.

\textsuperscript{108} See id.

\textsuperscript{109} Id. Llewellyn was clear in his belief that later courts could narrow the earlier court’s rule but less clear that later courts could broaden it, see Joel Levin, The Concept of the Judicial Decision, 33 Case W. Res. L. Rev. 208, 217 n.28 (1983), though this latter point also seems implicit in his discussion.
The first judge and each later judge are all constrained to operate within the facts set forth in the first case. Those facts, the initial conditions, link the judges irrevocably. Maybe the distinction between what the first court says as law or rule and what later courts understand it to mean is potentially significant, as Llewellyn contended. Yet each is constrained by what the first court says as fact—by the initial conditions as the first court stated them. That later courts attributed to Lawrence v. Fox a significance the judges in that case may not have contemplated supports Llewellyn’s thesis,\textsuperscript{110} but the key facts of that case controlled what could be said about it.\textsuperscript{111} And it was precisely the creditor facts of Lawrence v. Fox that supported the maintenance and broadening of third-party beneficiary law in New York, whereas the donee facts of the early English and Massachusetts cases strongly inhibited the extension of that doctrine in those jurisdictions.\textsuperscript{112}

Consider too the initial facts of the English and New York cases that started the inherently dangerous products line of cases—Longmeid v. Holliday and Thomas v. Winchester, respectively. Whatever later courts may have been able to say about the legal rules stated in those cases, the facts of those cases substantially controlled how later cases would be decided.\textsuperscript{113} More than how later courts choose to treat the earlier result, therefore, what is important is how the first court stated the facts. The initial conditions constrain later judges in their understanding of what the first court said or did. To that extent, the result in the earlier case constitutes at least the germination of a legal rule and binds later courts as a matter of law.

More than Llewellyn, Cardozo noticed the strong link between cases over time. He observed that there is a tendency in law “toward the reproduction of kind,” that every legal judgment “has a generative power,” and that each judgment “begets in its own image.”\textsuperscript{114} The source of these tendencies is the rule of sensitive dependence on initial conditions, and the tendencies can be redescribed as manifestations of the quality of self-similarity. But there the resemblance of the theory of the common law as an iterative process to Cardozo’s conception ends, for Cardozo went on to say that the common law involves a constant dynamic element in which nothing is stable,\textsuperscript{115} though there is a “constant striving of the mind for a larger and more inclusive

\textsuperscript{110} See Hoeflich & Perelman, supra note 5, at 735–37.  
\textsuperscript{111} See supra text accompanying notes 67–68.  
\textsuperscript{112} See supra text accompanying note 31.  
\textsuperscript{113} See supra text accompanying notes 52–59.  
\textsuperscript{114} Cardozo, supra note 73, at 21.  
\textsuperscript{115} Id. at 28.
unity, in which differences will be reconciled, and abnormalities will vanish.”

Cardozo thus implies an endless searching, much as Levi envisioned an endless spiraling motion. But bifurcations imply that certain searches end in realizing stability—a completely stabilizing bifurcation produces stability in the population of legal disputes attracted by both the input rule and the output rule (or pre-existing output rules), and even a partially stabilizing bifurcation produces stability in the population of legal disputes with respect to one of the rules. While it is true that the stability promoted by a bifurcation is rarely permanent, the key point is that stability prevails for significant periods of time. Understanding the common law as an iterative process therefore suggests that the goal of stability is realized more often than either Cardozo or Levi thought.

The systemic tendency toward stability dominates other discrete objectives that have been seen to drive the common law process. Consider efficiency. George Priest and others have shown that the common law tends to produce efficient rules and to replace inefficient rules with efficient ones. Yet more than one efficient rule could be formulated to address a particular issue and some inefficient rules persist. Rules that survive, whether they are efficient or inefficient, do so because they tend to promote stability in the population of legal disputes being attracted by the population of legal rules. The mechanisms that assure their survival and promote that stability are sensitive dependence on initial conditions and self-similarity.

In some instances, rules formulated to promote stability may also happen to promote some form of efficiency. Thus one could acknowledge that the privity rule, in both tort and contract, had become inefficient in the maturing markets at the turn of the nineteenth century. That acknowledgement could then be used to explain the litigation that led to Seaver v. Ransom’s formulation of the donee category of third-party contract beneficiaries and of the litigation that

116 Id. at 50.
117 See supra notes 102–05 and accompanying text.
119 See Roe, supra note 64, at 642, 653–62.
led to MacPherson’s formulation of the negligence rule in third-party tort claims. It remains true, however, that scores of creditor beneficiary cases were brought during the period leading up to Seaver v. Ransom and scores of negligence cases were brought in the period after MacPherson. It therefore seems more likely that litigants prosecute actions based on whether their claims are cognizable under the prevailing population of legal rules and that the population of legal disputes is not driven principally by whether the existing population of legal rules is comprised of greater or fewer efficient or inefficient rules.

The subordination of efficiency to stability is not solely a function of the systemic tendencies of the common law’s iterative process operating at the level of doctrine. It is also reinforced by the distinctive characteristics of legal culture. Robert Clark has shown that the complex web of rules that now comprises the corporate income tax is a function of a few initial decisions made at the time the corporate income tax was enacted.121 In the terminology of this Article, the evolution of that body of law has exhibited sensitive dependence on initial conditions—the factual context in which that body of law germinated was an initial condition upon which that evolution has sensitively depended.122 But Dean Clark’s point is broader, for it also defines as subject to the rule of sensitive dependence on initial conditions the character of the legal culture in which legal rules operate, including the cultural condition of a thirst for stability.123

The salience of the cultural desire for stability and the common law’s systemic tendency towards stability in the population of legal disputes raise the question of the relationship between the value of stability and the role of social norms. Melvin Eisenberg has identified as objectives of the common law both doctrinal stability on the one hand and the harmonization of legal rules with social norms (called social congruence) on the other.124 Professor Eisenberg’s account of the nature of the common law treats these objectives as trade-offs.125

122 See id. at 93.
123 Dean Clark’s account also shows that the complexity of a body of doctrine can be understood not only to evolve according to a simple rule of self-similarity, but also that the very process itself is a simple function of the legal culture defined by the few early decisions.
124 Melvin Aron Eisenberg, The Nature of the Common Law 44–47 (1988). Professor Eisenberg also identifies as an objective of the common law the harmonization of legal rules with one another (called systemic consistency). Id. at 44.
125 For purposes of this discussion, doctrinal stability is the functional equivalent of stability in the population of legal disputes attracted by the population of legal rules.
The tension Professor Eisenberg identifies between doctrinal stability and social congruence is at once a product of the common law’s iterative process and also a source of the tension’s own attenuation and potential dissolution. Doctrinal stability is promoted by the rule of sensitive dependence on initial conditions—the link between cases over time—and is evidenced by self-similarity—the manifestation of repeated applications of a legal rule. The tension is a product of the iterative process in that non-self-similarity is evidence that the value of social congruence is being elevated above the value of doctrinal stability. Once there is substantial pressure on an input rule—substantial evidence of a decline in self-similarity—a bifurcation is justified.

At that moment, the tension between doctrinal stability and social congruence attenuates, and sometimes dissolves, because a bifurcation promotes stability in the population of legal disputes attracted by the input rule while advancing the value of social congruence by tolerating a level of instability in the population of legal disputes attracted by the output rule (or pre-existing output rules). Consider tort-privity law. Doctrinal stability in that body of law—and therefore stability in the population of legal disputes—reigned during the period of self-similarity in tort-privity law before MacPherson. Prevailing social norms had entailed a structural tension between the individual and the environment. During the period of declining self-similarity, social norms moved towards a different structural tension, that between the individual and others. The judicial response to that shift threatened to destabilize the doctrine and consequently the population of legal disputes that the rules attracted. It was in response to that threat to stability that Cardozo delivered the bifurcation in MacPherson when he articulated the negligence rule. In doing so, doctrinal stability and social congruence were both advanced; doctrinal stability by restoring self-similarity to the input rule, and social congruence by germinating a rule that would respond to the emerging structural tension between the individual and others.

IV. DISCRETION

The mutually reinforcing relationship between stability and social congruence dilutes the systemic significance of judicial discretion in

126 See supra text accompanying notes 102–09.
128 Id.
the common law process. It is true that much about the common law and about individual cases can be learned from studying judicial temperaments, attitudes and philosophies. It is also sensible to take such judicial characteristics into account when elected officials make judicial appointments or when the citizenry elect judges. But while those characteristics undoubtedly play a part in the fabric of the law over time and in the outcomes of individual cases, the systemic tendencies of the common law’s iterative process impose constraints on the systemic significance of judicial discretion.129

Take Cardozo and Posner, two of the twentieth century’s most luminous, and normatively antipodal, judges.130 Cardozo is well known for having produced important tort opinions that tended to open the door to increased liability131 and important contracts opinions that tended to expand the ambit of binding contractual relationships on the basis of doctrines like the implied obligation of good faith.132 Posner is well known for doing precisely the opposite—closing the door to liability in important tort opinions133 and restricting the ambit of contractual liability by truncating the obligation of good faith in important contracts opinions.134 A normative predisposition to these stances may be enough to explain the results those and other judges reach in individual cases, but it does not explain why certain judges and the opinions they write contribute significantly to the resulting doctrinal fabric of the common law.

A more complete explanation is that judicial positions that become part of the fabric of the common law are those that are congruent with the common law’s systemic tendencies operating when the occasion for those positions arose. Even as skilled a judge as Cardozo could not have achieved the masterstroke of MacPherson without the

129 Cf. Gillian K. Hadfield, Bias in the Evolution of Legal Rules, 80 GEO. L. J. 583, 616 (1992) (modeling a critique of common law efficiency to suggest that a claim of congruence between case outcomes and dominant judicial ideologies is weak at best).
131 See, e.g., supra note 100 (noting expansion of tort liability in Cardozo’s opinions in Glanzer v. Shepard, 135 N.E. 275 (N.Y. 1922), and Ultramares Corp. v. Touche, 174 N.E. 441 (N.Y. 1931)).
132 See, e.g., Wood v. Lucy, Lady Duff-Gordon, 118 N.E. 214, 214 (N.Y. 1917) (finding that an agent’s implied promise to use reasonable efforts in marketing a principal’s designs furnished consideration for a binding contract).
133 See, e.g., In re Rhone-Poulenc Rorer, Inc., 51 F.3d 1293, 1299–300 (7th Cir.), cert. denied, 516 U.S. 867 (1995) (suggesting that the act of class certification may constitute a denial of due process to defendants in class actions).
134 See, e.g., Wis. Knife Works v. Nat’l Metal Crafters, 781 F.2d 1280, 1287 (7th Cir. 1986); see also Cunningham, supra note 130.
operational forces of the common law’s iterative process. The decline of self-similarity in tort-privity law leading up to that dispute and the social norms the decline reflected were necessary conditions to justify and to sustain the bifurcation in that case.

Similarly, Posner announced in *In re Rhone-Poulenc Rorer, Inc.*\(^{135}\) that class certification in tort actions may constitute a denial of due process to defendants.\(^{136}\) Substantial pressure had been mounting to develop mechanisms to limit dispute-promoting rules in mass tort actions.\(^{137}\) Posner’s move in *Rhone-Poulenc* may be seen as a bifurcation that responds to that pressure. It may be quite a clever or even brilliant one, but it is sustainable only so long as the doctrinal pressures and social conditions that justify it are sustained as well and not released by other means.

The same holds true for Cardozo’s other momentous opinions that broke new legal ground, including *Wood v. Lucy, Lady Duff-Gordon.*\(^{138}\) *Wood* was a bifurcation that arose in a period marking the transition from simple markets characterized by face-to-face dealings and relative stability to complex commercial society, impersonal economic exchange and greater uncertainty and market volatility.\(^{139}\) These changing circumstances both justified and sustained Cardozo’s innovation in *Wood* declaring that an implied obligation to use reasonable efforts could furnish consideration for a promise.\(^{140}\) In contrast, Posner’s truncating of the good faith obligation in the performance of contracts\(^{141}\) came at a time when various other law reform proposals were heading in the same direction. For example, then pending proposals to revise Article 8 of the U.C.C. would reverse rules that require performance in good faith in favor of rules that merely discourage bad faith.\(^{142}\)

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135 51 F.3d 1293.
136  Id. at 1299–300. *But see* id. at 1304–08 (Rovner, J., dissenting) (implying that class certification would not violate due process).
138  118 N.E. 214 (N.Y. 1917).
139  Cunningham, *supra* note 130, at 1397.
140  See id. (citing Walter F. Pratt, Jr., *American Contract Law at the Turn of the Century,* 39 S.C. L. REV. 415, 419 (1988)).
141  See, e.g., Wis. Knife Works v. Nat’l Metal Crafters, 781 F.2d 1280 (7th Cir. 1986).
142  See Jeanne L. Schroeder, *Is Article 8 Finally Ready This Time? The Radical Reform of Secured Lending on Wall Street,* 1994 COLUM. BUS. L. REV. 291, 298 (observing that personal property conveyancing law usually provides that first-in-time claimant prevails unless second-in-time claimant can establish elements giving her a preferred
If written today, Cardozo’s opinions in *MacPherson* and *Wood* might go unremarked and unabsorbed. But they were momentous when written because they represented the crest of a wave of social, economic, and doctrinal forces building toward the bifurcations he delivered in those cases. Posner’s opinions, if written in the 1920s, may well have been flops, because the waves were cascading the other way.\(^{143}\) They are important and successful now because they build on and follow from emerging sentiments about social and economic conditions.\(^{144}\) Indeed, the reason that most judicial opinions are ho-hum is that those forces rarely combine with sufficient pressure to call for or to justify a masterstroke. Cardozo—and increasingly Posner—had the good fortune to face and to respond to such pressures.\(^{145}\)

The requirement of pressure necessary to justify a bifurcation thus limits the scope of judicial discretion. It constrains judges from injecting their own private prejudices into the iterative process of the common law and instead facilitates a process by which emerging social norms are absorbed.\(^{146}\) Cardozo’s positions on tort and contract and Posner’s opposite positions on tort and contract move into or out of the common law as a reflection not so much of their own private beliefs but of the phase in the common law’s iterative process in which each judge works.

status, usually including purchase for value and some element of good faith, whereas revised U.C.C. Article 8 provides that second-in-time claimant prevails unless first-in-time claimant can establish elements giving her a preferred status, including that the second-in-time claimant acted in bad faith); see also Cunningham, *supra* note 130, at 1424 n.237.

\(^{143}\) See Cunningham, *supra* note 130, at 1423–24.

\(^{144}\) E.g., Paul M. Barrett, *Bench Pressure: Federal Appeals Judge Embraces Liberalism in Conservative Times*, WALL ST. J., Mar. 15, 1996, at A1 (describing how one judge’s opinions, which were once accepted as mainstream views, are increasingly out of step with the social ideology of the time).

\(^{145}\) This is not to deny that personal and intellectual qualities play a significant role in the development of judicial reputation. Cardozo, Posner, and other great judges tend to stand as emblems of particular schools of thought, judicial philosophies, and political sensibilities. They stand out that way, not by the raw force of their own beliefs but by the degree to which those beliefs are congruent with emerging social norms and economic conditions. Ideology alone is not what matters, but how that ideology can be, or made to seem, congruent with the systemic tendencies at work. Thus, while personal and intellectual qualities are necessary to enable a judge to see and to convince others about the link between their views and social norms and economic conditions, they are not a sufficient condition, for the fortuities of time and politics play a substantial role in judicial reputation. See Richard A. Posner, *Cardozo: A Study in Reputation* 65, 68 (1990).

\(^{146}\) Of course, private judicial prejudices that accord with emerging social norms will be absorbed into the doctrinal fabric of the common law.
V. STUDYING LAW

Initial conditions contribute to stability as bifurcations both release threats to instability and enable dynamic evolution of the common law in ways that constrain judicial discretion. The blending of seemingly opposed characteristics of stability with dynamism and self-similarity with iteration encases the blending of a more general pair of opposites, complexity and simplicity, each of which also characterizes the common law and must inform us of how law ought to be taught and studied.

The traditional method by which the complexity of vast bodies of case law is made manageable is through a process of case matching and synthesis. The method seeks to promulgate integrated restatements of law in the form of black letter rules. By this method simplicity is wrested from complexity. Complexity inheres in bodies of case law both because each case is an instance of innovation and because a body of law seems to become more complex as one adds more cases over time. The discrete facts of each legal dispute, including as shown in Lawrence v. Fox and Seaver v. Ransom, drive both the input rule employed to resolve the dispute and the output rule that results from that resolution. And the body of law seems to become more complex as more cases are added, as the law of third-party beneficiaries seemed to become more complex as it evolved from Lawrence v. Fox to Vrooman v. Turner to Seaver v. Ransom and beyond.

Restatement formulations attempt to give smoothness of form to the cases, both alone and as a body. Consider the formulations of third-party beneficiary law set forth in the Restatement (First) and Restatement (Second) of Contracts. The Restatement (First) delineated two categories of strangers to a contract who could enforce it, creditor and donee beneficiaries. This formulation simplified, reasonably accurately, the rules that emerged from Lawrence v. Fox and Vrooman v. Turner (the creditor beneficiary rule) on the one hand and Seaver v. Ransom (the donee beneficiary rule) on the other.

As the iterative process of the common law continued, however, through the fluctuation in the population of legal rules between dispute-promoting rules and dispute-discouraging rules, a new category seemed to emerge. This category was seen to focus less on the kind of relationship that existed between the promisee and the beneficiary and more on the intentions of one or both parties to the contract, the promisee and the promisor. The Restatement (Second) attempted to reflect this evolution by jettisoning the distinction between creditor

147 Restatement of Contracts § 133 (1932).
and donee beneficiaries in favor of a category of intended beneficiaries.148 This group could enforce rights in contracts to which they were strangers. A separate category of incidental beneficiaries could not.149

While each of these Restatements of the doctrine was plausible given the vast body of case law being described, the method of promulgation necessarily involved a distillation of the complexity of the case law into a simple statement of what were seen as its core principles. Understanding common law as an iterative process implies a more natural and organic relationship between simplicity and complexity. In particular, the apparent complexity of an iterative process is driven by a simple rule; and, a simple depiction of the process at a single moment in time will fail to capture the complexity of the process as a whole.150

In the common law, the apparent complexity of a body of cases is at bottom the function of a very simple algorithm dictated by the principle of stare decisis: legal rules operate as inputs and become reformulated as outputs comprising the population of legal rules.151 These in turn become inputs, in a process of potentially infinite duration. So what appears to be complex is a function of a very simple idea. Conversely, a statement about the doctrine at a point in time gives a simple appearance to a doctrine that is in fact highly complex.152 In short, assimilation of cases into black letter rules at once artificially simplifies the complexity and also conceals the simplicity underlying that complexity.

Restatement formulations of law are like a generalized Euclidean triangle depicting a tree—it gives you the idea but not the full texture. For example, Vrooman v. Turner evades neat characterization under either Restatement formulation of the third-party beneficiary rule. Close study of that case shows great complexity, and the third party (the mortgagee) can be seen as the kind of beneficiary defined in each Restatement formulation as entitled to enforce the contract—a

148 Restatement (Second) of Contracts § 302 (1979).
149 Id. On the substantial role Professor Corbin played in bringing about this change, see generally Waters, supra note 5. For a dissent from Professor Waters’s view, see Hoeflich & Perelmuter, supra note 5, at 728.
151 Compare Hathaway, supra note 1, at 650–63 (drawing normative implications for stare decisis from analysis of path dependency in the common law).
152 Anthony D’Amato’s work contains within it a similar implication—that the law is becoming ever more complex. Anthony D’Amato, Legal Uncertainty, 71 Cal. L. Rev. 1 (1983).
donee, creditor, or intended beneficiary. Yet the mortgagee’s claim was denied. More generally, the Restatement (Second)’s delineation between intended and incidental beneficiaries is more capacious than the leading cases would seem to warrant. And of course neither Restatement captured the state of Massachusetts law. Any Restatement formulation of black letter rules thus necessarily simplifies the vast complexity of the doctrine being described similar to the way generalized Euclidean shapes only describe complex natural forms as simplifications.

Restatement formulations also obscure the simplicity of the iterative process by purporting to depict the doctrinal shape of the law at a fixed point in time. But the complexity is in reality a function of a simple iterative process. The iterative process by which legal rules operate as inputs and become outputs through successive operations of dispute resolution is, as a system, quite simple. But you won’t get that from reading Restatements.

Restatement formulations of legal rules therefore oversimplify the complexity of legal doctrine but also obscure the simplicity underlying that complexity. Simplifying complex doctrine by Restatement formulations is valuable for numerous purposes. A principal purpose of Restatements, as well as of case matching and synthesis generally, is to improve accuracy in forecasting the outcome of future legal disputes. To the same end, however, a more critical approach would examine the ultimate simplicity of the iterative process by which the common law evolves.

Widely-held intuitions about the common law embrace this perspective on process. Consider the dominant method of law teaching in the United States, especially in first-year courses. Socratic case method instruction attends to the historical evolution of the common law. It looks to synthetic statements of the law, such as in Resta-

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153 Calamari & Perillo on Contracts § 17.6, at 675–76 (5th ed. 2003).
155 Put in more traditional terms, the issue is at what level of generality the statement of a legal rule is meaningful.
156 In the second series of all Restatements, there is also a strong prescriptive strand. See Farnsworth, supra note 42, § 1.8, at 26 (“To some extent the expanded role of comments, to permit criticism as well as explanation, has helped to provide a vehicle for the expression of idealism.”).
157 Cf. Llewellyn, supra note 106, at 48 (case matching as predictive tool offers scientific approach without scientific results).
ments, only as a supplement to the pedagogical enterprise. And this way of learning law is by no means limited to formal legal education but rather pervades the practice of common law. For it is only through a study of prior applications of legal rules that one can know law. Understanding the common law as an iterative process characterized by sensitive dependence on initial conditions and a systemic tendency towards stability is a way to formalize the intuition behind this way of studying and investigating law. It makes sense of the common law’s evolutionary process.

CONCLUSION

This preliminary inquiry into the common law as an iterative process represents a modest but novel contribution to a vast and hoary discourse. In summary, the inquiry shows the common law to be a remarkably stable system that constrains the systemic significance of judicial discretion. The common law does this through a complement of initial conditions linking cases over time with the possibility of bifurcations that enable charting significant course changes. It is an iterative process of endless repetition that is simultaneously stable and dynamic, self-similar but evolving, complex but simple.

The inquiry’s contribution builds upon but recasts longstanding accounts of the common law’s evolutionary characteristics. Since these varied accounts date back centuries and continue to captivate students of the common law, the iterative conception cannot end the study. But it might provide a relevant and resonant method of approach. If so, students of the common law likely will bring to their reading examples familiar to them that likewise reflect the rhythms outlined.

158 The authors of the Restatement (First) planned to keep it updated by supplementary treatises to be prepared from time to time, FARNSWORTH, supra note 42, § 1.8, at 25, but lack of agreement among the proposed authors of those treatises prevented that ambition from being fulfilled. The Restatement (Second) nods in that direction by “its fuller elaboration in text and comment[s],” id. § 1.8, at 30, and this approach reflects, but does not fully implement, the thesis being advanced here.

159 See Jacobson, supra note 61, at 1681–82.


161 See supra note 1.

162 See supra note 1.
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