Ratio Juris. Vol. 38 No. 2 July (94–107)

Legal Systems and Complexity: A Comment on Allen

GIOVANNI TUZET

Abstract. This work addresses Ronald J. Allen's views on complexity, evidence, and law. After some remarks on normative systems and the metaphors used to characterize them, the work addresses the issue of complexity by asking how a system characterized by complexity can tame the world's complexity; the focus then shifts to some aspects of evidence and evidential reasoning under that characterization of the legal system; and in conclusion the work points out the main questions posed with respect to Allen's account. Reference is made to the Kelsenian and Hartian accounts of normative and legal systems, asking in what respects Allen's account marks a theoretical advance on prior literature and suggesting that a major aspect lies in the account's focus on the adaptive nature of the legal system.

1. Introduction: A Web of Questions

Let me begin with a couple of truisms. First, laws do not exist in isolation; they are such because they belong to more or less organized structures that we call "legal systems." Second, such structures are hardly simple; they usually feature hierarchical layers and complex forms of interaction between their components.

A more precise characterization of that is the difficult part of the story. Various metaphors have been utilized to capture the nature and dynamics of legal systems: The legal system as a pyramid, as a tree, or as a net are some of such metaphors. And various questions have been asked as to the identity, existence, and continuity of a legal system (e.g., Raz 1971; 1980). Legal theorists and philosophers of law have been discussing issues such as how can we sort out the criteria that determine the formal or the material unity of a system; or the question whether, and to what extent, the law's efficacy is a condition of its existence; or whether, and to what extent, a major change in the system (at the constitutional level, for example) produces a discontinuity in the legal order. Next, one can wonder whether the legal system basically depends on the social or political system, or whether it enjoys a form of autonomy such that the legal system may remain the same notwithstanding some major change at the social or political level (Chen 2022).

Philosophical puzzles add to that. One of them is a version of the classic puzzle about the Ship of Theseus. Suppose that over time a part of the ship is replaced, and then another, and another, and so on until all the original parts have been replaced. Is it still the Ship of Theseus? As a legal version of the thought experiment, suppose that,

one by one, all the components of a legal system are replaced. Is it still the same legal system? If not, can we tell when it ceases to be so? Another puzzle is a legal version of the traditional chicken-and-egg paradox.[1] If a system's norms are created by competent legal authorities, but the authorities are defined by the norms, what comes first: the authority (the chicken) or the norm (the egg)?

Last but not least, the legal interpretation or construction of authoritative materials is often the process that defines the traits of a system (e.g., Canale and Tuzet 2011; Pérez Bermejo 2006; Ratti 2008), nominally under an interpretive canon like the one of systemic coherence. The idea is to read provisions and materials together, throwing light not only on these provisions and materials but also on the system they belong to.

Ron Allen has addressed some of those issues in his work on the nature and dynamics of the legal system. He is mostly known and highly appreciated for his work on juridical evidence, but he correctly locates the latter within the former, as the work published and discussed here (Allen 2025) shows quite well. Issues relating to evidence and evidence theory do not stand apart from issues about the legal system. What is a legal system for? How best to capture its nature? How to model its dynamics? What is the place of evidence law and legal reasoning within it?

Before addressing some of those issues I must add that I am personally and intellectually indebted to Ron—which makes my critical work here a bit extravagant. I share most of his views; still, my background in analytic philosophy pushes me to ask for clarification on some points, and to explore some of the implications of his views.[2]

This comment proceeds as follows: after presenting some thoughts on normative systems and the metaphors utilized to characterize them (Section 2), I address the issue of complexity by asking in particular how a system characterized by complexity can tame the world's complexity (Section 3); next I focus on some aspects of evidence and evidential reasoning under that characterization of the legal system (Section 4); and I conclude by summarizing the main questions posed in this work (Section 5).

2. Systems and Metaphors

In the oral and understandably informal presentations of his views, Allen usually claims that a legal system is more like a *rainforest* than a *tree farm*. Stepping outside the metaphor, this means that the legal system is characterized by *complexity*. The legal system is not orderly, neat, and well-organized like an ideal tree farm (with rows of trees of the same species, age, and size, with nicely mown grass underfoot, etc.). Statutes, regulations, precedents, decisions at various levels interact in complex ways and often generate unexpected outcomes. At the same time, a legal system works to tame the world's complexity (Allen 2013a and 2013b). Yet, as complexity will be the subject of the next section, let me postpone some thoughts and questions on this.

[1] See, e.g., Champeil-Desplats and Troper 2005, 13, defining the legal system as a set of sentences with a prescriptive function produced by legal actors, and legal actors as those who are designated as such by those sentences. Cf. Brunet 2011, 36, on the legal order as set of acts that are given normative meaning. See also Shapiro 2011, 39ff.

[2] As an unsolicited plea in favor of philosophy of law, let me also add that the Greeks had philosophy and the Romans had law: philosophy of law has the best of both worlds.

Insisting on a metaphorical picture of the legal system, one might find the rainforest metaphor unsatisfying because it misses the point that legal systems are human creations. They do not exist in nature. They emerge, as it were, from social and cultural evolution to establish forms of regulated communal life. These traits are emphasized in evolutionary views of law (see Załuski, Bourgeois-Gironde, and Dyrda 2024). Still, the idea that legal systems are human creations should not be taken as the claim that they work like perfectly designed tools,[3] or that they develop like perfectly laid-out plans. They are not like Plato's Republic, governed by wise philosophers; nor are they like Campanella's City of the Sun, where goods, women, and children are peacefully held in common.[4] Actual systems are full of imperfections and feature unexpected traits.

Urban and architectural metaphors may fit nicely here because they convey the idea of human creations and efforts in a social context. If we follow Allen's views, then, we can conceive of the legal system as a *chaotic metropolis* rather than an *ideal city*. Utopian views aside, the reality of the law is that of a certainly complex and possibly chaotic system, containing not only large avenues and neat buildings but also twisting roads, dark alleys, historical strata, houses falling into disrepair, men at work and traffic jams.[5] Of course this is a view of the law as it *is*, not as it *should be* according to some moral or political desiderata. And of course it is a matter of degree, since there are systems that are more complex than others, just as there are cities that are more chaotic than others.

The cognitive or epistemic value of a metaphor, if any, consists in drawing our attention to some phenomena that would be neglected or underappreciated without the metaphor. In other words, it is about illuminating something. More ambitiously, it has been claimed that metaphors can have an explanatory function: They do so when they help us understand why or how a certain thing is a certain way.[6]

Poetic metaphors, however, are taken to be different from scientific ones:

[3] The conception of law as artifact should not make that mistake or indulge in such a suggestion. See, in particular, Burazin, Himma, and Roversi 2018. Cf. Ehrenberg 2016, 29ff., on instruments, tools, and artifacts.

[4] I need not comment on Plato's *Republic*. But not all readers will be familiar with *La città del sole*, the utopian work written in 1602 by the Italian Dominican friar and philosopher Tommaso Campanella, who imagined a city where goods are held in common, resources are equally distributed by officials, all citizens enjoy equal dignity, and there is equal division of labor. Dystopian views instead dominated the second half of the twentieth century; the best-known works are Orwell's *Animal Farm* and *1984*.

[5] Cf. Allen 2011, 1060: "the reality of the legal system is that it is not a nice, tidy, simple, and static context, but instead is a bubbling cauldron of messy, complicated, organic, evolutionary processes."

[6] See esp. Hesse 1966, 162ff., commenting on Black's view of metaphor. One of her conclusions is that there is no dualism of observation language and theoretical language: "There is *one* language, the observation language, which like all natural languages is continually being extended by metaphoric uses and hence yields the terminology of the explanans. There is no problem about connecting explanans and explanandum other than the general problem of understanding how metaphors are introduced and applied and exploited in their primary systems" (ibid., 175).

it is characteristic of good poetic metaphor that the images introduced are initially striking and unexpected, if not shocking; that they are meant to be entertained and savored for the moment and not analyzed in pedantic detail nor stretched to radically new situations; and that they may immediately give place to other metaphors referring to the same subject matter which are formally contradictory, and in which the contradictions are an essential part of the total metaphoric impact. (Hesse 1966, 168–9)

I do not take the urban and architectural metaphors above to be poetic rather than scientific. Nor am I shocked to see that Allen (2013b, 112) depicts the legal system as a neural network, "a system of interconnected nodes that looks somewhat like a neural network."[7] Such metaphors basically convey the idea that the legal system is *dynamic*. This is a point on which Allen insists. The scholarly ambition, it seems to me, is to capture or model the dynamics of legal systems. The law changes in many respects. This looks like an obvious claim, as obvious as the claim that the legal system is dynamic—if this is taken without qualification.[8] As a first question for clarification, then, I would like to better understand in what respects Allen's account constitutes an advancement over other accounts of the law as dynamic.

In fact, the claim that legal systems are dynamic is not new. Hans Kelsen famously distinguished between *static* and *dynamic* normative systems (Kelsen [1934] 1992, 55–6; 1945, 39, 112ff.; [1960] 1967, 70–1, 195ff.).[9] Systems of norms, Kelsen claimed, can be divided into two different types according to their basic norm, which on his conception meant according to the nature of their highest principle of validity. To the different types of normative systems, different types of norms correspond. Norms of the first type—in a *static* system—depend on the system's basic norm by virtue of their *content*. This is how a system of morality works:[10]

Norms of the first type are "valid" by virtue of their substance; that is, the human behaviour specified by these norms is to be regarded as obligatory because the content of the norms has a directly evident quality that confers validity on it. And the content of these norms is qualified in this way because the norms can be traced back to a basic norm under whose content the content of the norms forming the system is subsumed, as the particular under the general. Norms of this type are the norms of morality. (Kelsen [1934] 1992, 55)

Norms of the second type—in a *dynamic* system—do *not* depend on the system's basic norm by virtue of their content. They instead depend on delegation of power and acts

[7] "The legal system actually has interconnected nodes, making it look like a neural network to some extent, and it responds in ways that are not predictable from the underlying 'data' of statutes and cases, which is why it looks like a complex adaptive system with emergent properties" (Allen 2013b, 113). On reductionism, emergence, and complexity, cf. Ubertone 2025.

[8] "What about the dynamic, ever-changing nature of both the Amazon River and (American) law? Of course these objects of inquiry are dynamic, and of course a good theory of them will have to take that into account, to accommodate—and explain, and supply deeper insight into—the relevant changes" (Enoch 2021, 289).

[9] See also Raz 1980, 110ff., on dynamic and static approaches as points of view on a legal system (for one can give a static as well as a dynamic account of the same system). Cf. Tuzet 2021, where I discuss the issue of norms and novelty from the two perspectives.

[10] "It is essential only that the various norms of any such system are implicated by the basic norm as the particular is implied by the general, and that, therefore, all the particular norms of such a system are obtainable by means of an intellectual operation, viz., by the inference from the general to the particular" (Kelsen 1945, 112).

of will.[11] This, according Kelsen, is essentially how legal systems work, because the law so regulates its own creation (Rábanos 2024, 133):

> Norms of the second type of system, norms of the law, are not valid by virtue of their content. Any content whatever can be law; there is no human behaviour that would be excluded simply by virtue of its substance from becoming the content of a legal norm. […] A norm is valid *qua* legal norm only because it was arrived at in a certain way—created according to a certain rule, issued or set according to a specific method. (Kelsen [1934] 1992, 55–6)

However, as is reasonable to assume, "static and dynamic principles may be combined in the same system" (Kelsen [1960] 1967, 197).

Kelsen adds that the norms of natural law and of morality, being of the first type, can be deduced from the basic norm of their system, whereas norms of positive law cannot:

> the norms of natural law, like those of morality, are deduced from a basic norm that by virtue of his content—as emanation of divine will, of nature, or of pure reason—is held to be directly evident. The basic norm of a positive legal system, however, is simply the basic rule according to which the norms of the legal system are created […]. Particular norms of the legal system cannot be logically deduced from this basic norm. (Kelsen [1934] 1992, 56)

The pyramid metaphor has been used to illustrate the Kelsenian conception, but it better fits the idea of a static normative system. The pyramid structure conveys the idea of a stable order. Dynamic systems certainly have hierarchical layers in Kelsen's view, so they can be compared to the structure of a pyramid. But this metaphor misses their dynamic aspect. For this reason I find it preferable to represent Kelsenian validity chains by way of tree diagrams (Raz 1980, 98–9).

Formal conceptions of normative systems exploit the role of logic. In particular, Carlos Alchourrón and Eugenio Bulygin provided an account of such systems in terms of normative deductive consequence, *à la* Tarski: at the "purely syntactical level," with norms understood as linguistic entities, namely, "sentences that correlate cases with conclusions," a normative system is a "normative set which contains all its consequences" (Alchourrón and Bulygin 1971, 48, 5, 54).[12] This is remarkable especially if one wants to represent it with the aid of an AI system. But I guess that it is hardly interesting for Allen, insofar as it has little explanatory and predictive value.

> Simple deductive rules are being employed to regulate infinitely complex social dynamics, and the results seem preordained to be awkward, unanticipated, and occasionally perverse. This is not a criticism of rules. Rules are enormously valuable tools. Rather, it is simply to note that what makes a tool valuable is its appropriate use, and there may be, as I intend to argue, a mismatch

[11] "The basic norm merely establishes a certain authority, which may well in turn vest norm-creating power in some other authorities. The norms of a dynamic system have to be created through acts of will by those individuals who have been authorized to create norms by some higher norm" (Kelsen 1945, 113).

[12] Cf. Lindahl and Odelstad 2000 on an algebra of normative systems and, in particular, on how subsystems of legal systems can be combined, taking hypothetical legal consequences into account, through intermediate legal concepts.

between the tool of "rules" and the environment to which this tool is often applied. (Allen 2011, 1049)

Kelsen downplayed the role of logic in dynamic normative systems, and Allen, if I see clearly, shares some of that skepticism except for the role of inference to the best explanation (IBE), which helps agents make sense of what they face (more on this below). Certainly, deduction has a minor role here, if any: From the fact that a statute imposes a certain duty one cannot deduce that courts will decide cases accordingly, nor can one deduce that citizens will behave accordingly. In other words, these are empirical matters that deductive logic hardly illuminates. One can derive deductive consequences as to the way things ought to be, which is not the same as the way they will be. Many claims of analytic legal theory end up being about a "momentary" legal system, namely, a legal system frozen at a particular point in time (Alchourrón and Bulygin 1971, 77, 89–90; Raz 1971, 798; 1980, 35). But when one looks for explanations and predictions, a "momentary" view is by definition inadequate.

Next, if one wishes to explain such dynamics by relying on complexity theory and complexity claims, the question becomes whether the latter have the resources to do so.

3. Systems and Complexity

One of my worries is that the emphasis complexity theorists lay on unpredicted and unpredictable outcomes places a significant hurdle on its use for prediction. Imagine, Allen suggests, predicting the path a water molecule will take as it flows down a mountain stream: This would be an impossible task—too complex.[13] But at some level of generality predictions are possible (e.g., the water molecule evaporates on some conditions; my car remains where I parked it; the justices of the Supreme Court do not change randomly). Another worry is that explanations quickly become uninteresting if, in response to *why* questions, one simply answers that it is because of complexity. Details matter to the empiricist, of course. And complexity cannot be a "catchall" account.

Furthermore, I see a tension between the idea that the world is complex and the idea that the law—itself a complex system—can tame the world's complexity. As we have seen, it is Allen's view that the legal system is characterized by complexity. At the same time, as seems clear, complexity characterizes the world, and especially the social world. The world itself is more like a rainforest than a tree farm. But the legal system is supposed to contribute to the taming of such complexity (Allen 2011; 2013a; 2013b). So, as a further question for clarification, I would ask how the law and the legal system may tame or reduce the world's complexity, since they are themselves complex. Unsurprisingly, the analytic philosopher asks for a definition of "complexity" in order to address these questions in a definite way.

[13] "Suppose I want to know where a particular molecule of water will end up. There is not a physicist alive who doubts that the answer to that question is fully determined by the physical forces that are the lifeblood of their field; yet there is not a physicist alive who thinks it is a solvable problem. It is too complex. Not only do you need to know the mass and momentum of the trillions of other particles in the river. You also need to know the effect of the contours of the riverbed and whether a bird might come along and swallow the molecule in question" (Allen 2025, sec. 3, p. 78, footnote omitted).

My understanding of the problem is that some systems are adaptive in that they change to face new problems and needs. The focus is on complex *adaptive* systems, not just on complex ones. We find many regularities in the world, but in some respects the world varies unpredictably. When new problems show up, adaptive systems change to fix them. Unpredictable situations pose a particular challenge to complex systems. On the one hand, complex systems have more resources than simple ones to face unpredictable situations (consider the ways in which legal systems reacted to the 2020 pandemic). On the other hand, the complexity of systems made of multiple agents, decision layers, organizational structures, and so on can also generate hurdles to an effective and efficient resolution of pressing problems. A case in point is bureaucracy, since in principle this is a way of rationalizing administrative work, but it generates problems of its own and sometimes slows down the resolution of problems.

To put that dramatically, is the message of complexity theory a hopeless one? If everything is complex and changes unpredictably, how are we to navigate the world? Allen's answer, if I am right, is that we have a number of cognitive (and practical) tools that constitute what we call "rationality." More precisely, it is the idea of a "minimal rationality" which the law exploits to tame the world's complexity (Allen 2025, sec. 4.4, p. 79). Why "minimal"? To distinguish it from the grand aspirations to altogether dominate natural and social phenomena by exhaustively predicting and governing them. Instead, the law in general, and evidence law in particular, pursue and exploit minimal rationality.[14]

A case in point is IBE. This is a complex form of inference which consists in selecting the best explanation of a given phenomenon by formulating and assessing alternative explanatory hypotheses; we use it in every cognitive domain, including sophisticated ones such as medicine and law (e.g., Pardo and Allen 2008; Tuzet 2019). IBE plays a role in fact-finding, when judges or jurors compare alternative explanations of the known facts, and it plays a role in legal matters too, through plausibility considerations: "Legal actors make decisions about what the law is in the same way that humans make other judgments, by comparing potential explanations and choosing the one that is comparatively more plausible than the alternatives" (Allen 2013a, 1408). To the question what "best" means here Allen responds in terms of plausibility. Roughly speaking, the best explanation is the most plausible one. Of course the philosopher would pursue this further and ask what "plausible" means. Allen refers to a number of cognitive tools, including probability theory, that contribute to "plausible reasoning" (e.g., Allen 2017). This is not the topic of the present work, though. What we need to understand is how the law, which pursues minimal rationality, can at the same time be a complex system and a complexity tamer. Tamers of wild animals must have some complexity themselves and be able to face unpredicted situations. So much is true. To use another metaphor, then, is the legal system like a tamer?

As a speculative matter, I also wonder whether we always face the same complexity. On the one hand, the world appears to be much more organized today than 5,000 years ago. Our rationality is part of the natural world, but it also shapes and transforms the world. Rationality as an emergent property in turn generates new

[14] Allen expresses the point in several of his writings. Here is one instance: "'rationality' is a simple reference to success in controlling our environment, which is attributable to the myriad regulatory measures our minds have been able to construct and employ effectively to tame various aspects of the chaos swarming around us" (Allen 2011, 1052).

phenomena. A tree farm does not exist in nature, for instance; we add regularities to the natural ones. On the other hand, what we add may generate new forms of complexity. The most spectacular example is AI. In a way, it is designed to better govern a host of phenomena. But it adds to the existing complexity.

Going back to the legal system, let me add that Allen's reference to the work of H. L. A. Hart seems rather uncharitable. Allen charges Hart with the odd aspiration to find "the" concept of law.[15] Allen tends in this respect to equate Hart and Dworkin. Now, was Hart after "the" concept of law as a set of universal, necessary and sufficient conditions to have law? Well, he worked in the spirit of writing "an essay in descriptive sociology" (Hart [1961] 1994, v), namely, on the use of certain relevant expressions—such as the word "law"—in a social context, not for the purpose of linguistic analysis but to throw light on "types of social situation or relationships" (ibid.). Next, one of his merits was to highlight that a legal system is more than a set of rules regulating primary behavior. As is well known, Hart conceived of the legal system as a "complex union" of *primary* and *secondary* rules, where the former aim to regulate behavior by establishing obligations and the latter are meta-rules that confer legal powers to adjudicate or legislate, or to create or vary legal relations (ibid., 114, 79ff.). Secondary rules divide into rules of recognition, rules of change, and rules of adjudication, which respectively determine membership criteria, give powers to introduce new primary rules or eliminate old ones, and empower authorities to determine whether a primary rule has been broken.[16] There is a wealth of jurisprudential literature on this, especially on the rule of recognition and its nature, but we need not go into that for the present purposes.[17] What I want to say is that Hart had a view of the law as regulating its own creation, as Kelsen put it, or, in other words, as a complex system. In addition, Hart focused on the so-called *internal point of view* to understand social phenomena, including legal ones, since the mere observation of behavior is not sufficient to understand them (Hart [1961] 1994, 56ff.). All in all, that yields a picture of the law as a complex system (ibid., 55, 61, 80, 95–6, 100ff.) with agents, institutions, and rules interacting in several ways.[18]

Incidentally, one of Hart's claims was that a system lacking one or more of the secondary rules is a primitive or "pre-legal" system, in that it has one or more of three defects: its being uncertain, static, or inefficacious (Hart [1961] 1994, 94–9). In

[15] "To the empiricist under the influence of complexity theory, identifying 'the' concept of law is an odd objective" (Allen 2025, sec. 5, p. 82).

[16] Secondary rues "specify the ways in which the primary rules may be conclusively ascertained, introduced, eliminated, varied, and the fact of their violation conclusively determined" (Hart [1961] 1994, 94).

[17] Among other things, the rule of recognition is supposed to resolve conflicts of laws: "The rule of recognition imposes an obligation on the law-applying officials to recognize and apply all and only those laws satisfying certain criteria of validity spelled out in the rule, which criteria include indications of how conflicts of laws are to be resolved" (Raz 1971, 808).

[18] Institutionalism is taken to be an alternative to normativism in legal theory, but for our purposes it faces similar problems (e.g., the risk of a vicious circle between norms and institutions, and the question whether institutions tame complexity or add to it). Institutionalism is frequently associated with legal pluralism and is sometimes given an evolutionary reading (e.g., in Hayekian conceptions of "spontaneous orders" and bottom-up organizations). See, e.g., Barberis 2011; La Torre 1993; MacCormick 2007; Rábanos 2024. Cf. Allen's (2025, sec. 7. p. 92) praise of the common law, characterized as contributing to human flourishing and as an example of a complex adaptive system that can accommodate large amounts of information, with "feedback mechanisms that allow for relative efficient adjustments."

particular, systems with no rules of change are fated to be static. Dynamic systems have secondary rules that govern legal change. Taken at face value, that means that legal systems evolved from less to more dynamic ones, from less to more complex ones. On the other hand, legal history shows that, especially before the rise of the modern state, there have been periods in which legal orders were rather chaotic and had few, if any, uncontroversial rules of recognition.[19] These thoughts connect to the above speculation about the changing levels of complexity, but I will not expand on this here. Let me just repeat that Allen's reading of Hart seems rather uncharitable.[20] Or perhaps the jurisprudential scholarship that Hart inspired is guiltier than Hart himself of having set out on a quest for "the" concept of law.

4. Systems and Evidence

We finally come to the topic of evidence and evidence law. This is what Allen's most celebrated work deals with. He has articulated and defended, often with Mike Pardo, a view known as "explanationism" or "plausibilism," according to which legal fact-finding is basically governed by plausibility considerations, and IBE more particularly (e.g., Allen and Pardo 2019). Fact finders assess the relative plausibility of the parties' claims based on the trial evidence, and they decide accordingly. Probability considerations, if any, are guided by plausibility considerations and contribute to the overall assessment of the parties' explanations or stories.

Confining ourselves to what matters here, evidence law is part of the legal system and interacts with it. The reasons offered to justify the rules and standards of evidence law cannot be assessed in isolation, regardless of the interactions that that branch of law has with other components of the system. Nor can we assess in isolation the way in which that branch of law operates. As an illustration of this, although primary behavior and litigation behavior are in theory distinct, in practice they influence one another. The former is behavior regulated by what Hart called "primary rules"; the latter is trial behavior, roughly speaking (more precisely, it includes settlements and possibly other litigation-related transactions). Of course primary behavior influences litigation behavior, for compliance or noncompliance with the law is the subject matter of the litigation process. But what happens in this process, or is expected to happen, retroacts on the primary behavior of agents which have "minimal rationality" and which, as adaptive systems, adjust their behavior to facts and expectations "in the shadow of the law." Evidence rules are a factor in this process. Obviously, they are supposed to guide fact-finding once primary behavior has taken place, but it is implausible to think that litigation behavior and the litigation process have no effect

[19] Cf. Hart's considerations on the "pathology" of a legal system (Hart [1961] 1994, 117ff.).

[20] Perhaps Dworkin's chain-novel fiction can likewise be read as an attempt to make sense of the dynamic character of law. For that fiction is about continuity through change. The fiction of the Herculean judge is instead different, and Allen's criticism is well-directed, in that "an imaginary judge of superhuman intellectual power and patience who accepts law as integrity" (Dworkin 1986, 239) gives us a distorting picture of the legal system. Cf. Dworkin 1986, 228ff., and Allen (2025, sec. 5, p. 86). I cannot expand on this here.

on primary behavior. In other words, there are feedback mechanisms (Allen 2025, sec. 5, p. 87; sec. 7, pp. 88, 89).

Another factor in that process are judicial decisions. By interpreting the law and adjudicating cases, the courts issuing such decisions generate effects of various sorts including changes in primary behavior. So, this is not just a matter of the "law in action" as opposed to the "law in books." The picture is more complex, for what is written in the books impacts primary behavior, which in turn generates litigation behavior, which in turn once more impacts primary behavior by means of settlements, interpretive decisions, the distinguishing of cases, the overruling of precedents, and so on. Stability is eventually achieved here and there, but the system remains dynamic.

In sum, evidence law is not isolated from organizational and governance problems; and trials that are supposed to enforce the existing law have performative effects (Allen 2025, sec. 4.3, p. 77).

One of Allen's targets is the ambitious project of probabilism, taken as the view that fact-finding is essentially a matter of probability. For a proponent of this view, litigating parties calculate or should calculate the likelihood of their claims, and they present or should present evidence accompanied by probability values; fact finders then update or should update the relevant probabilities, in order to reach their decisions accordingly. Bayes' theorem is the central mathematical tool that makes it possible to update prior probabilities into posterior ones; the idea is to move from prior probabilities determined by background information to posterior ones determined by the trial evidence.

Allen has been raising a number of objections to probabilism. In a nutshell: There is nothing wrong with Bayes' theorem *per se*; the problem, rather, is that its application to fact-finding is unfeasible for computational problems and general lack of adequate data.[21] As I like to put it, probabilism instills a sense of precision which is rather artificial. When matters are qualitative, their quantitative translation is a poor conductor of justice. What matters here is that Allen has pointed out the failure of Bayesians, and before them of Wigmore, "to order rationality by rules" (Allen 2013b, 109). "The law of evidence for the most part reflects natural reasoning processes, with a few oddities here and there usually explainable for historical reasons, and thus its architects may unsurprisingly be resistant to instruction concerning their own irrationality" (ibid.). A spectacular example of how things can deviate from rules and expectations is offered by trials:

> The process unfolds in unpredictable ways at trial rather than being constrained by formalisms (like the rules of evidence or probability theory). One never knows for sure what a witness is going to say, a judge decide, or how an opponent will react. The parties adapt dynamically in their very creation of a litigated event. (Allen 2025, sec. 4.4, pp. 81–2)

Along similar lines Allen has been criticizing the conventional rationale for the varying standards or burdens of proof. To put it briefly, the difference between beyond a reasonable doubt (criminal standard) and preponderance of the evidence (civil standard) is conventionally explained and justified in terms of error costs: Whereas false positives and false negatives have substantially the same costs in civil decisions,

[21] For a recent discussion, see Aitken, Taroni, and Bozza 2022 and Allen and Pardo 2023. An interesting question is how this will all be impacted by AI.

they have different costs in criminal decisions, for convicting the innocent is a more serious error than acquitting the guilty; as a result, the preponderance of the evidence standard is in order in civil cases, whereas criminal cases require a more demanding standard of proof. This view is usually coupled with probability theory: the criminal standard can be understood to mandate conviction for probability of guilt ≥ .9, while the civil standard mandates liability for probability > .5. This means that the criminal standard unevenly distributes the error risk between the parties, differently from what the civil standard does. But suppose now that almost all defendants are actually guilty (perhaps because the prosecution does an excellent job in sorting them out): The ≥ .9 standard would then likely generate many false negatives, maybe too many, and one might think it better to lower the criminal standard. However, any change in the standard would likely have effects in primary and litigation behavior, which would likely change the base rates of actually innocent or guilty people and possibly the number of cases that go to trial.[22]

While I find the logic of that critical argument compelling, I wonder what the law should do in addition to, or in place of, what it is already doing.[23] By definition, in the criminal context, we do not have the exact base rates of innocent and guilty people: We resort to trials precisely because we do not already know who is innocent and who is guilty. In fact, talk of complexity and ignorance should not be taken as the hopeless message that we will inevitably remain ignorant. Nor does the lack of data exempt us from making reasonable or plausible assumptions.

Another point on which clarification would help the debate is this: When Allen (2025, sec. 4, p. 76) writes that it is "false that the primary task of the law of evidence involves fact-finding," and when he says that we should not be so focused on truth and its ascertainment at trial,[24] we may come away with the impression that he wants to dismiss truth talk and concerns. There is a spectrum of scholarly positions in that regard, from those who think that trials serve the end of determining the truth on the litigated facts to those who think that truth talk has inquisitorial implications, or that it is just a futile aspiration. I understand that talk of truth has a metaphysical flavor that empiricists may dislike.[25] But Allen (2025, sec. 4.4, p. 80) praises accuracy as a major virtue that the justice system achieves through the adversarial process. Without accurate decision-making, what is the

[22] "The distribution of errors is not determined solely by the decision rule, but instead by the interaction of the decision rules with the distribution of deserving plaintiffs (the state in criminal cases) and deserving defendants, on the one hand, and on the other with the probabilities assigned by the fact finder" (Allen 2025, sec. 4.4., p. 78).

[23] That worry is misplaced if what Allen criticizes is not evidence law but evidence theory: "The most that the law of evidence can do is create a general framework or process so that disputes can be resolved" (Allen 2025, sec. 4, p. 76).

[24] If I remember correctly, he used similar words at the Bologna presentation. On the other hand he maintains that fact-finding is "critically important" for the determination of rights (Allen 2025, sec. 4, p. 76), and in other writings he stresses the importance of caring about truth: "A legal world in which facts and truth do not much matter would be, I think, an unpleasant place to inhabit. Security is lost. Planning is impossible. I thus view those of us who teach those who construct and run the legal system as having strong obligations to the truth" (Allen 1998, 319).

[25] However, there are accounts of truth that are philosophically and theoretically respectable for the empiricist too. See Ho 2021.

point of having rights? We must care not only about the distribution of error risks but also about their reduction. This means that we want to have correct outcomes. "Correct decisions matter" (ibid., sec. 4.4, p. 78). And I do not see how truth could be expunged from this picture. We want to have true positives and true negatives—that is, in criminal cases, conviction of the guilty and acquittal of the innocent—instead of false positives and false negatives. So we care about truth. Therefore, my last question for clarification goes like this: Why put aside truth talk and concerns? Or maybe Allen wants to make different points about the law of evidence (not focused on accuracy) and the justice system (for which accuracy matters).

5. Conclusion: Questions for Ron

To conclude, let me sum up the main questions I posed to Allen. They are basically questions for clarification, and they are three.

As a first question, I would like to better understand in what respects Allen's account constitutes an advancement over other accounts of the law as dynamic (e.g., compared to Kelsen's view of legal systems as normative dynamic systems or to Hart's view of the legal system as a union of primary and secondary rules).

As a second clarification question, I would like to better understand how the law and the legal system may tame or reduce the world's complexity, since they are both themselves complex. On complexity, more generally, I also wonder whether the emphasis on unpredicted and unpredictable outcomes constitutes a significant hurdle to its use for predictive purposes. And I fear that explanations quickly become uninteresting if complexity as such becomes the answer to any *why* question.

As a third and last question, I wonder why we should dispense with truth talk when dealing with evidence and evidence law, given that a major virtue of fact-finding and of the justice system is accuracy—for we prefer correct outcomes over incorrect ones, and rightly so.

Regardless of the answers, thinking about those issues is in itself a valuable exercise: I have learned a lot from Allen's work, and I hope this exchange will benefit readers at least as much as it has benefited me.

Acknowledgements. Open access publishing facilitated by Università Bocconi, as part of the Wiley - CRUI-CARE agreement.

Department of Legal Studies
Bocconi University
Via Röntgen 1
20136 Milan
Italy
Email: giovanni.tuzet@unibocconi.it

References

Aitken, C., F. Taroni, and S. Bozza. 2022. Evidence, Probability and Relative Plausibility. *The International Journal of Evidence & Proof* 26(4): 309–24. https://doi.org/10.1177/13657127221114508.

Alchourrón, C. E., and E. Bulygin. 1971. *Normative Systems*. Vienna: Springer.
Allen, R. J. 1998. Truth and Its Rivals. *Hastings Law Journal* 49(2): 309–19. https://repository.uclawsf.edu/hastings_law_journal/vol49/iss2/2.
Allen, R. J. 2011. Rationality and the Taming of Complexity. *Alabama Law Review* 62: 1047–68.
Allen, R. J. 2013a. Complexity, the Generation of Legal Knowledge, and the Future of Litigation. *UCLA Law Review* 60: 1384–411.
Allen, R. J. 2013b. Taming Complexity: Rationality, the Law of Evidence and the Nature of the Legal System. *Law, Probability & Risk* 12(2): 99–113. https://doi.org/10.1093/lpr/mgs008.
Allen, R. J. 2017. The Nature of Juridical Proof: Probability as a Tool in Plausible Reasoning. *The International Journal of Evidence and Proof* 21(1–2): 133–42. https://doi.org/10.1177/1365712716674794.
Allen, R. J. 2025. Reflections on Complexity, Evidence, and Law. *Ratio Juris* 38(2): 72–93. https://doi.org/10.1111/raju.12426.
Allen, R. J., and M. S. Pardo. 2019. Relative Plausibility and Its Critics. *The International Journal of Evidence & Proof* 23(1–2): 5–58. https://doi.org/10.1177/1365712718813781.
Allen, R. J., and M. S. Pardo. 2023. Evidence, Probability, and Relative Plausibility: A Response to Aitken, Taroni, and Bozza. *The International Journal of Evidence & Proof* 27(2): 126–42. https://doi.org/10.1177/13657127231155798.
Barberis, M. 2011. Santi Romano, il neoistituzionalismo e il pluralismo giuridico. *Materiali per una storia della cultura giuridica* 41: 349–59.
Brunet, P. 2011. Interprétation normative et structure du système juridique. *Diritto & Questioni Pubbliche* 11: 9–37.
Champeil-Desplats, V., and M. Troper. 2005. Proposition pour une théorie des contraintes juridiques. In *Théorie des contraintes juridiques*. Ed. M. Troper, V. Champeil-Desplats, and C. Grzegorczyk, 11–23. Paris: Bruylant LGDJ.
Burazin, L., K. E. Himma, and C. Roversi, eds. 2018. *Law as an Artifact*. Oxford: Oxford University Press. https://doi.org/10.1093/oso/9780198821977.001.0001.
Canale, D., and G. Tuzet. 2011. Use and Abuse of Intratextual Argumentation in Law. *Cogency: Journal of Reasoning and Argumentation* 3(2): 33–52. https://dialnet.unirioja.es/servlet/articulo?codigo=3963465.
Chen, L. 2022. The Continuity of a Legal System. *The Modern Law Review* 86: 364–94. https://doi.org/10.1111/1468-2230.12765.
Dworkin, R. 1986. *Law's Empire*. Cambridge, MA: The Belknap Press of Harvard University Press.
Ehrenberg, K. M. 2016. *The Functions of Law*. Oxford: Oxford University Press. https://doi.org/10.1093/acprof:oso/9780199677474.001.0001.
Enoch, D. 2021. How to Theorize about Statistical Evidence (and Really, about Everything Else): A Comment on Allen. *Quaestio facti: Revista Internacional sobre razonamiento probatorio* 2: 285–98. https://doi.org/10.33115/udg_bib/qf.i2.22455.
Hart, H. L. A. (1994) 1961. *The Concept of Law*. 2nd ed. With a postscript edited by P. A. Bulloch and J. Raz. Oxford: Clarendon Press.
Hesse, M. B. 1966. *Models and Analogies in Science*. Notre Dame, IN: University of Notre Dame Press.
Ho, H. L. 2021. Evidence and Truth. In *Philosophical Foundations of Evidence Law*. Ed. C. Dahlman, A. Stein, and G. Tuzet, 11–24. Oxford: Oxford University Press.

Kelsen, H. (1934) 1992. *Introduction to the Problems of Legal Theory*. Trans. B. Litschewski Paulson and S. L. Paulson. Oxford: Clarendon Press.
Kelsen, H. 1945. *General Theory of Law and State*. Trans. A. Wedberg. Cambridge, MA: Harvard University Press.
Kelsen, H. (1960) 1967. *Pure Theory of Law*. Trans. M. Knight. Berkeley: University of California Press.
La Torre, M. 1993. Institutionalism Old and New. *Ratio Juris* 6(2): 190–201. https://doi.org/10.1111/j.1467-9337.1993.tb00147.x.
Lindahl, L., and J. Odelstad. 2000. An Algebraic Analysis of Normative Systems. *Ratio Juris* 13(3): 261–78. https://doi.org/10.1111/1467-9337.00155.
MacCormick, D. N. 2007. *Institutions of Law: An Essay in Legal Theory*. Oxford: Oxford University Press.
Pardo, M. S., and R. J. Allen. 2008. Juridical Proof and the Best Explanation. *Law and Philosophy* 27: 223–68. https://doi.org/10.1007/s10982-007-9016-4.
Pérez Bermejo, J. M. 2006. *Coherencia y sistema jurídico*. Madrid: Marcial Pons.
Rábanos, J. A. 2024. On an "Evolutionary" Theory of Legal Systems. In *Research Handbook on Legal Evolution*. Ed. W. Załuski, S. Bourgeois-Gironde, and A. Dyrda, 130–48. Cheltenham: Edward Elgar.
Ratti, G. B. 2008. *Sistema giuridico e sistemazione del diritto*. Turin: Giappichelli.
Raz, J. 1971. The Identity of Legal Systems. *California Law Review* 59: 795–815. https://doi.org/10.2307/3479604.
Raz, J. 1980. *The Concept of a Legal System: An Introduction to the Theory of a Legal System*. 2nd ed. Oxford: Oxford University Press. https://doi.org/10.1093/acprof:oso/9780198253631.001.0001.
Shapiro, S. 2011. *Legality*. Cambridge, MA: Harvard University Press.
Tuzet, G. 2019. Abduction, IBE and Standards of Proof. *The International Journal of Evidence & Proof* 23: 114–20. https://doi.org/10.1177/1365712718813794.
Tuzet, G. 2021. Norms and Novelty: Reflections on Legal Knowledge, Norms and Evolutionary Systems. *Archiwum Filozofii Prawa i Filozofii Społecznej* 27(2): 108–22. https://doi.org/10.36280/AFPiFS.2021.2.108.
Ubertone, M. 2025. Legal Methodology and Complexity: A Comment on Allen. *Ratio Juris* 38(2): 108–28. https://doi.org/10.1111/raju.12427.
Załuski, W., S. Bourgeois-Gironde, and A. Dyrda, eds. 2024. *Research Handbook on Legal Evolution*. Cheltenham: Edward Elgar.

