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Designing Online Mediation:
Does "Just Add Tech" Undermine Mediation's Ownmost Aim?

DESENVOLVIMENTO DA MEDIAÇÃO ON-LINE: "APENAS ADICIONAR TECNOLOGIA" ENFRAQUECE O PRINCIPAL OBJETIVO DA MEDIAÇÃO?

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Abstract

The norms of dispute resolution began their development alongside human communication, literally thousands of years before the internet. Mediation emerged as a social system possessed of culture-specific norms and rules that express themselves to this day, in how this mediation operates as a profoundly human system of meaning. This article asks whether these thoroughly time-tested and -refined norms specific to mediation will port over, relatively intact, into virtual space. To be sure, the answer will be seen in how designers build and implement the virtual spaces and attendant automation technology. To do that optimally, however, designers first must identify, understand and respect the values, ethics and purpose embedded in these inter-generational norms.

Keywords

Mediated negotiation; systems; design; emergence; autopoiesis; ethics.

Resumo

As normas para a resolução de disputas se desenvolveram junto com a comunicação humana, literalmente milhares de anos antes da internet. A mediação surgiu como um sistema social que detém normas específicas de cada cultura e regras que as expressam. Até hoje, a mediação opera como um sistema de significados profundamente humano. Este artigo analisa se tais normas específicas para a mediação, testadas e refinadas com o tempo, serão transferidas, relativamente intactas, para o ambiente virtual. Para isso, será analisado como os designers constroem e implementam os ambientes virtuais e sua decorrente automatização tecnológica. Contudo, para realizar isso da melhor maneira os designers devem, em primeiro lugar, identificar, entender e respeitar os valores, a ética e o propósito implícitos nessas normas intergeracionais.

Palavras-chave

Mediação negociada; sistemas; design; emersão; autopoiese; ética.

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INTRODUCTION

Online dispute resolution (ODR) is coming headlong.[1] Many are familiar with shopping website eBay's highly-automated dispute resolution system, handling upwards of 60 million disputes per year (BARTON and BIBES, 2016, p. 109; e-Bay, n.d.). It resolved a very large percentage of disputes submitted by sellers and buyers without human intervention.[2] Per eBay, users generally deemed the resolutions satisfactory for their purposes.[3]

Myriad companies have since entered the market to apply technology to dispute resolution.[4] For mediation specifically, some of the technologies brought to bear include: (a) simple document uploads, text messaging and generalized explanatory text, required before involving a mediator; (b) software that sorts disputes into pre-determined categories, which are then managed with automated prompts and responses, messaging, chatbots or the like;[5] (c) matching disputants with professional mediators, who then assist in the disputants' negotiation online; (d) real-time video conferencing with document presentation and argument, coupled with real-time text and video sidebars with the mediator, all intended to reproduce in virtual space the experience of a face-to-face, physical-space mediation.

Notice my use (so far) of just the word *mediation*. My preferred term is actually *mediated negotiation*. Though wordier it is more precise thereby, and underscores the sometimes neglected truth that the disputants are to be the primary stakeholders, are supposed to maintain and exercise control over their process.[6] Yet, the one-word label is far more common. For that reason, and with some deliberate exceptions, I will use *mediation* below. Also, please note my omission of the idea of a *neutral* mediator, which is quite intentional.[7]

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1   "ODR's acceleration has hardly slowed…. There are now more than a hundred ODR providers around the world. More than a billion disputes have been resolved through ODR tools." Online dispute resolution provider Modria, Inc. https://www.tylertech.com/resources#q=modria.

2   A small percentage, in the low single digits, did get escalated to eBay personnel. Though not trained mediators, they assisted disputants trying to reach acceptable resolutions.

3   Given the importance of eBay users' ratings of one another, query whether users were more satisfied with the economic result or the maintenance of their rating for future transactions on the site.

4   See *e.g.* http://techindex.law.stanford.edu/.

5   "Most text-based ODR systems collect information, categorize claims, organize evidence and manage substantive conversation in what might be described as a 'little boxes' format." Robert J. Condlin, "Online Dispute Resolution: Stinky, Repugnant, or Drab", 18 *Cardozo J. of Conflict Resolution* 717, 734 (2017). Professor (Emeritus) of University of Maryland School of Law.

6   Consider this definition: "Mediation is a voluntary, confidential, facilitated negotiation…" "An Analytic Framework for Dispute Systems Design", 14 *Harvard Negotiation L. R.* 123, 168 (Winter 2009), Stephanie Smith and Jan Martinez.

7   This is to avoid to perpetrate the misnomer that mediators are even some of the time truly and consistently neutral in their work. This is less a criticism of mediation, and more a recognition of human nature.

1. MEDIATION AS A SOCIAL PROCESS

We begin by looking at what mediation can do and what it cannot do, and perhaps more accurately does not seek to do. *Caveat*: we must be aware that at the micro-level, in any given mediation, the way the process is implemented and the attendant result will depend greatly on the parties, their representatives and the mediator.

Most readers will be familiar with at least one of the variants in the literature for a "dispute resolution spectrum." Figure 1 is a useful example.[8] Traveling left to right on a continuum from face-to-face negotiation to a formal trial, mediation is the first instance invoking a third party, notably one with no power to impose a binding decision on the parties. Moving from mediation towards trial we also see: (i) an increasing loss of the disputants' control of the process; (ii) an increasing focus on the disputants' rights as opposed to their interests, and (iii) an increasing length of time to reach resolution, and thus increased cost.
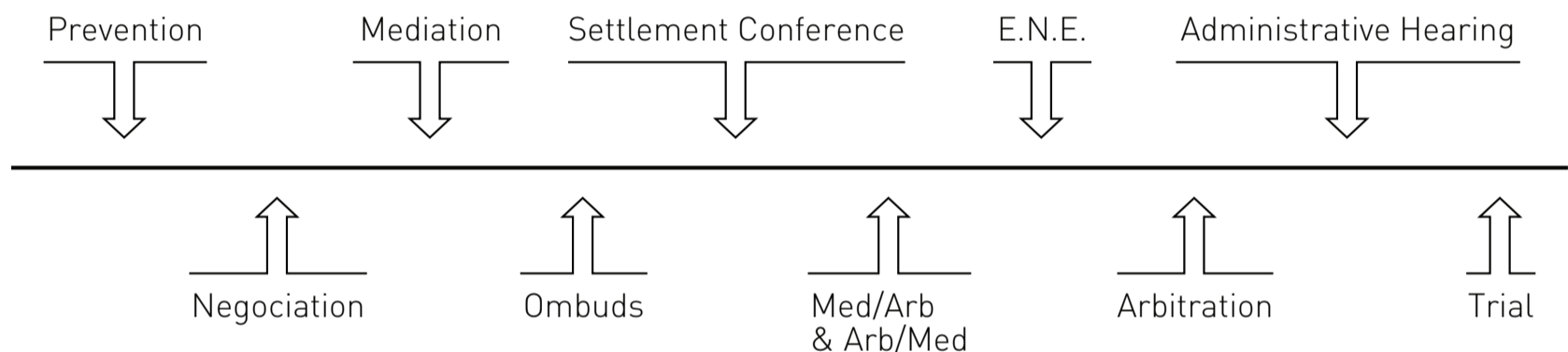
Prevention	Mediation	Settlement Conference	E.N.E.	Administrative Hearing
Negociation	Ombuds	Med/Arb & Arb/Med	Arbitration	Trial

FIGURE 1 — "Dispute Resolution Spectrum." Adapted from Smith, S. and Martinez, J. "An Analytic Framework for Dispute Systems Design", 14 *Harvard Negotiation Law Review* 123, 127 (Winter 2009). ENE stands for "Early Neutral Evaluation," a process used in some US courts, mostly federal, whereby the judge appoints a third party to receive submissions from the parties and generate a confidential and non-binding opinion to the parties stating an opinion on the merits and weaknesses of their arguments and the likely outcome of their dispute.

As a design feature, mediation eschews the pursuit of a final and binding declaration of legal, regulatory, economic or other rights. Of course any specific mediated agreement might include a formal distribution of rights by the parties themselves. For example, a patent dispute

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More importantly, for our view of mediation as a social process, any specific mediator's biases do not meaningfully impact our analysis.

8   Figure 1 is a representative "Dispute Resolution Spectrum;" this one is adapted from Smith, S. and Martinez, J. *ibid.*, 127 (Winter 2009).

could resolve with asymmetrical revenue-generating cross-licenses of specific rights to practice, commercialize and even sub-license certain IP rights, and not others. This result comes not through a third-party mediator making a binding decision about those IP *rights*, but as a result of the parties' negotiated agreement on their *interests* relative to the IP and the dispute. The mediator does not declare the rights of the parties, because mediation is not designed to do so. Which is fine.

Mediation also does not, as a design feature, generate a finding of moral, economic, legal or other culpability of any party. In recent years, statements of apology, contrition or even fault have become a more regular component of mediated agreements. And there is ample support for the view that an apology has asset value in the resolution of certain conflicts.[9] One can argue that this asset is not only good for the specific parties but also serves as a net social good. One could counter that it is little more than a conceptual balm for the wounded party, applied at the behest of a mediator pushing a particularly difficult case to fruition. Irrespective, apologies are likewise not a finding by a third party of any legal liability or moral responsibility; they are yet another expression of the parties' interests, not their rights.

This is also fine, because from a designer's point of view such 'omissions' are *positive* attributes of mediation as a system. In fact, most products or services are quite intentionally designed to *not* fulfill certain tasks or deliverables. To criticize mediation as a social process for not doing what an arbitrator, jury or judge is better equipped to do is to misapprehend design, perhaps more so than mediation.

Interim Conclusion #1: Some design features are omissions; two such features evident in mediation are: (i) not attempting to assign legal or moral responsibility to any party; and (ii) not attempting to issue any formal judgment on the dispute.

2. MEDIATED NEGOTIATION — AN EMERGENT PROPERTY OF A SOCIAL SYSTEM

"No single individual possesses the requisite knowledge of building a space shuttle. Yet the space shuttles get built. How? Where is the complete and requisite knowledge 'stored' and how? In order to deal with the problem of increasingly atomized and widely distributed knowledge, humans have evolved, quite spontaneously, complex coordinative hierarchies of management and command. It is these hierarchies which in their totality represent

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9   See Roger Fisher and Daniel Shapiro, *Beyond Reason* (Penguin 2006); Shell, R. G., *Bargaining for Advantage*, 3rd ed. (Penguin, 2019) 163; Deborah L. Levi, "The Role of Apology in Mediation", 72 *New York University Law Review*, 1165, 1167-1168.

the requisite 'social memory,' the way of 'coding and storing' human knowledge about the wholes." (ZELENY, 1988, p. 118-119)

Nor does any one person possess the "social memory, the way of 'coding and storing'" the rules and norms of mediated negotiation. Much of our social memory, context-dependent and inchoate though it may be, is composed of language; more to the point, a social system of language. The linguists generally accept the model that human communication comprises distinct systems, such as written, oral and visual representations of meaning, each with well-developed norms and standards (CHOMSKY, 1975).[10] Though innumerable sub-systems surely reside therein, we are here concerned with just one such sub-system – mediated negotiation. And we seek not only to analyze it as such, but also explore our capacity to re-design it prudently:

> "With the integration of design thinking into engineering education, a missing link has been created between the science-focused, context-independent part of engineering and the human society focused, context-dependent aspect. The latter area has long been neglected, partly due to the uncertainty that comes with the unpredictability of human behavior." (LEIFER and MEINEL, 2016, p. 1)

Most books on negotiation will contain at least one story, perhaps apocryphal, of mediated negotiation from deep in our history. Here are two such references: "[M]ediation has probably existed for nearly as long as humans have lived together… . Thousands of years ago, Chinese villagers were accustomed to resolving disputes with the assistance of respected leaders, and commercial disputes were mediated in England before the Norman invasion" (GOLANN and FOLBERG, 2006). "There are detailed records of dispute resolution processes in Sumeria (1770 BC), Rome (1 AD), and medieval England (1440 AD)" (RULE, 2019). Indeed, one text presents a rather specific arc tracing mediation "all the way back" to a United States statute in 1898, noting greater use of mediation after World War II and even greater use thereafter, by state and federal courts as of the 1970s.[11]

With a history measured in centuries and "no single individual" designer *ab initio*, perhaps we can think of mediated negotiation as an 'emergent property' of human communication:

> "Life is an emergent phenomenon… emerging from chemistry by way of DNA. The Feigenbaum number is an emergent phenomenon, emerging from chaos by a route we

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10   See also Lera Boroditsky, "Linguistic Relativity," in *Encyclopedia of Cognitive Science*, Nadel, ed. (Macmillan, 2003); David Bohm, *Thought as a System* (transcript of seminar, Routledge, 1990).

11   See Golann and Folberg, *Mediation: The Roles of Advocate and Neutral* (Aspen Publishers, 2006) p. 110-112.

have yet to describe. Emergence is the source of new simplicities, but since we understand the process of emergence rather poorly, that's not a terribly helpful observation. What it [emergence] does is help make respectable the idea that a ***collection of interacting components can 'spontaneously' develop collective properties that seem not to be implicit in any way in the individual pieces*****.**" (COHEN and STEWART, 1994, p. 232, emphasis added)

Suppose "interacting components" in a system (disputants) developed, albeit at different rates in different cultures, a collective property (mediated negotiation) that is not implicit (coded for) "in any way in the individual pieces" (the disputants, their language or their communication). The development of norms for mediation – first to involve a third party in a dispute, then those that followed, by whatever pathway those norms "emerged from the chaos" – could be seen as a "spontaneously developed property" within the system that is negotiation as communication.

Interim Conclusion #2: Mediated negotiation can be seen as an emergent property of negotiation, itself emanating from the long and deep history of human communication, replete with established norms and standards embedded in the system.

3. Autopoiesis

The term *autopoiesis* derives from the Greek root *-poiesis*, meaning "making or forming" (THE RANDOM HOUSE DICTIONARY OF THE ENGLISH LANGUAGE, p. 1439). The Chilean biologist and philosopher Humberto Maturana is generally credited with creating both the concept and the label, unwieldy though it may first feel:

"[A]utopoietic organization is defined as a unit through a network of constituents which (1) have a recursive effect on the network of the production of constituents which also produces these constituents, and (2) which realize the network of production as a unit in the same space in which the constituents are located." (Humberto Maturana quoted by TEUBNER, 1993, p. 22)

Allowing a slight recast of these concepts for our look at mediated negotiation: (i) a network may "spontaneously develop" a discrete unit composed of constituent parts nested within said network, which (ii) self-organize to generate feedback effects that (iii) operate within the state space of the network. Further distilled: when a sub-system (unit) in a network self-organizes sufficiently to generate non-trivial feedback (recursive) output into the network, that unit may be seen to be generating autopoietic ("self-making") organization.

Economist Milan Zeleny leans away from the biological origins of Maturana's model for autopoiesis in systems:

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"The idea of self-reference and autopoiesis presupposes that systems seek the fixed points of their mode of operation in themselves and not in the environmental conditions to which they adapt themselves as best they can (as is assumed in open systems). To put it more precisely, they look for these points in *a self-description which functions as a program of internal regulation*, organizing the system in such a way that it corresponds to this self-description." (ZELENY, 1981, p. 91-92)

Distilling Zeleny somewhat: systems that demonstrate autopoiesis possess a 'description of self' that produces an internal regulatory effect, said self-description becoming its touchstone.

Philosopher Gunther Teubner detaches forthrightly from Maturana's life sciences model in his seminal work, aptly titled *Law as an Autopoietic System*:

"*…Society is not a bio-system, but a system of meaning*. This opens the second way of applying autopoiesis to social science: by describing *social systems as themselves emergent autopoietic systems*. The real issue does not concern analogies, however, whether social systems are organisms or even whether they have a kind of life principle. Analogies are replaced by a controllable context of generalization and respecification." (TEUBNER, 1993, p. 29, emphasis added)

We have arrived now at the possibility of seeing mediation as a social system not just as an emergent property, but perhaps as itself an "emergent autopoietic system."

Interim Conclusion #3: Mediation might exhibit autopoiesis, having generated a self-description that "functions as a program of internal regulation, organizing the system in such a way that it corresponds to this self-description" (ZELENY, 1981).

4. MEDIATION'S "OWNMOST AIM"

This term is a neologism from Martin Heidegger's seminal work, *Being and Time* (HEIDEGGER, 1926). Please bear with this quick digression into his philosophical terminology, as working through it will extract a useful concept for our path forward:

"Basically, all ontology, no matter how rich and firmly compacted a system of categories it has at its disposal, remains blind and perverted from its *ownmost aim*, if it has not first adequately clarified the meaning of Being, and conceived this clarification as its fundamental task." (HEIDEGGER, 1926, p. 31)[12]

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12   Ontology is the "study or philosophy of being." A useful comparison is epistemology, the "study of knowledge." *Dictionary of Philosophy*, Peter Angeles, p. 198, 78.

Heidegger's ontology – the study of Being – comprises a system. One could argue that he intends his construct to apply solely to his unique ontology. My view is that Heidegger expressly invites a broader application. Consider the argument thusly: a system of communication (say, Ψ) "remains blind… [to] its ownmost aim" if it has not "first adequately clarified the meaning of Ψ… as its fundamental task" (HEIDEGGER, 1926). Now let Ψ represent mediation, about which we might see, with Heidegger's headlamp, that "basically, all [mediation], no matter how rich and firmly compacted a system of categories it has at its disposal, remains blind and perverted from *its ownmost aim*, if it has not first adequately clarified the **meaning** of mediation, and conceived this clarification as its fundamental task" (HEIDEGGER, 1926, emphasis added).

Data are not enough. Even the largest set of mediators' reports about deals that were otherwise impossible, or disputants' convictions that the mediator was the sole reason any deal got done, will not get us there. We can accept each and every such account as absolutely true and still have failed, at the macro level, to have even come close to "adequately clarify[ing] the meaning of mediation."

Interim Conclusion #4: Designers would do well to understand the essential meaning of mediation as a social system before attempting a re-design in virtual space. This need not be difficult, for the greater the existing consensus on that meaning, inchoate though it may at first appear, the easier it will be to design appropriate norms and standards such that the meaning of mediation can port relatively intact onto a virtual, even highly automated, platform.

5. DESIGN, PART ONE — MEANING

"What is design? Generally speaking, it is the process of envisioning and planning the creation of objects, interactive systems, buildings, vehicles, etc. It is user-centered, *i.e.* users are at the heart of the design-thinking approach. It is about creating solutions for people, physical items, **or more abstract systems to address a need or a problem**." (SCIAMMA, n.d., emphasis added)[13]

Responses to this question are often quite personal to the designer, and appropriately so. Consider this point of view, at once holistic and pointedly functional, from Apple co-founder Steve Jobs:

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13   Dominique Sciamma is Dean and Director of the Strate School of Design, Paris/Singapore.

"Most people make the mistake of thinking design is what it looks like… . People think it's this veneer – that the designers are handed this box and told, 'Make it look good!' That's not what we think design is. It's not just what it looks like and feels like. **Design is how it works**." (Steve Jobs as quoted by WALKER, 2003)[14]

Suppose the "it" of which Steve speaks is mediation. Its design, then, is to be found in how it *works*. To extend the idea – the *quality* of its design is seen in how *well* mediation works. Fold in Teubner: "Society is… a system of meaning." From here we can treat mediation as a system of meaning, amenable to design:

"Design thinking began as a way to improve the process of designing tangible products. But that's not where it will end. [D]esign thinking principles have the potential to be even more powerful when applied to managing the intangible challenges involved in getting people to engage with and adopt innovative new ideas and experiences." (BROWN and MARTIN, 2015, p. 64)

Doug Dietz is an engineer, a designer of machines; MRI machines, in fact, for General Electric. In a TED talk that has become a staple in the classroom for teachers of design thinking, he tells us: "when you design for meaning, good things will happen" (DIETZ, 2012, emphasis added).[15] Jan Martinez and the co-authors of *Dispute System Design* identify some of the elements that comprise meaning for a dispute resolution system:

"A designer should identify disputants' respective interests, which encompass fundamental human needs like security, economic wellbeing, belonging, recognition, and autonomy. Those interests, in turn, reflect economic, relational, political, and social values. The designer should assess alternative strategies to satisfy those interests, and generate options to achieve them." (AMSLER, MARTINEZ and SMITH, 2019, Chapter 2, p. 18)

The authors direct us straight to "fundamental human needs." Moreover, they ask the designer to capture "the system's goals and values at the *very outset of the design process*" (AMSLER, MARTINEZ and SMITH, 2019, p. 4, emphasis added). And for designers of legal systems including, for our purposes, mediation: "[t]he fact is, attorneys are rarely faced with

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14 Walker (2003) continues: "So you can say that the iPod is innovative, but it's harder to nail down whether the key is what's inside it, the external appearance or even the way these work together. *One approach is to peel your way through the thing, layer by layer*" (emphasis added).

15 Dr. Douglas Dietz is Chief Product Designer (MRI), General Electric.

the need to design a system from scratch. More often, they must improve existing, flawed systems, or adapt an existing system to a new context" (SMITH and MARTINEZ, 2009).

But the disputants themselves may not always be the primary stakeholders in certain dispute resolution systems. Consider the brutal case backlogs in many a court system.[16] As official branches of government, and exponents of their society's rule of law, courts have an awesome responsibility in the face of the unabated flood of incoming disputes. One online mediation provider working this problem for a family court system writes:

> "*Family Mediation Center Reduces Case Resolution Time by 50 Percent*. Explore how online dispute resolution accelerates caseloads for courts and provides cost-effective, convenient mediation to families." (TYLER TECHNOLOGY, n.d.)

The primary objectives of these system designers are here spelled out for us: (1) accelerate caseloads for courts, and (2) be cost-effective and convenient for families. Notably, the latter efficiencies redound to the benefit of the courts as well. To be sure, deploying technology to improve the function of a public court system is laudable. That said, there are certain obligations owed by the government to its citizens, including businesses, that increase the responsibility of designers of technology-assisted court systems:

> "[A] public dispute resolution system must produce outcomes that are fair and just, not just convenient, efficient and cheap. It must also enforce the expressive dimension of law, serve the therapeutic ends of disputing and accommodate the attitudes, feelings and beliefs of the participants…. Whether ODR systems can do all of this will depend in major part on whether the algorithms used to run the systems can be programmed to be reasonable, caring and fair." (CONDLIN, 2017)[17]

Condlin lands on three decidedly human characteristics: *reasonable, caring and fair* (CONDLIN, 2017). His implicit assumption, of course, is that a human mediator working offline, in physical space and real time, would consistently generate these outcomes. Surely most try; arguably, too few succeed.

Part of the design challenge for online mediation, one that needs to be addressed "at the very outset," is whether the "disputants'… fundamental human needs" (AMSLER, MARTINEZ

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16   For readers somewhat unfamiliar with the American or Brazilian court systems, rest assured that significant procedural delays give ever increasing truth to the adage: "justice delayed is justice denied."

17   "Software is logical, not reasonable, and legal judgments often require both qualities in equal measure" (CONDLIN, 2017, p. 723).

and SMITH, 2019) are as fully cared for as they might otherwise be in the formal judicial process, or even in a face-to-face mediation. Without a scientific study, we simply cannot know. This example is not here to pass judgment on the design choices made in the face of daunting court system overloads. Rather, this instance is to amplify Steve Jobs' observation: "**design is how it works.**"

Interim Conclusion #5: The design of an online mediation system is seen forthrightly in "how it works." Its design is part and parcel of its function. The beneficiaries, values and ethics selected to live in the system will define its *re-designed* ownmost aim.

6. DESIGN, PART TWO — ETHICS

John Etchemendy, Professor of Philosophy and co-director of The Institute for Human-Centered Artificial Intelligence (HAI), cautions that "ethical questions need to be built into systems from the beginning (John Etchemendy in interview with BÉCHARD, 2019).[18] Let us expand this directive, aiming at system designers:

: Designers must ask all the relevant ethical questions for any system of meaning, and do so at the outset of their design work;

: Designers must understand that their answers will not only guide their current design work but will also contain dormant raw material;

: New rules and norms will emerge from the operation of the system; and thus,

: The design must be sufficiently modular to permit necessary amendments, while being minimally disruptive to the system.

Fei-Fei Li, Professor of Computer Science and co-director of HAI, spoke candidly in an interview about one embedded design error already evident in artificial intelligence:

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[18] Writer Béchard adds: "The vision for HAI, which launched in March 2019… contains three areas of focus: developing technologies inspired by human intelligence; guiding and forecasting the human and societal impact of AI; designing AI applications that augment human capabilities. *As important as changing the AI itself will be shaping AI's creators by designing educational programs*" (emphasis added). On this point, Etchemendy is clear: "We want to educate professionals from all walks of life — executives, journalists, congresspeople, senators, lawyers: What is the reality of the tech as opposed to the hype? What should we be worrying about, and what do we not yet need to be worrying about?"

"Li expressed her growing discomfort that the people creating AI – primarily white men – were not representative of the millions affected by it. 'Throughout human history,' Li says, 'every time something is invented or produced, if we're not careful, it favors a particular group. My favorite example is scissors. Humans have been using scissors for thousands of years, but they were designed for right-handed people.'" (Prof. Li quoted by BÉCHARD, 2019)

Dr. Li is being kind, and conservative. Soon, not millions but billions of us will be affected by AI, in ways we may be unable to see. Not to mention that the designers of those rules, to date primarily white men, are becoming an even tinier fraction of the global demographic affected.

AI systems being designed now – systems of meaning, soon to include online mediation systems – will inevitably contain sets of rules that require re-tuning or replacement. Minimizing initial design errors is a worthy objective for all designers of all systems of meaning, especially those taking a measure of responsibility for other people's rights and interests. Still, re-design will be a continuing obligation.

In response to the burgeoning inclusion of ever more sophisticated technology in ODR, The National Center for Technology and Dispute Resolution has published a strong first pass at "ethical principles" for technology-assisted dispute resolution systems. From the preamble:

"With the rapidly growing adoption of ODR in a number of sectors it is timely to produce a living document of ethical principles integral to the design, structure, practices, and implementation of online dispute resolution systems." (WING, 2016)[19]

We will draw out two key points above: (1) the recognition that ethics are "integral to the design" of a system for online, much less AI-powered, mediation; and (2) the awareness that a living document of ethics principles is appropriate. This preamble hints at Dr. Li's focused identification of embedded error arising from a lack of diversity:

"With the knowledge that there is a diversity of perspectives and practices… impacting the ways we use, foster and transform conflict, it is worthwhile to formulate and continue to revisit ethical principles… ." (WING, 2016)

Interim Conclusion #6: The designers of an online mediation system must locate the full breadth of ethical issues affecting current and future stakeholders. This requires real diversity

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19   All 17 principles are listed here: http://odr.info/ethics-and-odr/. See also https://www.virtualmediationlab.co.

and inclusivity in the design, performed at the outset, and a resulting system that will fluidly accommodate necessary future amendments.

7. Interim Conclusions, Redux

1. Some design features are omissions; two such features evident in mediation are: (i) not attempting to assign legal or moral responsibility to any party and (ii) not attempting to issue any formal judgment on the dispute.

2. Mediated negotiation can be seen as an emergent property of negotiation, itself emanating from the long and deep history of human communication, replete with established norms and standards embedded in the system.

3. Mediation might exhibit autopoiesis, having generated a self-description that "functions as a program of internal regulation, organizing the system in such a way that it corresponds to this self-description" (ZELENY, 1981).

4. Designers would do well to understand the essential *meaning* of mediation as a social system before attempting a re-design in virtual space. This need not be difficult, for the greater the existing consensus on that meaning, inchoate though it may be, the easier it will be to design appropriate norms and standards such that the *meaning* of mediation can port relatively intact onto a virtual, even highly-automated, platform.

5. The design of an online mediation system is seen forthrightly in "how it works." Its design is part and parcel of its function. The beneficiaries, values and ethics selected to live in the system will define its *re-designed* ownmost aim.

6. The designers of an online mediation system must locate the full breadth of ethical issues affecting current and future stakeholders. This requires real diversity and inclusivity in the design, performed at the outset, and a resulting system that will fluidly accommodate necessary future amendments.

Conclusion

Mediation as a social system emerged with deep and culture-specific norms that express themselves now, in how mediation functions as a system of meaning. Before pouring sophisticated technology onto mediation – before we 'just add tech' – we would do well to understand mediation's *meaning* as a social system. A race to collect and proffer in virtual space just the

most apparent and easy-to-port functions of mediation risks creating myriad supra-jurisdictional and omni-cultural issues which, combined with inherent duties of agency and responsibility, raise powerful moral and ethical questions. To go further and layer on significant automation will amplify these moral and ethical questions. Thus it is that we, the designers, will ourselves answer the question – whether technology will undermine mediation's ownmost aim – by the manner in which our re-design delivers the care its ancient genome deserves.

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