Digital Justice

Technology and the Internet of Disputes

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Foreword by
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FOREWORD

Modern court systems in both civil and common law jurisdictions can be traced directly to bodies that came into being roughly one thousand years ago. While much has changed in the intervening millennium, many of today's court processes and sometimes even the buildings themselves have not been altered greatly since the nineteenth century.

It is an uncomfortable truth that court systems around the world are creaking—they are too costly and slow, and they are unintelligible for the great majority of non-lawyers. More, these paper-based institutions appear increasingly outmoded in a society in which so much daily activity is enabled by the internet and advanced technology. Conceived in the Dark Ages and reformed in the nineteenth century, these court systems became unfit for many purposes in the late twentieth century. Now they seem destined, if unchanged, to be inappropriate for most disputes of the twenty-first. While it was seditious to make such allegations in the 1980s, many policymakers, judges, and lawyers around the world are now alive to the shortcomings of our courts. And there seems to be a growing worldwide appetite for comprehensive overhaul.

There have, of course, been calls for reform in the past. For decades now, supporters of ADR (alternative dispute resolution) have promoted non-court-based methods for resolving disputes, such as mediation, conciliation, and early neutral evaluation. But ADR has delivered mixed results and its long-term impact looks unlikely to be fundamental. In contrast, those who advocate ODR (online dispute resolution) look set to have greater traction. Indeed, there are signs that work in this field will reshape tomorrow's court systems.

It is timely, therefore, that *Digital Justice*, by Ethan Katsh and Orna Rabinovich-Einy, now appears on our shelves and tablets. The authors are ideally placed to have taken on the job of writing what is an accessible and yet definitive account of ODR. Ethan is an all-time star in the world of academic legal technology, and an undoubted pioneer in ODR. In joining forces with Orna, an

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authority on both ADR and ODR, they make a formidable team. They are also *mensches*—it is gratifying when nice people produce outstanding books.

In the words of the authors, the book shows "not only how technology generates disputes of all types—some serious, some just annoying—but how technology can be employed to resolve and prevent them." The first part of the book focuses on the history and development of online dispute resolution (it is remarkable, as they observe, that the first ODR conference was held as long ago as 1996), while the second highlights five areas that are argued to be in particular need of ODR—e-commerce, healthcare, social media, employment, and the courts. They conclude that online dispute resolution and prevention activities can be extended to enhance access to justice, both online and offline.

Crucial insights are peppered across the pages. The authors show, for example, why traditional dispute resolution and ADR do not work in the digital era. They place great emphasis on processes that help prevent disputes as well as resolve them. They note that disputes arise in 3–5 percent of online transactions, totaling over seven hundred million e-commerce disputes in 2015 alone. They anticipate a future in which increasingly capable machines will use large bodies of data to enable or suggest solutions to parties and, more distantly, when human intervention in disputes will be substituted by algorithms.

Digital Justice comes to us at a pivotal moment in the evolution of court systems. Not long ago, ODR was the preoccupation of but a small group of visionaries and academics. In many countries, debate about online courts is suddenly in the mainstream. For England and Wales, to take one example, the U.K. government has recently confirmed that the modernization and digitization of our courts will be financially supported to the tune of more than £700 million. Much of this investment is to be in online courts. And the senior judiciary is highly supportive.

Nonetheless, in the broader context of the history of law, the spirit of ODR remains bold. Judges without courtrooms, justice without lawyers, court as a service and not a place—these are radical aspirations. It is no surprise, then, that ODR has its detractors. Tellingly, many of the naysayers are lawyers who raise objections in the name of justice and in the interests of their clients. ODR, it is claimed, will deliver a second-class form of justice for those of limited means; it will not provide a fair trial; it will alienate the digitally deprived; it is driven by an unhealthy preoccupation with cost reduction; and it is really an attempt to exclude lawyers. These are important challenges, but they are advanced too often by lawyers who have not taken the time to road test the technology and study its actual impact so far. All critics should read this book. Many of their understandable fears will be allayed.

Meanwhile, we should be wary of wholesale rejection of ODR. Claims of inaccess to justice, it transpires, are often smoke screens for self-preservation

on the part of lawyers (consciously or unconsciously). Nostalgically, they hanker after the Rolls Royce service that today's finest court systems can doubtless deliver. But that is a service that is now affordable only for a very few, and everyone else is left to walk. We need an accessible and reasonably priced system for all, and I have found a no more promising option for that future than that offered by various types of ODR. Lawyers should surely be the pioneers in upgrading justice rather than standing in the way of processes that, as Ethan and Orna so compellingly show, are great improvements on what we have today.

I wish this work the very great success that it deserves.

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IT Adviser to the Lord Chief Justice of England and Wales

Introduction

It is hard to imagine a machine handling a complaint.
—Comment in James Gleick, *What Just Happened: A Chronicle from the Information Frontier*

In January 2007, Dave deBronkart was diagnosed with stage IV kidney cancer, a condition which, at the time, had a median survival rate of twenty-four weeks. He immediately underwent surgery and became a participant in a clinical drug trial. DeBronkart, who was employed in the computer industry, also became a determined "e-patient,"[1] using any and all online resources that might help his treatment and help him cope with his condition. It worked. DeBronkart became a technology-focused cancer survivor, an active blogger on an e-patient website,[2] and, a year later, co-chair of the Society for Participatory Medicine.[3]

The hospital that provided his medical care—Beth Israel Deaconess Medical Center in Boston—had been a pioneer in providing patients with online access to their medical records.[4] In early 2009, deBronkart took advantage of a new feature that allowed him to upload his medical data into an electronic health-record system called Google Health.[5] The Beth Israel system was not linked electronically to other area hospital systems. If, for example, he had needed to see a doctor at Massachusetts General Hospital a few miles away, deBronkart would have had to print out his file and carry it over. The attraction of Google Health was that it allowed deBronkart to keep all his medical data, from any system or physician, in one place, accessible anywhere.

Almost immediately after deBronkart's data was copied into the Google Health system, the Google site reported to him that his cancer had spread to his spine, that he had chronic lung disease, and many other illnesses and conditions.[6] A "Medication Alert" appeared on screen, informing him that his blood-pressure medication required "immediate attention." DeBronkart may have needed a much higher dosage of blood-pressure medication at that point, given the news he was receiving. He soon determined, however, that he did not have

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any of the problems Google Health told him he had. When he pushed the button and instructed Beth Israel to send his files to Google Health, Beth Israel had sent billing codes instead of clinical diagnoses. Billing codes, unfortunately, do not map precisely to patient problems and illnesses. At the time, there were far more illnesses and medical conditions than there were codes for insurance reimbursements. Google, however, accepted the codes as medical diagnoses and informed deBronkart that he was quite ill.

DeBronkart's next move was almost as novel as the circumstances that led to his situation: he recounted his experience on his blog.[7] That led to a front-page story in the *Boston Globe*,[8] which in turn prompted the hospital to make sure that the problem would not occur again. DeBronkart used his newfound public recognition to focus attention on the role of the patient in healthcare,[9] becoming an important voice in the movement to give patients a larger role in managing their own healthcare.[10] In 2014, he was the first patient to be appointed Visiting Professor at the Mayo Clinic.[11]

DeBronkart's situation may seem unlike anything you might experience. However, we all press buttons every day with the assumption that nothing will go wrong. Clicking a mouse, swiping a card, scanning a bar code, using a smartphone, talking to a machine, setting off a sensor, or even starting one's car are all routine daily activities we do in the hope of learning something new, making money, playing a game, connecting with a friend/acquaintance, and so on. And yet, these actions set in motion highly complex and hidden processes—processes that usually lead to the desired result. But sometimes they don't. In ways that may not become known to the user for some time, something other than what is expected may occur. When that happens, a problem or dispute must ultimately be faced.

For most internet users, the online environment feels magical. It overcomes physical limitations of time and space and enables us to learn, play, create, and work in new and convenient ways. It often seems, as an iPhone advertisement has claimed, that "the laws of physics are only guidelines."[12] However, an online environment that continues to grow rapidly in novel, varied, valuable, and complex ways is also a powerful dispute-creation engine. Anything that generates economic and intellectual growth, as well as rapid technological change, also fosters more disputes, and new kinds of disputes.

Some of these disputes percolate into the media and are reported. A few—mostly those where large amounts of money are at stake—may end up in court. A very few, where crimes have been committed, may be prosecuted and even go to trial. The vast majority, however, never get close to a court. Instead, they are left to the individual, company, or group to handle, to somehow find a solution or, more commonly, to live with the problem or pretend that it is of no consequence.

Just as our new information technologies generate problems, however, they can also provide powerful tools for addressing and preventing these problems. At the moment, these tools are in short supply and remain much as they were in the pre-internet era. The purpose of this book is to clarify not only how technology generates disputes but how technology can be employed to resolve and prevent disputes. Most writing about the impact of the new technologies on law focuses on legal doctrines, regulations, and court opinions. As Richard Ross put it, the main concern to date has been on how the "special properties of electronic media will invite improvement or will require adjustment in particular bodies of law, from intellectual property to sales, from antitrust to information crimes, and from the First Amendment to civil procedure."[13] It is true indeed that it is hard to find a legal doctrine untouched by our use of new communication and information-processing machines and devices.

The focus of *Digital Justice* is different. It is about the role of law and the processes that are emerging to enable individuals to resolve disputes. The idea of digital justice itself is something that is both broader than a set of rules and doctrines and also a challenge for all areas of law to rise to meet. *Digital Justice* aims to clarify not only how technology generates disputes of all types—some serious, some just annoying—but how technology can be employed to resolve and prevent them. As discussed in Chapter 2, we use the term "justice" primarily in a procedural sense, much in the same way it has been used by the "access to justice" literature.

Investing in both old and new forms of dispute resolution should be an important societal priority. Growth in disputes—in number and in kind—always parallels the growing use of our new technologies. Our activities online and offline are taking place in an environment that is active, creative, and, for some, lucrative; it is not, however, friction-free and harmonious. In any environment, the more relationships that are formed and the more transactions that take place, the more disputes are likely to occur. This becomes a bigger problem when the transactions and relationships are novel, complex, and part of a continuously changing and intrusive environment.

While the increased conflict level is becoming integrated into our lives, dispute resolution systems are lagging behind. What is missing are novel and more varied avenues of dispute resolution and more efforts at dispute prevention. "More" does not mean a larger selection of what is already in existence. "More" in this context translates into the adoption of digital tools and systems that provide solutions to problems as well as the use of information technologies in new ways that anticipate and prevent disputes. The gap between the broadening spectrum of disputes and the current conservative nature of existing dispute resolution and prevention practices needs to be reduced. How to increase innovation in this area is a theme at the heart of this book.

"Conflict as a Growth Industry": How Many Disputes Are There?

In a period of transition, innovation, and growth, dispute resolution—just like every other societal institution—needs to come to terms with machines that use information in extraordinary ways. Technology's reach is broad and our attraction to it great. There is already general awareness of a range of conflicts linked to cyberspace, such as hacking, identity theft, and intellectual property cases. Laws related to the use and control of information—privacy or free expression, for example—are often in the news. But focusing only on cases that have gone to court or surfaced in the media is much too narrow, and the canvas of conflict represented is, as a result, vastly incomplete. The courts may or may not handle well large public disputes. There are very few systems, however, that give aid to the millions of people who have been overcharged in some way, find a mistake in their credit report, are harassed while playing an online game, or feel poorly served by a "sharing economy" company. We live in the era of "Big Data"—unimaginably large amounts of data about almost everything.[14] And yet we have relatively little data about disputes. We may have statistics about how many cases a court has handled, but most disputes do not end up in court. We do know that eBay, for example, manages the extraordinary figure of sixty million disputes a year between buyers and sellers.[15] If this were a small claims court, it would be the largest court in the world. Domain names—something that did not even exist pre-internet—have generated over fifty thousand disputes between domain name holders and trademark owners, and are also generally resolved out of court.[16]

Measuring disputes is difficult because the concept of a dispute is more complex than it might seem. The noted legal scholar Marc Galanter once wrote that disputes "are not some elemental particles of social life that can be counted and measured. Disputes are not discrete events like births or deaths; they are more like such constructs as illnesses and friendships, composed in part of the perceptions and understandings of those who participate in and observe them."[17] Today, however, data is so valuable that we "strive to have 'metrics' for phenomena that cannot be metrically measured."[18] Indeed, thanks to Facebook and government interests in healthcare, we now count both friendships and illnesses—albeit by redefining what it is that is being counted. Our lack of empirical data about disputes is partly a consequence of this amorphous nature of disputes. It is also, however, a reflection of the lack of awareness and understanding concerning the relationship between technology and conflict.

Problems and disputes are an inevitable by-product of any complex activity; every society generates disputes. Every society also has traditions, norms, rules,

and institutions that help to contain the level of disputing, either by preventing them or by resolving them after they occur. Courts are rarely the place citizens go to with complaints. Alternative dispute resolution (ADR) methods are also becoming anachronistic for many kinds of contemporary disputes. Our rapidly changing, technology-dependent world has largely neglected the need to develop a new conflict prevention or resolution infrastructure.

It is unlikely that any society has exposed its members to as many potential disputes as ours. The tools and systems needed to achieve digital justice should be as available as the means employed to generate injustices. Problems such as those experienced by Mr. deBronkart—resulting from poor data quality, miscommunication, and poor software design—can result in an array of inconveniences, problems, misunderstandings, and disputes at any time. Although many of these may seem minor, we are in an upward spiral of encountering more and more serious issues.

Sending either data about ourselves or money along with the data is the price we pay to enjoy the benefits of cyberspace and acquire an array of goods, services, and informational resources. On "free" sites, we in fact barter information—generally personal—for access. If your doctor is on Facebook and you "Like" your doctor, Facebook knows, or thinks it knows, that you are a patient of the doctor and, by combining this data with other data it possesses, knows why you are a patient—or *thinks* it knows. This is one reason some hospitals prohibit their physicians from "friending" patients.[19] In fact, what usually distinguishes successful companies from unsuccessful ones is not only the revenue they receive but the ability to turn the data accompanying it into something of value. Whether the data is good or bad, true or false, however, does not necessarily interfere with turning it into something valuable. For many entrepreneurial activities, bad data is still useful data. DeBronkart was actually fortunate in that he was alerted that there was a problem with his data. In many instances, one would not know that bad data has been passed on to some other entity. In such cases, the problem is not that our identity has been stolen or that our privacy has been invaded but that our identity has been polluted in some way. Identity pollution, in the form of mistakes in the numerous records containing information about us, is a much more widespread problem than identity theft.

Several decades ago, in their influential book *Getting to Yes*, Roger Fisher and William Ury asserted that "conflict is a growth industry."[20] Today, this is an understatement; disputes, this industry's product, are not only increasing but are increasing at an accelerated rate in numbers and in kind. Disputes are the collateral damage of innovation. They inevitably touch some percentage of every new product or service. There were no disputes over a free press, for example, before there was a press. It was almost impossible for an individual to violate the copyright laws before we had copying machines and personal computers (and there

were no copyright laws at all before the printing press was invented). Before we had search engines, no one could complain about embarrassing pictures turning up in a list of search results or think that there was a need for the "right to be forgotten."[21] Before we had lists of passwords, we could not forget or lose them. Before we had Wikipedia, we could not have an "edit war" over which Middle Eastern country invented hummus.[22] Before we had a "Like" button on Facebook, there was no litigation on whether pressing a Like button was protected under the First Amendment.[23] Before we had large-scale online games, could we ever have had a dispute in which the owner of a virtual castle alleged that his virtual goose that laid U.S. $1,000 golden eggs daily had been stolen by a real-world woman/virtual boy who had climbed a magically appearing giant beanstalk?[24]

The number of disputes will increase whenever transactions and relationships increase. One can be very confident that what one orders from Amazon will be delivered. Yet Amazon is involved in so many transactions that it should not be surprising when someone who orders a television set is instead delivered an assault rifle, something actually experienced by a District of Columbia resident.[25] While some percentage of transactions in any environment will go bad, the online environment generates both more disputes and disputes of a type that we never could have had in the pre-digital environment.

So how many disputes are we faced with? As already noted, in 2012 eBay handled over sixty million disputes between buyers and sellers by providing software that assisted the parties to negotiate a satisfactory outcome over 80 percent of the time.[26] Are these all the disputes that occurred in the eBay environment? Not really. When, at one time, it required fewer clicks to reach eBay's Resolution Center, the number of complaints increased.[27] Similarly, reducing the time it takes systems like eBay's or Alibaba's to resolve a dispute should not be expected to reduce the overall number of disputes. In fact, this may even cause users to submit more disputes, displaying their trust in a system they find to be more accessible and efficient. Access to justice is now enabled by software and mouse clicks, just as in the old days access to justice was affected by the hours a court was open or how distant it was.

WHAT IS NEW?

What are the factors and variables that are stimulating the growth of disputes? Some involve courts, but most—as with most disputes—are usually settled informally (or not settled at all). These factors have to do with time; the kinds of activities involved; the kinds of relationships involved; how the data is handled; how we communicate; and how valuable the entities involved are.

Speed and time pressures are one critical factor that easily lead to disputes and contribute to their escalation. Disputes escalate when time is compressed—by

definition there is less time available for responses and dialogue.[28] In one recent well-known example, publicist Justine Sacco was on her way to South Africa. During a layover at Heathrow, she tweeted: "Going to Africa. Hope I don't get AIDS. Just kidding. I'm white!" By the time her plane landed in Cape Town several hours later, there were tens of thousands of tweets mocking and excoriating her for the inappropriate joke. Shortly thereafter she was fired by her employer.[29]

The more novel the activity, the greater the likelihood of disputes. The first iteration of an innovative product or activity almost never anticipates all the disputes that it will generate. In June 2015, a consumer in Germany scanned the QR (quick response) code (readable through a cell-phone) on a bottle of Heinz ketchup. He expected to land on a web page where he and his child would be able to design their own label, as promoted by Heinz. Instead, he was taken to a hardcore porn website. Heinz had only run the label promotion between 2012 and 2014; the company then let the domain name lapse, and it was picked up by a porn site.[30] Heinz discovered that a routine attempt at corporate branding in the age of the internet introduces many new possibilities for mishap.

Increased complexity in relationships and systems also creates more opportunities for disputes. In the words of computer scientist Peter Neumann, "Complex systems break in complex ways."[31] At the end of 2014, Facebook created a "Year in Review" app for its more than one billion users. It used some pictures taken during the year, with one of those pictures featured much more prominently than the others, in the center of the screen, under the banner "Your Year in Review: here's what your year looked like." For one unfortunate user, at the center of the screen was a large picture of the user's young child, who had passed away during the year.[32]

As larger and larger volumes of data are collected, processed, and communicated, more and more opportunities for disputes will occur. We assume this data will be processed and evaluated correctly when products doing so become available to the general consumer. But that may often be the exception, not the rule. An app Google released in May 2014 provided a searchable tag for photos. Shortly thereafter, a black man reported that the app labeled him a gorilla. Google publicly apologized for the algorithm that caused this.[33] Similarly, when the item or issue in question represents a significant new value to the market, the more likely it is that a problem or grievance will turn into a dispute. For example, domain names were first developed in 1984. The system was managed by a single individual for more than a decade. During the 1990s, the number of ".com" domain names increased from 1,151 in October 1990[34] to 1,301,000 in July 1997, and to more than twenty million in November 2000.[35] By that time, companies discovered how valuable they were and disputes began to surface.[36]

Communication beyond previously established boundaries also increases the range of disputes. In 1994, Jake Baker, a student at the University of Michigan, wrote a highly violent short story that he posted to the Usenet newsgroup alt.sex.stories. The victim in the story had the same name as a woman in one of his classes. This led to his being expelled from school and to a court case. What was surprising was that it was in fact a University of Michigan graduate living in Moscow—not someone living in the local community or currently at the university—who saw the story and informed the university. Even one remove further, the Michigan alum had learned of the story from his sixteen-year-old daughter.[37]

All of these examples can be considered to be part of the overarching category of unintended or unanticipated consequences. Almost all of us experience disputes of these kinds, large or small, on a regular basis, from disputes over hotel bookings to misplaced Amazon deliveries. What is perhaps most important is that the more attention given to preventing disputes, the fewer disputes there will be. In order to appropriately address them, therefore, we must shift from an emphasis on resolving disputes to an emphasis on preventing them.

The current, very active, and complex dispute generation engine that affects us every day was built with no awareness that it would become so efficient. The main concern of the inventors of the internet and the web was that the technology simply *work*. It has been noted that "today's computer and network systems were largely designed with security as an afterthought, if at all."[38] Disputes, it is fair to say, were not even an afterthought. In 1969, when the internet was invented, no one envisioned a network that would grow to its current size or be as widely used. Cyberspace grows by adding pieces, by joining networks, and by developing new software components that provide new capabilities, which others then build on. At no point was serious attention given to understanding how these increasingly complex systems might generate disputes, how disputes might be prevented or reduced. No one saw that the speed and complexity of the "information superhighway"[39] might have some unintended disputing consequences.

THE GROWTH OF ONLINE DISPUTES

It is understandable that attention to disputes was not a pressing issue for the first half of the internet's existence. From 1969 to about 1992, it was entirely reasonable to be concerned exclusively with whether or not the network worked or did not work. Its users during this period were primarily in academia and the military, and, when there were disputes in the relatively small user population, they were settled informally. During most of this era, few citizens were aware of the internet, and only at the end of this period might they have found an internet

service provider. As late as 1995, it was not very easy for ordinary citizens to obtain internet access. In April of that year, for example, Alok Kumar wrote:

> By now everyone has heard of the wonders of the Internet. The media barrages us with daily articles about the Internet's incredible size, skyrocketing growth, and utter trendiness. All the cool people have email addresses and flaunt them. For the most part, however, enthusiasts ignore the challenges faced by ordinary people who try to use the Net. To most folks, the riches of this glamorous information superhighway lurk right around the corner, tantalizing but out of reach. There are several paths to Internet connectivity all based on your position in the world. If you happen to work at a high-tech company or a well connected corporation, then you will already be hooked up to the Net. If you happen to be a student at almost any college or university, the school can give you direct access to the Internet via an "e-mail account." If you're still not included in the above, then welcome to the real world, you have lots of company.[40]

Even in the 1980s, companies like America Online (AOL) and CompuServe had many subscribers, but they could only communicate with subscribers to the same service. It is also fair to say that if one had been aware of the internet and had somehow connected to it, one would probably have found it both uninteresting, because of the limited range of activities supported, and uninviting, in that a certain level of computer skill was needed just to engage.

Until 1992, commercial activity on the internet was actually banned.[41] There were no consumer or commercial disputes not because there had been a systematic and intentional effort to design an environment that would not generate disputes, but because there was an online population with very few ways to generate a dispute—certainly a magnitude smaller than are possible today. Until there were disputes, there was no pressing need to think of dispute resolution. The range and quantity of disputes that would suggest a need for dispute resolution were not present until years later.[42]

In the mid-1990s, hints started to emerge that cyberspace was unlikely to stay a relatively harmonious place. This may seem obvious to anyone today, when consumer and copyright disputes abound, when identity theft is skyrocketing and anti-virus software is required simply to keep a computer operating. It was not so obvious, however, in the mid-1990s before there was spam, phishing, music downloading, buying and selling online, massive multiplayer online role-playing games (MMORPG),[43] and massive open online courses (MOOCs) with large numbers of students. Indeed, the hope often expressed at that time was that this new online environment for commerce, education, and entertainment would

find ways to avoid the kinds of conflict that these activities had generated in the past in the physical world. As John Perry Barlow wrote in a widely circulated document, "[w]e will create a civilization of the Mind in Cyberspace. May it be more humane and fair than the world your governments have made before."[44] Or, as one noted entrepreneur wrote in 1993: "Life in cyberspace seems to be shaping up exactly like Thomas Jefferson would have wanted: founded on the primacy of individual liberty and a commitment to pluralism, diversity, and community."[45] Sadly, this was unfounded optimism.

PROLIFERATION OF DISPUTES IN THE 1990s

The internet experienced a change in its very nature when, in 1992, it became a commercial network as well as a research network. At about the same time, it also experienced a change in its user population, as increasing numbers of college students discovered that they could access the internet through their universities—and for many, for free. Shortly thereafter, easy-to-use web browsers were developed and internet service providers allowed citizens to access the internet. The internet has always been a *social* network in that it expanded communication possibilities among individuals and groups. It may not have yet had a system for keeping aware of the small details of a "friend's" existence, but it did allow relationships to form that could not have been established without efficient communication over distances. In the mid-1990s, however, the internet also started to become an anti-social network as disputes began to arise out of online activities. The growth of listservs in particular brought with it the abuse of listservs—the wide distribution of harassing, sexist, and homophobic messages.[46] Today, Facebook and all of our contemporary social networks are enormously expanded versions of the social network that was the early internet; they are also enormously expanded versions of the anti-social network that started evolving in the 1990s.[47]

In 1999, one of the authors was asked by eBay to determine whether it would be possible to mediate disputes between buyers and sellers online. eBay did not want angry users, and it knew that it would be easier to attract new users if the risk of a transaction could be reduced. Informing participants that problems would be resolved if any arose was thought to be a means of building trust and reducing risk. In the experiment, almost two hundred disputes were mediated in a two-week period.[48] This was successful enough that eBay decided to make online dispute resolution (ODR) available—the use of technology to assist in resolving disputes for buyers and sellers.

eBay selected an internet start-up, SquareTrade,[49] to design a system that could handle large numbers of disputes, something not possible with email and human mediators. SquareTrade examined the traditional mediation process and

re-engineered it by identifying components that could be translated into software. What made this feasible was that mediation—indeed all dispute resolution processes—involves communication and the management and processing of information. When mediators "work with the parties," they are doing so by managing the flow of information between them. Various stages of a mediation process, such as caucusing, brainstorming, option generating, and drafting, are all communications processes facilitated by the mediator.

SquareTrade designed a system of forms for parties to use to exchange information and, in the process, help the parties to understand that what typically occurred was accidental rather than fraudulent. The metaphor of "the Fourth Party"[50] emerged out of recognition that software could play a role that might replace a mediator in simple cases and, more commonly, would assist and collaborate with the neutral third party in any kind of case. It was also built on the premise that these disputes could not be handled by traditional, face-to-face dispute resolution mechanisms.

SquareTrade realized that this was a new environment which called not only for a better way, but for a different way. The company's goal was not to make available a machine version of a human mediator; it was to design something that revolved around an exchange of information about positions and interests, and that would result in a consensual outcome, even if the exact route taken to reach the final agreement was not the same. SquareTrade knew that it wanted the resolution to result from an online negotiation, one that the parties felt was fair and unbiased despite the fact that there would be no human mediator present to shape the communication.

While software could not duplicate the skill of a human mediator, software could assist the negotiation process by providing some structure to the communication and to the flow of information between the parties. The software SquareTrade developed—software that would eventually handle millions of disputes—incorporated many elements of traditional mediation. For one, SquareTrade and its software had to be viewed as impartial: not likely to induce settlements favoring either buyer or seller. It also had to be effective in terms of cost, time to settlement, and enforcement. Lastly, it needed to lead to settlements that were acceptable to both sides because something was included that each party wanted.

THE BLURRING OF ONLINE-OFFLINE BOUNDARIES

In the 1990s, it was possible to avoid getting caught up in the internet's dispute creation engine by not participating in online activities. While growing numbers of people were accessing the web, there were still many who remained unconnected. At that time, one could separate life online from life offline and avoid

the perils of cyberspace by, essentially, not entering it. In recent years, living offline entirely without either a data presence or an online identity has become less of a realistic option. The distinction that used to be made between the "virtual world" and the "real world" is losing meaning—and not just because it is increasingly necessary to have internet access in order to participate in all kinds of personal and business activities. Internet service providers, once the means of access to develop a digital persona, are now only one of many entry points to cyberspace. One simply cannot prevent data about oneself from migrating into cyberspace. This occurs whenever a card is swiped to make a purchase; a phone is turned on and used to make a call; a movie is streamed; a Smart Grid[51] device sends data about electrical usage in the home to the local utility; a picture is posted on Facebook; or when just about anything with a barcode or some other similar code is bought or sold.

Machines are constantly sending information about us to other machines whether or not we have intentionally placed this information in cyberspace, and this will only continue to grow at a belief-defying rate. In what is now called the "Internet of Things,"

> more and more inanimate objects start to develop data and intelligence as they connect to each other, [and] a network of autonomous interactions will emerge. In the future, our devices will be able to manage, analyze, report, predict, forecast, and more—while humans experience their days more intelligently and efficiently. We are experiencing a shift from a world of inanimate objects and reactive devices to a world where data, intelligence, and computing power are distributed, ubiquitous, and networked. We're seeing a variety of market forces—from sensor, data capture, and a computing processor—empower this world for consumers and organizations alike. Who will deliver the content for and based on these interactions? Who will manage the data that arises?[52]

And how, one might ask, will we manage the disputes that arise out of what will also be labeled the "Internet of Disputes"?[53]

In the not at all distant future, there will be very few activities—perhaps none—that can be thought of as occurring purely offline. Sensors with communications capabilities and data capture opportunities can be added to almost any object or activity. Even animals aren't off limits: in one recent experiment, cows transmitted data to their owners about when they were in heat.[54] We can even expect to see our clothing, which we currently think of as quite passive, start sending messages and collecting data about our health, our movement, and our activity, along with Fitbits, watches, and all the other items we might wear. Simply entering a space is often enough; walking through an airport generates an ocean of data about you

via cameras, face recognition software, and other sensing devices. Although every new car today may not have an all-electric engine or be self-driving, every new car certainly is filled with sensors and chips that continuously process information. Gone are the days where car breakdowns would mysteriously and routinely occur: cars often now identify a problem and start sending the dealer information before the driver is even aware of a problem. And if you are unlucky enough to be involved in an accident, the car has a black box much like an airplane's that will record data about the event, such as speed at the time of a collision.[55]

The Internet of Things presents enormous opportunities for hacking and other mischief. As Bruce Schneir has pointed out,

> most of these devices don't have any way to be patched. . . . Microsoft delivers security patches to your computer once a month. Apple does it just as regularly, but not on a fixed schedule. But the only way for you to update the firmware in your home router is to throw it away and buy a new one.
>
> The security of our computers and phones also comes from the fact that we replace them regularly. We buy new laptops every few years. We get new phones even more frequently. This isn't true for all of the embedded IoT systems. They last for years, even decades. We might buy a new DVR every five or ten years. We replace our refrigerator every 25 years. We replace our thermostat approximately never. Already the banking industry is dealing with the security problems of Windows 95 embedded in ATMs. This same problem is going to occur all over the Internet of Things.[56]

We are increasingly using machines with algorithms that advise us, help us make decisions, and often actually make decisions in ways that our inanimate tools never did. Many are out of sight, but many—the kind columnist David Brooks once labeled our "outsourced brain"[57]—are increasingly carried or worn by us, and in fact are shaping our choices or making decisions for us without our awareness. We clearly receive many benefits from all this, but we also increase the possibilities for relationships going sour, transactions being unsuccessful, our well-being put at risk, and all manner of interactions leading to parties being angry with each other.

As the online/offline boundary vanishes, everyone's digital life will acquire more and more detail. All of these innovations are relying on increasingly complex systems that are designed to collect and process data; that data will, over time, help us with some problems by solving them before or as they arise. But they will also certainly generate disputes. If we do not figure out how to exercise some control over this dispute generation engine with effective resolution and prevention strategies, we can expect to become, even more than we are now, a disputing generation.

Why Traditional Dispute Resolution Doesn't Work for the Digital Era

What can be done about our growth industry of disputes? More than a half-century ago, noted legal philosopher Karl Llewellyn wrote:

> What, then, is this law business about? It is about the fact that our society is honeycombed with disputes. Disputes actual and potential, disputes to be settled and disputes to be prevented; both appealing to law, both making up the business of law. . . . This doing something about disputes, this doing of it reasonably, is the business of law.[58]

Many years later, it is unlikely that anyone would link law, the courts, and dispute resolution in this way. The usefulness of law and the courts—at least as it concerns dispute resolution for ordinary citizens—has been in decline. In the early 1960s, for example, 11.5% of cases in the federal courts went to trial. In 2002, it was 1.8%.[59]

This decline is certainly not the consequence of fewer disputes in society. It is a result of the growing use of alternative out-of-court processes to deal with problems. In the 1980s, when the phrase "conflict is a growth industry" first appeared, it was hoped that the response would be to make conflict *resolution* an equally important growth industry. To some extent, this has happened; mediation, arbitration, and other out-of-court approaches have become much more frequently used dispute resolution options. Yet the dispute-creation engine that is the internet has turned conflict into a larger and faster growing growth industry for which the alternatives that became popular in the late 1970s and early 1980s are neither adequate nor appropriate.

The efforts of the last few decades to expand the use of out-of-court processes has enabled courts to survive with decreased funding. No one—neither the courts, nor alternative processes—is prepared to handle the volume, variety, and character of disputes that are a by-product of the levels of creative and commercial activity happening online today. Court capacity is inelastic not only because of court budget levels but because of the physical qualities that define them: the need to meet face to face, the need for lawyers and for human judges who process cases and decide them. Out-of-court processes such as mediation and arbitration place emphasis on face-to-face interactions and are, therefore, constrained in much the same way. If ODR and online dispute prevention (ODP) do not themselves become growth industries, and if new tools for handling or averting disputes cannot be fashioned out of our new technologies, risks associated with innovation will increase and the value of all the new tools and resources we have will decrease.

This isn't the first time our society has recognized it was necessary to create new dispute resolution models in order to respond to changes in the kinds and number of disputes. During the New Deal, many administrative agencies were established. All these agencies today have some responsibility for resolving disputes with or between citizens, companies, and the government. Establishment of these agencies and passage of the Federal ADR Act[60] greatly increased our overall capacity for settling disputes. We are now facing, once again, the question of how to develop and make available dispute resolution systems that can meet a growing demand for them. And the faster these new problems have grown, the more urgently we need to prioritize as a society thinking about how to prevent and resolve them. In an environment where the amount of data that is communicated online is so enormous and the processes for managing this data are so complex, even a problem that represents only a tiny percentage of online activity will affect enormous numbers of people. In other words, if you have not yet had a problem in need of fixing, that time will come.

The law has not been oblivious to the new technologies. Since the emergence of personal computers, however, its focus has been on legal rules and doctrines, and on whether or how these laws need to be modified or changed. In the 1980s, for example, much attention was given to questions about whether software could be copyrighted, and what kinds of copying were lawful "fair use" and what kinds were not. As use of the internet grew, questions arose about the government's authority to regulate online speech; the legality of downloading content; and what kinds of online business processes might be patented. In the last decade, the growing use of mobile phones and other portable devices has raised new questions about what these devices can be used for, who controls the "pipelines" of information flow, and whether new regulations to guarantee "net neutrality" are needed.

The societal reaction to novel problems is often "there ought to be a law." But the question of whether or not a statute or regulation achieves its goal directly depends on whether there is an appropriate infrastructure in place to assert claims and have problems resolved. One of the oldest maxims of law is that "there is no right without a remedy."[61] The history of law's experience with the internet reveals a focus on statutory changes and court decisions but a neglect of remedies or dispute resolution processes. eBay's sixty million disputes and Alibaba's hundreds of millions of disputes are impressive, but also an indication that government and courts were not viable options. It also illustrates that innovative use of the new technologies can respond effectively to disputes. Fortunately, eBay and Alibaba are not the only ones. As we discuss later, public initiatives involving online small claims courts in the United Kingdom, British Columbia, the Netherlands and U.S. state courts, and private initiatives in the United States and elsewhere, are recognizing that new institutions and processes are necessary.[62]

Judicial decisions attempt to clarify what the legal standard is and communicate to the public what is allowed and what is not, all with the hope that these rulings will be followed and future disputes averted. However, as Paul Schiff Berman has reminded us, "[l]egal scholars and policymakers have an unfortunate tendency to assume that legal norms, once established, simply take effect and constitute a legal regime."[63] While the conscious flaunting of legal standards is the cause of some disputes, unfortunately most are simply the consequence of interactions gone badly, of bad data being employed, or of good data being used badly. While eBay does encounter some cases of fraud or duplicitous sales, the vast majority of the sixty million disputes are simply a result of accidents and miscommunication. Mr. deBronkart's dispute over his health records with Beth Israel and Google was not the result of anyone violating the law, but simply of the wrong data being passed along.

Throughout our lives, we acquire experience and, perhaps, expertise, in dealing with the inevitable disputes of life. When a problem arises, we assess the possible harm from doing nothing about it and evaluate the costs of doing something. This can only occur, however, when we are aware that there is a problem and that there are options to do something about the problem. Disputes are one of the prices we must pay to be part of the digital world—so we need resources to be available to help us afford this price. Relationships that go bad, transactions that are unsuccessful, and interactions that are frustrating diminish the value and opportunity presented by our new technologies. Online systems that do not work and may cause harm are growing due to the fact that online systems and use of them are growing. We are now trying to apply our stored-up knowledge and experiences from the physical world to a new environment that is fundamentally different, where our digital selves are routinely impacted in ways our physical selves are unaware of. In this new, more complex, rapidly changing, nonphysical environment, assumptions and expectations are in transition; institutional responses are lacking; and costs and consequences—both of doing nothing, and of doing something—are much harder to calculate.

However, it is problematic to suggest, as Justice Oliver Wendell Holmes once did, that "it is as it should be, that the law is behind the times."[64] There is no reason to not take advantage of online dispute resolution and prevention capabilities to respond to and attempt to prevent many problems consumers and citizens are facing. "Mediators work towards settlement of cases by controlling interaction and communication,"[65] and the various forms of dispute resolution only differ in the manner in which information is used and communicated. Litigation, for example, relies on rules of evidence that determine what can be said in court and what information can be considered by the judge. Mediation and arbitration are more flexible in allowing the third-party neutral to determine how to manage communication and use information. Communication and information

processing, the core capabilities of both computers and dispute resolution professionals, should similarly be at the center of technology-based problem solving.

The earliest ODR efforts tried to bring the techniques and models of offline mediation and arbitration online, to allow human mediators and arbitrators to operate at a distance. This took advantage of the network and the ability to communicate online cheaply and easily as well as, more recently, through video. The growth of the field can be expected to accelerate in the near future as more is built into the information-processing capabilities of machines. "Code is law" has become a well-known phrase in the legal field, making the assertion that software code can often structure behavior more effectively than law.[66] It is equally true to say that "code is process," in that the role of third-party mediators and participants can also be shaped and even substituted for by the software employed.

Mr. deBronkart's use of a blog and a network of patients to spread awareness of his problem is only one example of the manner in which technology can help those in difficulty. To use technology in this manner, however, we need a reorientation of perspectives along with the development of new processes. Frank Sander wrote that when it comes to designing dispute resolution systems, it is important "to fit the forum to the fuss."[67] Mediation and arbitration did expand the number of possible fora for dispute resolution. But when it is possible to "meet" at a distance, and new tools for working with information are appearing, we have the opportunity, as we shall explain in this book, to expand considerably the number and kinds of dispute resolution arenas.

Online Dispute Prevention

Not too long ago, constructing a map of disputing might have been fairly simple to do, by identifying cases of various kinds in courts. A map of the last few decades would include the alternative dispute resolution processes of mediation and arbitration that became more popular in the 1970s and 1980s; a map of the last few decades would also begin to look more crowded, with more disputes as well as varied routes to resolving them. The mapmakers might even have to make an effort to represent a few efforts toward designing systems for preventing disputes.[68] Such a map would, however, still look familiar as an extension of the past in both how disputes are conceptualized and what the processes look like. The very idea of preventing disputes has become more urgent as the format, chronology, and cause of those disputes has changed so dramatically.

The traditional "map" of conflict resolution was focused on the point in time *after* the disagreement had already evolved and grown. This was based on a theory that looked at disputes as progressing through stages of "naming, blaming and claiming."[69] In other words, parties moved from feeling that there was a

problem (naming); to identifying sources of the problem (blaming); to actually airing a complaint (claiming). It was only in the "claiming" phase that there was something that was considered to be called a dispute. In an age of data-driven environments, however, the entire "naming, blaming and claiming" trajectory is likely to be both broadened and accelerated. Disputes may be "waiting to happen," but the waiting time is usually much shorter. As a result, the boundary line between a subjective feeling that there is a problem, and a grievance—or between a grievance and a dispute—becomes harder to identify. In addition, dots that were never before visible can be connected, and some of these dots may link the present dispute to problems at a much earlier time.

Mr. deBronkart's health records mishap was characterized as a dispute, but the problematic episode first began with a warning flashing on his screen attempting to alert him that there was a problem. The data being used was the wrong data, but aspiration toward a preventative goal—something like a Global Positioning System (GPS) warning that there is a problem ahead that might not be visible to the driver—was appropriate. We are, throughout the day, pressing buttons and initiating actions that can lead to disputes, but we are also increasingly being shown, albeit much less frequently, something akin to a weather warning or an "accident ahead" alert telling us that some action to avoid problems can and should be taken.

The omnipresent GPS of today can actually be considered a useful metaphor for adapting to new data—for "rerouting" quickly in any context in which circumstances change. The GPS anticipates and avoids problems by monitoring traffic and other data in real time, using data supplied by individual mobile phones and other devices. Although what it presents can resemble a two-dimensional paper map, what it reveals is driven by a much larger and diverse universe of data. At its best, the GPS (and other systems that will be part of the complex driverless car) uses the continuous stream of data to warn or inform the car about what is coming, present choices, or make decisions for users.[70] We do not have complete trust, however, in the warnings of today's GPS because like all emerging technologies, the GPS itself can be an efficient problem-generator with new possibilities for things to go wrong, even to go wrong at a large scale. And it isn't just always getting stuck in five more minutes of traffic. When Apple replaced Google maps with Apple maps, a few motorists in Australia were stranded for close to twenty-four hours without food or water and needed to walk long distances through dangerous terrain to get phone reception.[71] Indeed, each day, Google fixes thousands of errors on its maps based on user reports. This is an example of crowd-sourced dispute prevention, one that Google has made easy by allowing users to report a mistake simply by shaking the mobile phone.[72]

Seeing the problems affecting you by a new digital universe of data isn't always as obvious as encountering a dead end when you thought you were a

block from home. Problems affecting you may be out of sight and out of mind, but can surface at any time. Most of us, for example, have never looked at our medical records. When Mr. deBronkart looked at his medical record, he found another problem, separate from the fiasco involving Google Health's interpretation of billing codes. He discovered that his medical record listed him as being a 53-year-old woman.[73] Someone in one of his doctors' offices had checked the wrong male/female box. While this mistake may seem trivial, problems with medical records, as we shall describe later, can lead to serious mistakes and injuries—and they are widespread. One study of Medicare data found that "2.7 percent of the nearly 11.9 million records in the database, approximately 321,300 records, contained coding errors."[74] Such errors are also passed on to public health authorities and can distort larger national and global data, such as epidemiological information tracking serious diseases. The fact that these problems exist but are rarely acknowledged or discussed—let alone turned into complaints—highlights the need to identify new ways to anticipate and prevent disputes.

New technologies change what it is possible to do and, in the process, raise a range of questions, some of which are likely to conflict with accepted practices, about the value and need for doing what was difficult or not possible before. They also lead to a reassessment of goals, priorities, assumptions, and expectations. One of the largest reassessments facing the field is the tension with ADR's traditional emphasis on confidentiality—highlighted by the necessity for big data collection, analysis, and its many uses. This, of course, has been recognized in many industries.[75] In the dispute resolution field, however,

> Typically, organizational leaders do not view the management of conflict as systematically as they do information, human resources and financial management systems. Rather, conflict in organizations is viewed and managed in a piecemeal, ad hoc fashion, as isolated events, which are sometimes grouped by category if the risk exposure is great enough but that are rarely examined in the aggregate to reveal patterns and systemic issues.[76]

The private nature of ADR has frustrated attempts to document resolution efforts and study patterns across cases. As data begins to occupy center stage, it is becoming clear that practices relating to data documentation need to be revisited and relaxed so as to allow for patterns and systemic issues to be explored.

Innovating in the growth industry of disputing is just now beginning to shift attention toward using technology to anticipate categories of disputes and design preventive systems. This is a significant shift, and one rarely found in books about dispute resolution. It is noteworthy that SquareTrade, originally a dispute

resolution company, transformed itself into a company that insures electronic devices. This can be viewed as a shift from resolving problems to anticipating and avoiding problems.

Designing new processes and systems that help to avert problems in addition to resolving problems in a fair and efficient manner is at the heart of the challenge of achieving digital justice. Our primary purpose in writing this book is to identify areas of disputing that need attention, and to explore how to use technology to construct new approaches to dispute prevention and resolution. The issue of digital justice, however, goes beyond achieving satisfaction and solutions for disputants. The alternative dispute resolution movement increased access to justice by expanding options for bringing the parties together "out of court." Changing the physical setting provided convenience and cost savings. Changing the physical place also made it possible to escape the law's conceptual boundaries, and move further away from the kinds of legalistic thinking in courts where imposition of rules is the key to resolving disputes. So the change in physical location of dispute resolution had the goal of providing justice more effectively, but it also had an impact on how we thought about justice. Private replaced public, informal replaced formal, and, in the words of Jonathan Hyman and Lela Love, "justice from below" replaced "justice from above."[77]

Identifying new forms of resolving and preventing disputes will move us even further away from the idea that the legal system is at the center of the dispute resolution solar system. As this occurs and as we reorient ourselves around the characteristics of disputes in the digital era, new opportunities for system design will arise, ones that are not tied to a physical locale, professional intermediaries, human decision makers, and fixed preexisting process characteristics and goals.

This book is composed of two parts. Part I, "Online Dispute Resolution and Access to Justice," focuses on the history and development of ODR and its impact on the evolution of efforts to improve access to justice. Part II, "Between Digital Injustice and Digital Justice," presents five case studies, each of which represents a different and challenging context for technology-generated dispute resolution and prevention. These arenas are e-commerce, healthcare, employment, social networks, and the courts. Each case study opens with a fictional story drawing on true events and introducing some of the challenges faced by consumers, patients, workers, and social media users. Our conclusion, "The Present and Future of Digital Justice and the 'Moving Frontier of Injustice'," explores the conditions under which the scope and quality of online dispute resolution and prevention activities can be expanded so as to enhance access to justice, both online and offline.

Marshall McLuhan once wrote, "when a new technology comes into a social milieu it cannot cease to permeate that milieu until every institution is

saturated."[78] The law is in the midst of experiencing the saturation of new information technologies; ODR provides a lens for seeing how this may occur. The "out-of-court" processes of ADR, however, though out of the courtroom, are still in physical space somewhere. Our challenge is to move these processes once again, to overcome the constraints of physical space altogether by designing an array of virtual spaces that can serve the public. How we can and should do so are the goals of this book.