A Simple Thought-Experiment: Turing Games with a Unified Code of Procedure

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Over the years, legal scholars and judicial commissions in India have noted that the most pervasive and "pathological" problem afflicting India’s legal system is the problem of judicial delay. Indeed, the situation remains the same at present with there being little hope of change. The abovementioned commissions made recommendations to alleviate the situation, but few have proposed systemic solutions to this problem. Building on the previous work of one of the authors, in this paper the authors propose a novel thought experiment for solving the problem of delay: the use of ‘Turing litigation games’ based on a simple and unified code of procedure for both civil and criminal cases.

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I. INTRODUCTION

Over the years, legal scholars and judicial commissions in India have consistently and repeatedly noted that the most pervasive and "pathological" problem afflicting India’s legal system is the problem of judicial delay, but few

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have proposed systemic solutions to this problem. In this paper, we propose a novel thought experiment for solving the problem of delay: the use of 'Turing litigation games' based on a simple and unified code of procedure for both civil and criminal cases.

This paper is organised as follows. Following this introduction, Section II reviews the problem of delay in India's legal system. Section 2 provides a brief survey of the problem; Section II(A) summarises some previous diagnoses of the problem and explains why these previous explanations are off the mark; and Section II(B) then presents an alternative diagnosis of the problem of delay in India—in summary, the main sources of arrears in India are India's complex, formalistic, and open-ended codes of civil and criminal procedure. Section III then presents a novel solution to the problem of delay: a simple and streamlined 'Unified Code of Procedure' for civil and criminal cases alike. Next, building on the work of Guerra-Pujol, Section IV proposes the use of 'Turing litigation games' for the adjudication of civil and criminal cases, and Section V concludes.

II. THE NATURE OF THE PROBLEM

India's legal system operates on three levels: (i) a single Supreme Court at the federal level; (ii) High Courts in each of the States; and, at the local level, (iii) district judges for civil cases and session judges for criminal cases. Most scholars and lawyers alike agree that the most pervasive and systemic problem afflicting all three levels of India's legal system is the problem of judicial delay. For example, in the understated words of one scholar, "the speed of the judiciary has been identified as a key problem in India", or in the more eloquent and poignant words of another

2 P.E. Guerra-Pujol, The Turing Test and the Legal Process 21(2) INFORMATION & COMMUNICATIONS TECHNOLOGY LAW 113 (2012).

3 For an overview of India's legal system, see, Bibek Debroy, Some Issues in Law Reform in India in Jean-Jacques Dethier, Governance, Decentralization and Reform in China, India and Russia, 345 (2000); see also, Joseph Minattur, INDIAN LEGAL SYSTEM (2nd edn., 2006).

4 For a small sample of this extensive legal literature, see, e.g., Debroy, supra note 3, at 344-355; Mendelsohn, supra note 1, at 823-863; Robert Moog, Delays in the Indian courts: Why the Judges Don't Take Control 16(1) JUSTICE SYSTEM JOURNAL 19, 22-25 (1992); Upendra Baxi, The Crisis of the INDIAN LEGAL SYSTEM, 58-83 (1982).

respected scholar, "that the courts [in India] have large arrears and that the law's delays virtually result in the denial of justice is common knowledge." 

The problem of delay in India's legal system is not only a pervasive and pathological problem; it is also an enduring one. The Law Commission of India and several other official ad hoc committees have consistently identified the problems of overload and arrears over the years, including the Law Commission's Seventy Seventh Report titled Delay and Arrears in Trial Courts, which was preceded by its Fourteenth Report titled Reform of Judicial Administration, which in turn was preceded by a previous report published in 1949 by the High Court Arrears Committee.

Consider, for example, the report published in 1972 by the High Court Arrears Committee led by the former Chief Justice of the Supreme Court of India, Jayantilal Chhotalal Shah (the Shah Committee Report). This report provides a comprehensive diagnosis of the main sources of judicial delay in India's legal system and recommends a number of reforms to address the problem. But forty years later, in spite of numerous reports and numerous studies, the problem of delay is just as pervasive and pathological as it was in the past. To get some idea of the sheer magnitude and scope of the problem, consider the official 2002 report titled Law's Delays: Arrears in Court. According to this report, in 2000 there were 3.1 million pending cases in 21 High Courts and 20 million pending cases in subordinate courts.

8 Law Commission of India, 14th REPORT—REFORM OF JUDICIAL ADMINISTRATION (1958).
11 For a summary of the findings and recommendations of the 1972 Shah report, see, Baxi, supra note 9, at chapter 3.
13 Id.

A. Mistaken or Incorrect Diagnoses of the Problem of Delay

The leading survey of India’s legal system is still Upendra Baxi’s *The Crisis of the Indian Legal System.* In his classic work, Professor Baxi identifies a number of ‘antimonies and contradictions’ in the Indian legal system and devotes an entire chapter to the problem of judicial overload and arrears. But thirty years after Professor Baxi published his landmark book, and forty years after India’s High Court Arrears Committee, led by Justice Shah, published its special report on the problem of delay, the problems of overload and arrears continue to plague India’s legal system (and many other legal systems as well).

So, what is the source of this problem? Building on the work of the 1972 Shah Committee Report, Professor Baxi identifies four separate factors or sources of delay in India’s legal system: “(i) State caused delays, (ii) court caused delays; (iii) Bar caused delays; and (iv) litigant caused delays.” Nevertheless, as we shall explain below, these diagnoses of the problem of delay are weak and unpersuasive.

First, Professor Baxi diagnoses ‘State caused delays’. Specifically, he notes that “the state ... has surprisingly made no realistic assessment of the judicial manpower needed to maintain an efficient and a just justice administration”. In other words, there simply aren’t enough judges and research staff to adjudicate the large volume of cases in India’s legal system. In addition, Professor Baxi condemns the ‘quality’ of judges and holdups in the judicial appointments process. These diagnoses, however, are superficial at best for two reasons. First, the relation between quality and speed is not obvious: a high-quality judge may very well take more time to decide cases on average than a low-quality judge. Likewise, the relation between the number of judges and the incidence of delay is also not obvious. Simply put, “more” is not necessarily better than “less” because an increase in the quality and number of judges and in the number of courts may in turn lead to an increase in

14 Baxi, supra note 9.
15 For a succinct summary of these “antimonies and contradictions,” see, Sathe, supra note 6, at 1388-1389.
16 Baxi, supra note 9, at 64.
17 For exceptions to such diagnoses, see e.g., Chemin, supra note 5; Debroy, supra note 3.
18 Baxi, supra note 9, at 65-68.
19 Baxi supra note 9, at 66.
20 Baxi supra note 9, at 65-66.
21 Baxi supra note 9, at 65.
the number of claims. That is, an increase in the supply of justice may produce an increase in the demand for justice, producing no net reduction in the incidence of delay or backlogs.

Next, Professor Baxi diagnoses ‘court caused delays’ including ‘corrupt and improper’ conduct by judges, the lack of modern ‘court management’ procedures, and other ‘intangible factors’ contributing to judicial backlogs and delay. In addition, Professor Baxi notes that the expansive interpretation of their jurisdiction by the various High Courts of India under Section 115 of the Code of Civil Procedure and under Articles 226 and 227 of the Indian Constitution has led to large increases in the judicial workload. But, once again, these diagnoses are unpersuasive and superficial. The relation between delay and workload is not so straightforward: busier courts may in fact be faster courts. Furthermore, evidence of judicial ‘corruption’ (however defined) is still mostly anecdotal, and since the publication of the 1972 Shah Committee Report and Professor Baxi’s classic book in 1982, most courts in India have adopted modern ‘case management’ protocols and implemented a state-of-the-art ‘e-courts’ project—to no avail, however. In spite of these significant reforms, the problem of arrears appears to be as pervasive as ever.

Another major source of delay in India’s legal system is ‘legal profession caused delays’. In essence, cunning lawyers use delay as a litigation tactic: lawyers thus compound and contribute to the problem of arrears by bending or gaming the rules of procedure to gain an undue advantage or extort a favourable settlement. Also, lawyers in India supposedly have a tendency to ‘over-prove’ essential allegations and their “arguments often tend to be unduly prolix”. But, yet again, these diagnoses are weak and unpersuasive. Prolixity and over-argumentation are true of lawyers in all legal systems (not just Indian lawyers), and lawyers in all legal systems will always find ways of gaming the rules of procedure to delay cases, especially when such delaying tactics benefit the interests of their clients.

23 Baxi, supra note 9, at 68.
24 Baxi, supra note 9, at 69.
25 Baxi, supra note 9, at 69.
26 Baxi, supra note 9, at 69.
27 Baxi, supra note 9, at 70-71.
28 Baxi, supra note 9, at 74-77.
29 Baxi supra note 9, 75.
30 Baxi supra note 9, 75.
Last but not least, Professor Baxi diagnoses ‘litigant caused delays’.31 Professor Baxi notes that “the volume of litigation [in India] has been steadily rising” since India’s independence,32 and many legal commentators in India believe that ‘litigant caused delays’ or the high rate of case filings are the most important causes of delay in India’s legal system.33 Furthermore, Professor Baxi poses a series of sociological questions:

But if Indians are litigious ... why are they so? Is it because some Indians love litigation for its own sake? ... Or does greater litigiousness show an increasing rights-consciousness and access to law? ... Or, is it that courts are resorted to not so much to secure relief or vindicate rights but rather with the objective of harassing the adversary?

But with all due respect to Professor Baxi, who we greatly admire, these questions are beside the point. After all, are Indians really any more litigious, ‘rights-conscious’, or strategic than litigants in other legal systems or the citizens of other countries? In any given legal system (not just India’s), some fraction of litigants will indeed be litigious, right-conscious, or strategic. But this fact, standing alone, does not explain the problem of delay in India’s legal system.

In our view, we should be asking a different set of questions: why do civil cases and criminal cases have different codes of procedure – that is, why do most legal systems (including India’s) perpetuate a ‘civil-criminal divide’ – and why are India’s civil and criminal codes of procedure so complex, formalistic, and open-ended?

B. An Alternative Diagnosis of the Problem of Delay

Here, we present an alternative diagnosis of the enduring problem of overload and arrears in India’s legal system. In summary, the main source of judicial delay in India is India’s complex, formalistic, and open-ended codes of civil and criminal procedure. Simply put, the problem of arrears in India is mostly procedural in nature – the codes of civil and criminal procedure in India are far too complex, formalistic, and open-ended.35 Thus, in contrast to the traditional diagnoses of

31 Baxi, supra note 9, at 77-78.
32 Baxi, supra note 9, at 77.
33 See e.g., Sathe, supra note 6, at 1389 where he states that “The most important cause of the delays [in India’s legal system] is the volume of litigation”.
34 Baxi, supra note 9, at 78.
35 Cf. Chemin, supra note 5, who offers empirical evidence in support of claim. See also, Debroy, supra note 3, at 343.
delay presented in section 2 above, our hypothesis is that the problem of delay in India is mostly a function of the codes of procedure; in particular, arrears are a function of (i) procedural complexity, (ii) procedural accretion, and (iii) procedural ambiguity.

Consider the issue of procedural complexity first. The codes of civil and criminal procedure in India are highly complex and sophisticated legal documents consisting of thousands of rules and millions of words. India’s Code of Criminal Procedure, for example, contains a total of 37 thematic ‘Chapters’ (and 22 additional sub-chapters) and no less than 484 separate ‘sections’ containing thousands of specific procedural rules. The ‘Table of Contents’ of the Code of Criminal Procedure spans 18 single-spaced pages by itself. Likewise, India’s Code of Civil Procedure is divided into two parts: 11 general ‘sections’ (consisting of 158 general guidelines and rules spanning over 40 single-spaced pages of text), and 51 detailed ‘orders’ (consisting of thousands of specific rules spanning over 100 single-spaced pages of text). In short, the codes of civil and criminal procedure in India are two of the most prolix and complex procedural codes in the world.

Next, consider the issue of procedural formality and the steady and gradual accretion of new amendments to the codes of procedure in India. For instance, section 122 in Part X of the Code of Civil Procedure authorises the High Courts to amend the procedures set forth in the orders of the Code (recall that the orders appear in the second part of the Code of Civil Procedure). From 1971 to 1996, the High Courts made 430 formal amendments to the orders. According to Matthieu Chemin, 94 of these formal amendments during this span of time were ‘Court red tape’ amendments, that is, an amendment which added extra procedures to be followed by the High Court making the amendment and thus most likely to affect the expected duration of civil cases affected by the amendment.

Last, consider the issue of procedural ambiguity. Many provisions in India’s codes of civil and criminal procedure are so open-ended and ambiguous

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36 Cf. Baxi, supra note 9, at chapter 3.
38 Chemin, supra note 5, at 2 and 12.
39 Chemin, supra note 5, at 12-13 & Figure I therein.
40 According to Chemin, the net effect of these formal ‘red tape’ amendments was to increase the expected duration of a High Court trial by 3.3 days. Chemin, supra note 5, at 24-28.
that different High Courts have reached opposite and conflicting decisions in similar cases. For example, the 144th Report of the Law Commission of India, titled *Conflicting Judicial Decisions Pertaining to the Code of Civil Procedure, 1908* (the Singh report), presents a total of 30 different procedural rules in the civil procedure code producing 163 conflicting decisions by different High Courts in India. According to Chemin, such conflicting judicial decisions contribute to the problem of judicial delay because judges must spend more time in choosing among conflicting precedents within the same High Court (i.e. in choosing among conflicting interpretations of the same ambiguous procedural rule).

To sum up, the main sources of judicial delay in India's legal system are India’s complex, formalistic, and open-ended codes of civil and criminal procedure. These complex codes consist of thousands of procedural rules and millions of words, continue to expand and grow through a steady and gradual process of accretion, and contain many open-ended and ambiguous provisions. It should come as no surprise, then, that India’s legal system suffers from so much overload and arrears. Furthermore, our diagnosis of the problem of delay raises a larger question: why do common law legal systems still have separate rules of procedure for civil and criminal cases?

### III. Solution: A Unified Code of Procedure

Does the problem of delay defy solution? Is it an intractable or insoluble problem? What is to be done?

In Professor Baxi’s words: "this is the time for experimentation and innovation, unless we want the crisis of the [Indian legal system] to continue". He goes on to say:

The crisis of the [Indian legal system] cannot be handled by just tinkering with the outer peripheries of the justice system. The problems raised by arrears are problems whose scope transcends the court system itself ... Perhaps, nothing short of a total transformation

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41 See, e.g., Chemin, *supra* note 5, at 7-11 and Figure III therein.
43 For an example of a procedural rule producing opposing High Court decisions, see, Chemin, *supra* note 5, at 9-10.
45 Baxi, *supra* note 9, at 81.
46 Baxi, *supra* note 9, at 83.
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is needed if we are even to begin to "solve" these problems. That is why the crisis of the [Indian legal system] also presents substantial opportunities for its reconstruction.

In other words, what the Indian legal system needs is "a thorough restructuring—and not mere tinkering here and there". 47

Here, we take up Professor Baxi's bold call for reconstruction, experimentation, and innovation. Specifically, we propose the following thought-experiment: what if we were to abolish the existing complex codes of civil and criminal procedure wholesale and then replace the old common law system with a more simple and streamlined 'Unified Code of Procedure'.

Although our proposed solution may sound strange and unfamiliar at first, but in substance and spirit, our thought-experiment is more consistent with the timeless wisdom and early legal traditions of ancient India—far more so than the transplanted Anglo-American 'common law' model is. Consider, for example, the ancient Arthashastra and other writings of the philosopher Kautilya, a contemporary of Aristotle and one of India's (and the world's) greatest universal thinkers. 48

The Arthashastra is divided into 15 Books and addresses general questions of governance, social relations, and political economy. 49 In particular, Book III, titled 'Concerning Law', is devoted to law and justice, and the subjects of the first chapter of Book III are the 'determination of forms of agreement' and the 'determination of legal disputes', that is, contracts and trial procedure. 50

It is thus revealing that Book III of the ancient Arthashastra not only begins with legal procedure (i.e. 'determination of legal disputes') but also proposes a simple and unified set of procedural rules for the adjudication of such disputes. Specifically, legal complaints are lodged by aggrieved private parties and are then

47 Sathe, supra note 6, at 1393.
50 R.P. Kangle observes, "it seems that the law of procedure and the law of evidence were first framed in connection with suits concerning the non-payment of debts" because "the debt was the most ancient and most common form of [case]..." R.P. Kangle, THE KAUTILYA ARTHASHASTRA, Vol. 3, 217-18 (2nd edn., 1997).
brought before a judge, who then puts questions to the parties and records their replies.51 Most importantly, the ancient Arthashastra makes no distinction between civil cases and criminal cases.

IV. A Novel Thought-Experiment for Simplifying the Codes of Procedure and for Bridging the Civil-Criminal Divide

Ideally, if we could neglect the constraints of custom, path dependence, and politics, we would ‘start from scratch’ and propose an alternative and totally new system of civil and criminal adjudication. Specifically, we would propose a simplified and openly probabilistic procedural system resembling the ‘Turing Test’ or ‘Imitation Game’,52 a well-known test of artificial intelligence proposed by the computer scientist Alan Turing in 1950. The Turing Test has generated extensive commentary in the fields of computer science, artificial intelligence, and the philosophy of mind,53 and as we explain below, the logic of the Turing Test is also relevant to the legal process.

In brief, although the Turing Test was designed to test for the intelligence of computer programs (that is, to answer the general question, ‘can machines think?’) and was not designed to determine a particular defendant’s civil or criminal liability, we propose extending the Turing Test to law and apply a Turing-like procedure to civil and criminal proceedings, but instead of testing for intelligence, our system would ‘test’ for civil and criminal liability.

In his famous 1950 paper, the computer scientist Alan Turing described a simple question-and-answer game, what he calls the ‘imitation game’,54 involving three players: a man (Player A), a woman (Player B), and an interrogator (Player C), who may be of either gender.55 In summary, the interrogator is allowed to put questions in writing to players A and B, and based on the responses provided by A

51 For a summary of the procedural system in the ancient Arthashastra, see, Kangle, supra note 50, at 215-231.
52 Alan Turing, Computing Machinery and Intelligence 41 MIND 433 (1950).
54 Turing, supra note 52, at 433.
55 Turing, supra note 52, at 433.
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and B, the interrogator must guess their true identities, or in Turing’s words, “the object of the game for the interrogator is to determine which of the other two is the man and which is the woman”, while “the object of the game for third player [i.e. Player B, the woman] is to help the interrogator”. Notice, then, that the object of the other player in Turing’s game - Player A, the man - is to deceive or fool the interrogator about the truth of his gender (and about the truth of the other player’s gender as well). Next, Turing proposes that the role of player A be played by a digital computer (“What will happen when a machine takes the part of A in this game?”). Now, according to the ‘standard interpretation’ of the Turing Test, the role of the interrogator is to determine which of the players is the person, and which is the computer.

Superficially, Turing’s imitation game appears to be totally different from the process of litigation in several ways. For instance, unlike most forms of civil and criminal litigation, in which all the main ‘players’ (i.e. judge, jury, lawyers, and parties) are present in the same room and communicate orally, in Turing’s game the players must remain in two separate rooms and must communicate with each other in writing, either electronically or through an intermediary. Also, Turing’s imitation game resembles more an ‘inquisitorial’ system of adjudication than an ‘adversarial’ system, since it is the interrogator himself (or herself) – and not the other players or their representatives – who formulates the questions and evaluates the responses in the imitation game.

Nevertheless, despite these differences of form, the substantive parallels between the imitation game and what we call the ‘litigation game’ (the process of civil and criminal adjudication) are striking. First and foremost, consider the aim of the interrogator in Turing’s imitation game and the goal of the judge (or jury, as the case may be) in litigation games. In essence, the goal of Turing’s interrogator is to determine the true identity or gender of the players, and likewise, the role of the judge or jury in litigation games is to determine the guilt or innocence of the

56 Turing, supra note 52, at 433.
57 Turing, supra note 52, at 434.
58 Turing, supra note 52, at 434.
59 See, Oppy and Dowe, supra note 53, at 24.
60 An alternative, plausible interpretation of the Turing Test is that the computer must pretend to play the role of a woman, but regardless of which interpretation of the Turing Test is the ‘true’ or ‘correct’ one, this difference of interpretation does not affect the merits of our proposal.
61 According to Turing, “the ideal arrangement is to have a teleprinter communicating between the two rooms”; in the alternative, Turing states that the questions and answers may be transmitted by a neutral intermediary. Turing, supra note 52, at 433-434.
defendant, that is, to determine whether the defendant has committed a ‘wrongful act’ (regardless whether the wrongful act is classified as civil or criminal in nature).  

Another important similarity is the initial state of ignorance of the interrogator and of the judge/jury in both types of games. Just as the interrogator in the imitation game is ignorant of the other players’ genders because he is unable to see either A or B, the judge too is ignorant of the defendant’s guilt or innocence at the start of any given litigation game. That is, although the judge is physically able to see the parties because they are present in the courtroom, he is unable to ‘see’ who is telling the truth and thus does not know with certainty whether the defendant has committed a wrongful act (even after the parties have testified, presented witnesses, and offered evidence in support of their claims and defences).

Furthermore, what we call ‘the problem of ignorance’ is a central feature of the imitation and litigation games. In essence, both games attempt to solve this ignorance problem through a ‘question-and-answer’ format. In one game, the questions are posed by an interrogator; in the other, they are posed by the parties or their legal advocates. But the underlying purposes and methods of both games are essentially the same: the interrogator (in the imitation game) and the judge/jury (in litigation games) wish to move from their initial state of ignorance to a state of knowledge (or, to be more precise, to a state of some level of knowledge), and moreover, they do so by submitting questions to the other players (or by allowing the players to submit questions to each other) and by evaluating the responses to the questions. That is, the interrogator/judge/jury share the same goal (the movement from ignorance to knowledge) and rely on the same methods to achieve this goal (the ‘question-and-answer’ format).

Last but not least, yet another striking similarity is the presence of deception and strategic behaviour in both the imitation game and in litigation games generally. In brief, deception and strategic behaviour play a vital role in the Turing Test because Player A’s role in this game is to trick the interrogator into making an incorrect decision. He thus has a built-in and outright incentive to lie to the interrogator about his gender and the gender of Player B. Likewise, deception and strategic behaviour play a vital role in civil and criminal proceedings as well.

As an aside, one may argue that juries and judges play other important roles as well, such as “the task of persuading adversaries” or “the indispensable task of imagining an altruistic order”, see, e.g., Duncan Kennedy, Form and substance in private law adjudication 89(8) HARVARD LAW REVIEW 1685 (1976). In this paper however, we will focus on the trial judge’s first-order function; that of managing cases, conducting trials, and imposing civil and criminal liability.
Indeed, we would go further and say that litigation games are essentially exercises in deception and strategic behaviour. 63

Accordingly, given these striking similarities between Turing’s imitation game and the process of adjudication, we would extend the Turing Test to law by replacing the existing complex mass of rules of civil and criminal procedure with a simple Turing-like procedure to “test” for civil and criminal liability.

Before proceeding, it is worth noting that the main goal of the litigation game is to impose civil or criminal liability only on defendants who have committed wrongful acts. The current procedural system, however, is a totally absurd and costly way of achieving this goal because, under the current system, the parties have a strong material incentive to withhold or distort the relevant evidence from the other side. 64 By contrast, what would happen if the Turing Test were applied to civil and criminal litigation? That is, what if Player A were to assume the role of the moving party (i.e. plaintiff or prosecutor), and Player B were to take on the role of the defendant, and Player C, the judge? In summary, our proposed Turing-like procedure would work as follows:

Under our proposed system, the judge (Player C) would assume the role of Turing’s interrogator, and the parties would assume the role of Players A and B, but instead of trying to guess the gender or species of the players, the interrogator would try to guess whether Player B has committed a wrongful act. Our proposed procedure, which we call the ‘Turing Litigation Game’, would proceed more or less the same way as under the current system of litigation. 65 In brief, civil plaintiffs would submit their complaints to the interrogator/judge, and similarly, prosecutors would also submit their criminal indictments to the interrogator. In addition, both plaintiffs and prosecutors would be required to comply with existing service of process requirements, and in the case of alleged wrongful acts consisting of violent

63 For example, plaintiffs often file frivolous claims or lawsuits with “negative expected-value”. See, Lucian Ayre Bebchuk, Suits with Negative Expected value in Peter Newman, The New Palgrave Dictionary of Economics and the Law, Vol. 3, 551-554 (1998), and sources therein. Likewise, police often lie under oath to obtain search warrants, while prosecutors routinely overcharge defendants to persuade them to plea bargain or turn State’s evidence. See, e.g., Mara Shalhoup, BMF: The Rise and Fall of Big Meech and the Black Mafia Family, 257-262 (2010).


64 Recall that, under the current system, civil plaintiffs have an incentive to bring ‘negative expected value’ lawsuits, and prosecutors have an incentive to ‘overcharge’ defendants.

65 We shall spell out the details in a future paper to be titled Google Law?
crimes (e.g., murder, rape, and assault and battery), the plaintiff or prosecutor may request the interrogator to order the arrest and detention of the defendant.

But here is where our proposed Turing Litigation Game reforms the current system: instead of wasting precious time with pre-trial motions, responsive pleadings, and with discovery, the interrogator would proceed immediately into the ‘trial stage’ of the proceeding: he would be allowed to put any and all questions to players A and B relating to the contents of the complaint or indictment. The interrogator might consist of a single federal judge, a panel of judges, or a judge and a number of citizen-jurors chosen completely at random. However the role of the interrogator is chosen, the object of the litigation game for the interrogator is to determine whether Player B has committed a wrongful act.

From the perspective of the players, the object of Player A is to persuade the interrogator that Player B has committed a wrongful act, while the object of Player B is to persuade the interrogator that Player A is wrong (either as a matter of fact or a matter of law, or both, depending on the circumstances). Furthermore, to avoid any hint of judicial bias or prejudice because of socio-economic status or race or gender of the parties (Players A and B), the interrogator would stay in a separate room apart from the other two players (like the original Turing Test), and all communications between the interrogator and the players would occur electronically (again, just like the original Turing Test).

Now, to push our analogy to the Turing Test further, imagine if the role of Player C, the interrogator, were played by a computer, a truly neutral umpire or referee, free of political, economic, or moral biases. But, is such a computer/interrogator plausible or even possible? We think this is an important and worthwhile problem, and we would propose that the Loebner Prize, an annual competition for implementing the Turing Test, be extended to include our proposed Turing litigation game. That is, in addition to designing a computer program able to pass the Turing Test, contestants would try to design a computer program able to play the role of the interrogator in the Turing litigation game. In the alternative, a new competition could be created to accomplish this goal.

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67 As an aside, if the authors were independently wealthy, we would fund such a competition ourselves. Since we are not so wealthy, we call on a private foundation, university, or public institution, such as the National Science Foundation, to fund our proposed competition.
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We recognise that our proposed Turing Litigation Game, like the original Turing Test itself, is ‘greatly underspecified’;\(^\text{68}\) that is, we still need to specify the conditions or procedural details of the game, such as (i) the selection of the interrogator, (ii) whether any restrictions are to be placed on the type of questions the interrogator is allowed to ask; (iii) whether Players A and B may ask questions of each other; (iv) the amount of questioning allowed to occur and the length of time over which such questioning takes place, and (v) the number of independent sessions or trials of the game that are run. For example, with respect to condition (v) above, one can imagine a Turing-Test system in which the same game is played a number of times, with a completely different interrogator each time the game is played, in order to see whether the individual interrogators, as a group, form a consensus as to Player B’s guilt or level of liability.

These conditions or procedural details are clearly very important and deserve special attention. But instead of trying to specify these conditions or details platonically or paternalistically from the top-down, we would propose a decentralised (‘bottom-up’) market-based method. Specifically, we would propose an annual or biennial competition, like the Loebner Prize in the field of artificial intelligence or the Venice Biennial in the arts, in which the contestants would specify the conditions of the Turing Litigation Game by proposing competing versions of the game. The competition would award monetary prizes to those contestants who submitted the best game design, with the contestants themselves, as a group, selecting the winners. Over a number of years, this competitive process would produce a corpus of Turing games that could then be tried and implemented on an experimental basis.\(^\text{69}\)

In any event, however the conditions of the game are specified, it is worth noting that our approach to adjudication, the Turing Litigation Game, like the Turing Test itself, is probabilistic in nature. Return, for a moment, to condition (v) above, i.e. the number of trials a given Turing litigation game should be run. This condition implies that a Turing game is not a one-shot game or one-off event but instead a series of independent trials. In some trials of the game, Player B may be found guilty; in other trials, however, he may be found not guilty. But over a long

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\(^{68}\) See, e.g., Oppy and Dowe, supra note 55, at 35.

\(^{69}\) For instance, in addition to the existing mediation and arbitration options that are already widely available in many jurisdictions, the litigants in an actual case (civil or criminal) could also be given the option of submitting their case to a specified Turing procedure. But unlike a mediator or arbitrator, who may be biased (depending on which party is financing the mediation or arbitration process), the interrogator/judge in the Turing model would be a public good financed by the state.
enough series of trial runs, a relative-frequency value or 'consensus value' as to the defendant's status should emerge.

Likewise, although the probabilistic nature of the Turing Test is often overlooked, his test is a probabilistic one because a given level of success by Player A in the imitation game (i.e. the number of times that Player A is able to trick or deceive Player C, the interrogator, or viewed from the perspective of the interrogator, the relative frequency of incorrect guesses by the interrogator) produces "a specifiable level of increase in confidence that the participant in question [Player A] is intelligent" or is a man (in the original version of the imitation game). That is, when we look at the original formulation of the Turing Test in Turing's 1950 paper, "it is clear that [Turing] thought that the passing of the test [by player A] would provide probabilistic support for the hypothesis of intelligence."

This point (i.e. the probabilistic nature of the Turing Test) has important implications for law and legal process. In place of the existing procedural system, which relies on binary or 'YES/NO' ('all-or-nothing') determinations of civil and criminal liability (in which the defendant is either guilty or not guilty of committing a given wrongful act), we can now imagine a probabilistic test for determining liability in which the interrogator provides a probabilistic assessment of defendant's guilt. In other words, instead of asking the interrogator/judge in the Turing Litigation Game to issue Yes/No verdicts regarding Player B's liability, the interrogator/judge would provide a probabilistic verdict regarding the likelihood of Player B's liability given the responses of Players A and B to the interrogator's questions.

But why do we emphasise the probabilistic nature of the Turing Test and take such a probabilistic approach to legal process? Because, in reality, the 'litigation game' is itself a probabilistic process. In a word, we can never know with absolute certainty whether a given defendant has committed a wrongful act. That is, seen from a probabilistic perspective, the defendant's guilt or level of liability is not a binary or YES/NO proposition (i.e. a proposition which must be true or false; either

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70 See, Stuart Sheiber, *The Turing Test as Interactive Proof* 41 Nous 686 (2007); see also, Oppy and Dowe, *supra* note 53, at 34-36.
71 Oppy and Dowe, *supra* note 53, at 34.
72 Oppy and Dowe, *supra* note 53, at 34.
73 For example, "I give a 75% probability to the truth of player A's claim or player A's charge," or stated in the alternative, "I give a 25% probability that the defendant has not committed a wrongful act".
0 or 1); it is instead a mere conjecture, a hypothesis with a continuous probability distribution from 0 to 1.

Since we can never know with absolute certainty whether a given defendant has committed a wrongful act, why do we continue to pretend under the existing rules of procedure that liability is a binary proposition? When there are conflicting versions of the facts, or when the law is indeterminate, it is incorrect to say that a particular defendant is either 'guilty or not guilty'; instead, one should say “there is some positive probability p that the defendant has committed a wrongful act”. This probability is, in turn, based on the state of the law (what actions constitute a 'wrongful act' under the law) and on the evidence presented at trial (the facts of the case). The clearer the law is and the stronger the evidence is, the higher p will be.\(^{74}\)

Summing up, our approach to litigation reflects the true inherent uncertainty and true probabilistic nature of the legal process itself. By taking a probabilistic approach to legal process (i.e. by allowing the interrogator/judge in the Turing Litigation Game to issue probabilistic verdicts), we would substitute binary YES/NO verdicts of liability (e.g., 'guilty' or 'not guilty'), or liability versus no liability, with probabilistic verdicts in which the defendant's liability is expressed as a probability (e.g., "the defendant has committed a wrongful act with probability p").

Thus far, we have only discussed the 'liability phase' of civil and criminal cases. But before proceeding, it is worth noting that our analysis also applies to the damages and sentencing phases as well. That is, if the determination of a defendant's liability is probabilistic in nature, then the damages to be paid or the sentence to be served should likewise be discounted (i.e. reduced) by the probability that the defendant has committed a wrongful act. For example, if the interrogator/judge is only 75% certain that a defendant is guilty, then the defendant's punishment, whether measured in monetary units (damages) or time units (a prison sentence), should be reduced by the same pro rata amount to reflect this uncertainty.\(^{75}\)

What if the interrogator is less than 50% certain of the defendant's guilt? Should the same discounting principle apply to the defendant's punishment, or should the defendant receive no punishment if p (probability of guilt) falls below

\(^{74}\) But notice that although p may in many cases approach 1 (i.e., complete certainty), p will never reach 1 because of the inherent uncertain and probabilistic nature of the litigation game.

\(^{75}\) For instance, if the maximum sentence for involuntary manslaughter is four years in prison, and if the interrogator/judge is only 75% certain of defendant's guilt, then the defendant's sentence should be three years.
some threshold level, such as 0.9 (in criminal cases) and 0.5 (in civil cases)? Again, instead of attempting to answer these questions platonically or paternalistically from the top-down, we would propose a market-based method or prize competition for solving these problems, such as the Loebner Prize or Hutter Prize in the field of artificial intelligence. In the meantime, until these difficult questions are answered, our Turing litigation game should be viewed as a 'thought-experiment' of what an ideal unified procedural system would look like.

V. CONCLUSION

The Republic of India is not only the most populous and diverse democracy in the family of nations; it is also the globe’s largest ‘common law’ country. Paradoxically, then, although India is one of the most geographically heterogeneous countries in the world with a wide variety of peoples and languages, cultures and climates, its legal system is largely homogenous: the legal language in India is English and India’s legal system is based in great part on the Anglo-American ‘common law’ model. But legal scholars have long lamented the pervasive problems of ‘overload and arrears’ in India’s legal system, yet few scholars have proposed any sweeping or systemic solutions to the problem. Does the problem of delay thus defy solution, or is this problem in principle soluble? We offer the following thought-experiment as a possible solution to the problem of delay: Turing litigation games with a unified code of procedure.

In summary, in this paper we have provided a brief survey of the problem of delay in India’s legal system, reviewed some previous diagnoses of the problem, and explained why these previous explanations are off the mark. Moreover, we presented an alternative diagnosis of the problem of delay in India: the main sources of arrears in India are India’s complex, formalistic, and open-ended codes of civil and criminal procedure. That is, our hypothesis is that the codes of civil and criminal procedure in India are far too complex, formalistic, and open-ended, and it is these high levels of complexity, formalism, and ambiguity in India’s codes of civil and criminal procedure, more than any other factors, that produce sub-optimal levels of delay in India’s legal system.


77 Baxi, supra note 7, at 58.
Accordingly, we have presented a novel solution to the problem of delay: the use of Turing litigation games based on a 'Unified Code of Procedure' – that is, a single set of simple procedural rules for civil and criminal cases alike. For example, in his classic work on the Indian legal system, Professor Baxi proposes that "laws should be, as far as possible, drafted in a manner that is simple and intelligible to all people affected by the law". We agree. But we would add that simplicity is not just a virtue in the domain of substantive law; it is also a virtue in the domain of procedural rules. We would thus extend the principle of simplicity to the rules of procedure. Turing games would pass this test.

78 Baxi, supra note 7, at 81.