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# Castles in the Air: F. Gregory Lastowka's Virtual Justice

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# VIRTUAL JUSTICE: THE NEW LAWS OF ONLINE WORLDS

Greg Lastowka
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# CASTLES IN THE AIR: GREG LASTOWKA'S VIRTUAL JUSTICE

**Joshua A.T. Fairfield***

In 1996, Judge Frank Easterbrook addressed the Property in Cyberspace conference at the University of Chicago with the startling proposition that, as Larry Lessig later described it, "there was no more a 'law of cyberspace' than there was a Law of the Horse."[1] In short, why should we focus on the study of technology law, when the principles applied to it are likely to resemble, at least over the short term, the principles applied to other subjects?

Just as Judge Easterbrook posited that there was no value in the focused study of cyberlaw,[2] the reader might wonder why she should read Greg Lastowka's wonderful book *Virtual Justice*.[3] Virtual worlds are an exploding and compelling phenomenon, but the casual observer might be forgiven for thinking that this interesting technology does not merit—without more—a legal field.

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1. Lawrence Lessig, *The Law of the Horse: What Cyberlaw Might Teach*, 113 HARV. L. REV. 501, 501 (1999).

2. Frank H. Easterbrook, *Cyberspace and the Law of the Horse*, 1996 U. CHI. LEGAL F. 207, 208 (1996).

3. GREG LASTOWKA, VIRTUAL JUSTICE: THE NEW LAWS OF ONLINE WORLDS (2010).

Lastowka's *Virtual Justice*, however, is far more than an introduction to a niche technology and the set of rules that govern it. Rather, Lastowka's thought-provoking, insightful, and often humorous book charts the process by which law emerges from the interaction of community and technology at the bleeding edge of cyberspace. In so doing, Lastowka frees the field of virtual law from niche status and demonstrates that virtual worlds are participating in the core processes of the common law—they are jurisgenerative spaces. When courts apply law to the new technologies of virtual worlds, they incrementally adapt traditional concepts to a burgeoning technological world. In short, Lastowka demonstrates that virtual law *is* common law.

*Virtual Justice* shows that Easterbrook's criticism was by and large incorrect, and that the study of the responses of new communities to new technologies is not ancillary to the study of the common law, but is rather its core. The law is like a coral reef; the calcified bulk is set in stone, but the edges are alive and changing.[4] Students of the common law must look to the technological margins to find living law. *Virtual Justice* is a vibrant, informative, and engaging introduction to a field in which the common law is very much alive. As such, it is not only a wonderful read for the technology enthusiast, but for any student of the path and processes of the common law.

This review will proceed as follows. First, the book is situated within the previous literature of virtual worlds; a brief review of such literature emphasizes the relevance of Lastowka's book. Second is a critical discussion of the thesis and argument of the text, with an especial focus on its novel and important treatment of the relationship between law and games. Third is an examination of the normative and policy implications of the book's thesis. Last are some closing remarks and a summary of Lastowka's work.

## I. BACKGROUND

It may surprise the novice reader, approaching virtual worlds for the first time, to learn that there is a developed literature on the subject with clearly established battle lines. This Part will examine the past scholarship of virtual worlds, discuss how *Virtual Justice* resolves some important issues, and then discuss the author of the book and the pioneering role he has played in the field.

### A. Brief Description of Past Scholarship

Literature on virtual worlds is so sufficiently developed that the appearance of an academically oriented legal text on the subject is now a serious and important addition to the field. *Virtual Justice* is not a recap, however. Rather, it seeks to take the existing body of virtual law and provide a starting place for the

4. *Id.* at 14 ("This book is not so much about understanding how the law, set in stone somewhere, applies to these sorts of situations. Instead, I am asking you to consider what *should* be the proper rules for these novel places.").

conversation between lawyers, judges, academics and legislators that is beginning to pick up serious steam.

Outside of law, academics and journalists have written extensively about virtual worlds from the perspective of sociology, gaming, or design, for over a decade. The legal analysis of virtual worlds, however, is still in its relative infancy. As courts began to release decisions and new cases were filed, Benjamin Duranske's excellent book entitled *Virtual Law*, published in 2008, provided a pragmatic and down-to-earth guide for the uninitiated and much-needed analysis of this rapidly changing field.[5] But after the first wave of virtual world cases broke, the question shifted from what courts would do if these cases were ever presented to why courts were doing what they were doing. This is the context of Lastowka's book, a legal text with an academic, philosophical and theoretical bent.

To properly situate the book, it is further necessary to discuss the role of exceptionalism and cybersovereignty in cyberlaw generally, as well as virtual law specifically. Cyberlaw has spent significant time in the weeds discussing whether new rules ought to govern novel technology, and if so, whether online communities ought to set those rules free from real-world sovereigns.[6] But, this approach is a mistake.[7] Online communities may need to develop new rules, but they do not need sovereignty to generate those rules, any more than an industry needs sovereignty to develop custom and practice, or the NFL needs sovereignty to set the rules for football. Cybersovereignty and exceptionalism debates also threaten to swallow the emerging field of virtual law.

This is why *Virtual Justice* is so important; it transcends the exceptionalist-unexceptionalist debate to make a more important point about the nature of the common law as it interacts with novel technologies. Lastowka is a moderate exceptionalist, but much more than that, his vision is of the virtual world as a law-producing locus of culture.[8]

The question is not one of exceptionalism, or whether law will intrude upon or be hedged out of virtual worlds. Rather, Lastowka's work demonstrates that virtual law—as cyberlaw more broadly—is the discipline of understanding how law changes in response to the emergence of new communities at the technological margins.[9] There is no question about whether law will change as a

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5. BENJAMIN TYSON DURANSKE, VIRTUAL LAW: NAVIGATING THE LEGAL LANDSCAPE OF VIRTUAL WORLDS (2008).

6. This conversation has lasted at least a decade. *See* David R. Johnson & David Post, *Laws and Borders—The Rise of Law in Cyberspace*, 48 STAN. L. REV. 1367 (1996); Jack L. Goldsmith, *Against Cyberanarchy*, 65 U. CHI. L. REV. 1199 (1998); David G. Post, *Against "Against Cyberanarchy,"* 17 BERKELEY TECH. L.J. 1365 (2002); JACK GOLDSMITH & TIM WU, WHO CONTROLS THE INTERNET?: ILLUSIONS OF A BORDERLESS WORLD 65–85 (2006).

7. *See* Joshua A.T. Fairfield, *The Magic Circle*, 11 VAND. J. ENT. & TECH. L. 823, 828–31 (2009) (noting that communities do not need sovereignty to generate their own local rules).

8. LASTOWKA, *supra* note 3, at 119 ("EVE Online is a game where ruthless behavior is part of the game's culture," illustrating Lastowka's view that a virtual world is the locus of its own culture, with unique norms like any other culture.).

9. *See id.* at 90–93 (noting that new rules will emerge in online spaces to govern unprecedented virtual development).

result of its encounter with virtual worlds.[10] It will. Measuring, predicting, and guiding that change is what matters. In *Virtual Justice,* Lastowka does not describe what virtual law is, he describes its process of becoming. *Virtual Justice* is therefore much more than an important book on an admittedly fascinating niche subject; it is a serious contribution to the development of law in response to precipitous social and technological change.

### B. The Author

Greg Lastowka is a leading legal academic in the field of virtual law, and one of its most highly cited scholars and sought-after speakers. His foundational 2004 article with Dan Hunter entitled, *The Laws of the Virtual Worlds*,[11] spawned a field that to date encompasses well over 200 articles in the area of law alone. Lastowka's follow-up articles are broad-ranging and influential, discussing cyberproperty,[12] trademark,[13] and crime in virtual worlds.[14] Moreover, he has briefed governments and legislatures on the issues involved in regulating virtual worlds. Lastowka also is one of the founding members of *Terra Nova,* a blog devoted to the academic study of virtual worlds. Therefore, he is an excellent authority to provide a foundational book on law and virtual worlds—the field that he pioneered.

## II. THE BOOK

This Part will provide an overview of the book by means of the castle, its driving metaphor, as well as a description of the author's style and methodology. It then will discuss *Virtual Justice's* animating theme, and will proceed with critical discussion of the book's main points. Part III then will offer some normative observations and policy considerations.

### A. Castles in the Air

Lastowka introduces the text with a discussion of three castles: the first, a real castle; the second, Disney's Cinderella Castle; and the third, the digital Dagger Castle in the virtual world of Ultima Online.[15] The castle metaphor anchors the book, appearing throughout to make Lastowka's ongoing thematic point that although these three castles differ significantly, and therefore, law may treat them differently, each castle in its incarnation is very important to the communities that

10. *See id.* at 69 ("When existing law is applied to new technologies by those charged with enforcing legal rules, this is *new law* as well.") (emphasis added).

11. F. Gregory Lastowka & Dan Hunter, *The Laws of the Virtual Worlds*, 92 CALIF. L. REV. 1 (2004).

12. Greg Lastowka, *Decoding Cyberproperty*, 40 IND. L. REV. 23 (2007).

13. Greg Lastowka & Candidus Dougherty, *Virtual Trademarks*, 24 SANTA CLARA COMPUTER & HIGH TECH. L.J. 749 (2008).

14. F. Gregory Lastowka & Dan Hunter, *Virtual Crimes*, 49 N.Y.L. SCH. L. REV. 293 (2004).

15. LASTOWKA, *supra* note 3, at 1–8.

are themselves the source of law.[16] In addition, the castle metaphor demonstrates early on to the reader how assets can exist on a continuum from material to digital. Similarly, the evolution of the castles—from stone to concrete to bits—also serve as Lastowka's metaphor for the evolution of law. Each castle differs in some degree from its predecessor; however, each castle also significantly defines its successor.

The castle metaphor is used for many of the major themes throughout the book. Lastowka notes that a castle in any context is a symbol of power, force, and control, as well as a representation of a legitimate source of rules and laws.[17] The first thematic tie-in to the castle is that early medieval castles served as centers for society and social contact that generated law.[18] This is a crucial insight to the book's theme. The critical question, posits Lastowka, is not whether virtual worlds are going to be impacted by real-world law. Rather, Lastowka notes that the influence has and will continue to flow in the opposite direction; virtual worlds will impact real world law.[19]

The castle metaphor serves other purposes as well. The medieval castle stood at the nexus of the debate about private and public power, and local versus national authority.[20] Local lords wanted castles to protect their lands, but central authorities sometimes opposed the proliferation of castles on the grounds that the castles weakened their authority.[21] This is another central debate in virtual worlds: whether what goes on in virtual worlds is entirely a private law matter determined by the End User License Agreements (EULAs) between virtual world providers and their users; or whether virtual worlds raise issues that should be debated and resolved by the broader society.[22]

Finally, the castle metaphor serves as a useful way of framing Lastowka's discussion of technological and legal controls. Lastowka notes that castle walls and courtyards had a distinct impact on the surrounding communities.[23] Similarly, code is the new walls of a virtual world—the rules that simultaneously bound, confine, and give the world meaning.[24] Code defines what players can do, where they can go, and how the community interacts.[25] Code does not merely prevent players from doing certain things; instead, it actively enables them to act within the world.[26] Most of this action is within the ambit of the understandings worked out in the virtual world, but other actions, or exploits, occur when players use the

16. *See id.* at 149.
17. *Id.* at 2.
18. *Id.* at 3.
19. *Id.* at 194.
20. *Id.* at 1–3.
21. *Id.* at 1.
22. *Id.* at 154–56.
23. *Id.* at 3.
24. *Id.* at 152.
25. *Id.* at 147.
26. *Id.* at 152.

game's preexisting code to achieve a result contrary to either the game rules or community norms.[27]

## B. Style and Methodology

Lastowka works extensively with compelling anecdotes to illustrate that what is going on in virtual worlds now is precisely what historically has occurred in the common law —an iterative and experimental process that adapts human rules to novel technologies. He draws on medieval property law,[28] Star Trek,[29] video game legends,[30] philosophy,[31] techie scuttlebutt,[32] sports anecdotes,[33] and stories from intellectual property litigation[34] to make his points. These seemingly disparate sources are expertly and entertainingly woven together to create not only a compelling read, but also to illustrate the path of the law through time as interpreted by communities in response to novel technologies.[35] These stories, some funny, some grim, provide the backbone of the text.

The intended audience is the legally educated technological novice. The book is clear, concise, thorough, and in places uproariously funny. Philosophy and legal analysis are mixed with very accessible introductions to Internet and gaming technology. It is intended for the technophilic non-gamer lawyer, academic, or law student, but anyone with an interest in virtual worlds regardless of legal training will enjoy it. Gamers and pro-game academics will especially appreciate that Lastowka does not trivialize or dismiss video games or virtual worlds. The book is fair-minded and balanced, making it a welcome relief from media reports concerning video games, which trend somewhat toward moral panic.

## C. Law and Games

Lastowka's central and novel argument is that the game nature of virtual worlds ought to have a serious impact on the relationship of virtual worlds to law.[36] Lastowka espouses Johan Huizinga's theory of play: that play consists of several features, including a disassociation from ordinary life, and that as a result games are not "serious" or consequential; that play is intrinsically absorbing and engrosses the player utterly; and that play is not materially productive.[37] Thus, citing Huizinga's disciple Caillois, Lastowka argues that games are irrational and unprofitable—"an occasion of pure waste."[38] Games deserve special status

27. *Id.* at 146.
28. *Id.* at 1–3.
29. *Id.* at 34.
30. *Id.* at 45.
31. *Id.* at 32.
32. *Id.* at 153–54.
33. *Id.* at 113–15.
34. *Id.* at 166–68.
35. *Id.* at 3.
36. *Id.* at 121.
37. *Id.* at 108.
38. *Id.* at 108–09 (quoting ROGER CAILLOIS, MAN, PLAY, AND GAMES 5 (Meyer Barash trans., 1961) (1958)).

precisely because they fall outside the ordinary sphere of life and thus outside the ambit of law.[39]

These terms need some interpreting. When Lastowka says that games are not serious, he does not mean that society should not take them seriously.[40] When he quotes Caillois' definition of games as pure waste, he does not mean that play is not highly valuable. On the contrary, Lastowka believes in play, and believes not only in the benefits it confers, but believes it is an essential and fundamentally human activity.[41] It matters, however, that games are unlike anything that humans do because they are defined by being outside of everyday, productive, or "serious" life.[42]

Lastowka posits that the very nature of games creates a unique interface with law.[43] He demonstrates that law cares *why* people undertake certain activities, and may step aside when the goal is play rather than profit.[44] Some things we do to be productive and others we do purely for fun. The latter category seems to Lastowka to create a unique sphere within law.[45] Law steps back when players are merely having fun, Lastowka argues, and often this step-back effect is startling. For example, Lastowka leads with the discussion of the death of baseball player Ray Chapman of the Cleveland Indians, struck in the head by Carl Mays, pitcher for the New York Yankees in 1920.[46] Mays had likely thrown the inside pitch on purpose, and under a standard legal framework, intentionally throwing a hard object at someone's head would likely lead to civil or criminal penalties.[47] Because the injury occurred in the course of a game, no such penalty was sought.[48]

Lastowka's framework is absolutely critical for law as it engages virtual worlds. Far too much ink has been spilled on the non-game aspects of virtual worlds, including their economies, police enforcement, the likelihood of criminal prosecution, their intellectual property, and their contract regimes—everything except what makes the game itself compelling and marketable.[49] Lastowka engages with *why* people play, and both savors and explains the mythos of the game and the reasons that people find the medium captivating and engrossing. He is clearly right. To date virtual worlds are about entertainment, yet nearly every article on the subject takes pains to say that virtual worlds are more than just games.[50] The truth is that the overwhelming majority of virtual worlds are places

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39. *Id.* at 109–10
40. *Id.* at 104–05
41. *Id.* at 117–18.
42. *Id.* at 117.
43. *Id.* at 105.
44. *Id.* at 108.
45. *Id.* at 105, 117.
46. *Id.* at 102–03.
47. *Id.*
48. *Id.*
49. *See, e.g.*, Juliet M. Moringiello, *What Virtual Worlds Can Do for Property Law*, 62 FLA. L. REV. 159 (2010); Joshua A.T. Fairfield, *Virtual Property*, 85 B.U. L. REV. 1047 (2005).
50. *See, e.g.*, Fairfield, *supra* note 49 (focusing on medical, military, business, and other applications of virtual world technology other than entertainment).

where people play games, and those that are not, such as *Second Life*, serve as platforms that users adapt to play games.[51] Lastowka embraces what other commentators dismiss—that this area of the law may be about many different things, but it must be predominantly about games.[52]

That is not to say that Lastowka would argue that the interface between law and virtual worlds must be entirely about games. The strongest qualification to Lastowka's account of play and law is that the deference of legal rules to game rules might equally be ascribed to a theory of consent of the players.[53] Law has often provided for a step-back where participants in many activities—games and otherwise—consent to the suspension of the legal rules. For example, a battery is not a battery in boxing, because the parties have consented to what would otherwise be nonconsensual touching. In games, as in the rest of life, law permits parties to consent to a limited suspension of the regular background, default legal rules.[54]

What, then, about the oft-used example of *Hackbart*,[55] in which a blow to a football player's head, which violated the game rules, gave rise to legal liability? Here there is a confluence between the game and consent views. Players give consent to suspension of background legal rules, such as those prohibiting assault and battery, so long as actions comport with game rules. Actions outside the rules of the game fall outside of the consent of the players. Thus, while it is true that game rules and consent work together to create legal deference to game rules, it is not at all clear that law is responding to the game's nature as a game. Law defers to consent even in the absence of a game. Consider sex. Consensual sex is not criminal; nonconsensual sex is. There is no game involved.

In all, this is a friendly amendment to Lastowka's theory. In games it is player consent, combined with the rules of the game, which creates the legal deference to game rules. Lastowka starts from the undeniable premise that most virtual worlds are games, are intended as entertainment, and therefore, ought to benefit from the body of law developed to mediate the interface between games and law. This body of law is without doubt influential and persuasive, and breathes new life into the ability of a group of people engaging in a common activity to create their own rules that may well have the force of law if consulted by a court.

## D. Utility and Hedonism

A further point of discussion might be Lastowka's treatment of hedonism and utility. Lastowka views play as purely pleasurable, and thus as a nonproductive, nonutilitarian based activity.[56] This separation of pleasure and productivity undercuts, in his view, the utilitarian view of law as applied to games. Laws, at

51. LASTOWKA, *supra* note 3, at 118.

52. *Id.* at 116.

53. *See* Fairfield, *supra* note 7, at 823 (arguing that there is no difference between real and virtual worlds for purposes of law, only actions inside or outside the scope of player consent).

54. LASTOWKA, *supra* note 3, at 112–13.

55. Hackbart v. Cincinnati Bengals, Inc., 601 F.2d 516 (10th Cir. 1979).

56. LASTOWKA, *supra* note 3, at 115.

least on the social welfare model, maximize utility, while games are purely for fun.[57] So, Lastowka argues that because play in virtual worlds is not productive, law should not strive to treat it as if it were.[58]

One challenge to this approach is that utility and pleasure are intimately intertwined. John Stuart Mill's famous formulation in his book, *Utilitarianism*,[59] defines utility as the extent to which an act generates happiness. For Mill, "actions are right in proportion as they tend to promote happiness, wrong as they tend to produce the reverse of happiness."[60] There is not much, if any, daylight between Mill's utility and Lastowka's hedonism. For Lastowka, games exist to give pleasure to the player, and their rules can be measured as successes or failures by their hedonic impact. Game rules that do not yield pleasure to players (or the audience), are bad rules; better rules give the players and onlookers more pleasure. This section reads as a basic utilitarian analysis. Imagine that you are a virtual world designer, and your game has a bad rule. A change in the rule would increase your customers' utility, thus increasing both your customer base and your customers' willingness to pay. Your customers are willing to trade money for better rules. All other things being equal, you would indeed rewrite the rule. This account fits squarely within utilitarian theory.

It is true that when players are not paying for the game, the connection between game rules and market-based utility is attenuated, but it is not gone. Games are still products, even when they are free. And markets can be markets in time and opportunity costs, rather than dollars. Time spent playing a game is time spent not doing something else.[61] An individual will select which game he spends time on based on an assessment of the comparative utility generated by the game rules.[62]

Further, social welfare economics notes that gainful trades should be enforced not out of a Puritan sense that some activities are "productive" and others are "wasteful," but rather out of a sense that when two people want to trade, the law should facilitate that transaction because it increases the utility of both parties.[63] Imagine going to the opera. The trade you have made, money for the service of the performers plus a temporary leasehold estate in a nosebleed seat behind a pillar, is gainful for both parties as revealed by your willingness to pay and the performers' willingness to sell. It would be unfortunate were courts to say that law should not enforce the trade of money for tickets on the grounds that the opera was not ultimately "productive." In fact, value was generated, and social welfare increased. You and the opera players are all better off. In virtual worlds, the

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57. *Id.* at 117.

58. *Id.*

59. JOHN STUART MILL, UTILITARIANISM (Roger Crisp ed., Oxford Univ. Press 1998) (1871).

60. *Id.* at 55.

61. *See* RICHARD A. POSNER, ECONOMIC ANALYSIS OF LAW 6 (6th ed. 2003).

62. 2 JOHN STUART MILL, PRINCIPLES OF POLITICAL ECONOMY: WITH SOME OF THEIR APPLICATIONS TO SOCIAL PHILOSOPHY 568 (Adamant Media Corp. 2005) (1871) ("[P]eople understand their own business and their own interests better, and care for them more, than the government does, or can be expected to do. ").

63. LASTOWKA, *supra* note 3, at 131.

incentive to be paid to produce entertainment is in fact what causes virtual worlds to exist. Virtual world creators are not, by and large, producing *ars gratia artis*. Lastowka lists significant numbers of people who make nontrivial amounts of money playing games by creating furniture, developing land, building houses, or designing all manner of new objects for the game.[64] It is worth conceding that not all creation within virtual worlds is responsive to the profit motive. But some of it is surely incentivized by it, including most certainly the existence of the virtual world itself.[65]

## E. Chattel and Intellectual Property

Another theme woven throughout the book is that of virtual property. Given that people in the state of nature will resort to violence to defend what they perceive as their property, Lastowka notes, it may well be worth law's while to maximize trades and minimize violence by recognizing property rights.[66] Thus, Lastowka argues that virtual property is likely to remain an issue for law, both on the criminal side, following a rising tide of virtual property hacks and thefts, and on the civil side, in disputes over ownership, actions in conversion, or questions of descent and distribution.[67]

The most interesting portion of the property analysis is where Lastowka explains the growing consensus that virtual property might have two simultaneous different legal characterizations: (1) intellectual property governed by license agreement as between user and virtual world provider, and (2) chattel property as between players governed by community rules, player consent, and other norms.[68] Thus, for example, although the game god would have the legal contractual right to modify or delete the virtual property under the terms of the EULA, the theft of one player's virtual property by another would be actionable in conversion and punishable as theft.

This of course fits with Lastowka's view of the common law in general and the course of property law in particular. Lastowka's castles each invoke different views of property (medieval, corporate, and electronic) which share certain characteristics, but also have undergone serious modifications in light of their community contexts. Virtual property is likely to do the same, and bow to the need of game gods to control content to produce a profitable enterprise, while at the same time recognizing that players have certain rights vis-à-vis each other. Lastowka is quite right that these rights will not come from each player concluding a contract with each other player, but will spring from the well of common law property and tort rules.

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64. *Id.* at 15 ("According to statistics posted to the Linden Lab web site, in 2007, at least fifty users of Second Life were making more than $8,000 a month working in the Second Life economy. Thousands of users were making in excess of $1,000 a month.").

65. *Id.* at 70.

66. *Id.* at 21.

67. *Id.* at 194.

68. *Id.* at 168–69.

Lastowka truly shines in his discussion of intellectual property, not least because he leaves the discussion until after his discussion of basic chattel and virtual property rights. He notes that the discussion of law in virtual worlds has been all but completely hijacked by discussions of intellectual property. Thus, he writes

> [I]t is not unusual for many people, including lawyers, to assume that because virtual worlds feature creative expression and forms of intangible value, they are entirely controlled through the laws of intellectual property.
>
> That is not correct. While intellectual property law plays a key role in virtual worlds, it is a significant mistake to think that it occupies the entire field.[69]

Lastowka carefully distinguishes between virtual property and intellectual property, something very few lawyers or academics do well, by noting that certain intangible assets are a better match to the law of chattel property than to intellectual property. Consider your bank account; it is certainly property, and it is equally just an entry in the bank's database. Lastowka is especially good at disaggregating rights in a specific copy of a creative work from the intellectual property rights to the creative work itself. Or, in his example, Alice, his representative wanderer in Wonderland, can own a copy of Harry Potter as a chattel property right without impinging upon the author's copyright.[70] This is especially important to the players in virtual worlds, because they are the ones who purchase individual copies of virtual property rather than intellectual property rights in that property.

This distinction allows Lastowka to recognize the power and influence copyright law has on worlds that, as a whole, are in a fixed medium and invoke copyright with every keystroke, without having copyright dominate the conversation.[71] This is especially important for the future of law in virtual communities. Copyright, in Lastowka's view, is controlled by corporate interests.[72] It neither serves nor promotes the efflorescence of creativity by virtual world communities themselves.[73] The problem, Lastowka notes, is that copyright serves predominantly private interests rather than the public good.[74] The problem may be even worse than Lastowka describes. The reliance on copyright is compounded by the ubiquity of EULAs such that the creative output of these million-member communities is immediately assigned by contract to the virtual world provider. Thus, if an individual creates a compelling character in World of Warcraft, and through its exploits creates a virtual world legend, the rights to that story, character, and everything else belong to Blizzard Entertainment, and the individual owns nothing. Thus, Lastowka notes, "[l]ike peasants tilling fields around a medieval castle, users will lend their copyright labor and creativity in

69. *Id.* at 168.
70. *Id.* at 169.
71. *Id.* at 168–174.
72. *Id.* at 193.
73. *Id.*
74. *Id.* at 172.

ways that build the value of the virtual world platform, often paying for the privilege to do so."[75]

## III. NORMATIVE AND POLICY IMPLICATIONS

This Part attempts to place the specific arguments presented in *Virtual Justice* in a broader context of some of the discourse that exists regarding virtual worlds. It may be worth revealing my own predilections: I am an advocate of left-libertarian, free-market, pro-player (rather than pro-game god) approaches. I favor expanded recognition of player-owned virtual property and oppose the limitations imposed by adhesion EULAs on the free flow of property in commerce. I am, by and large, an unexceptionalist: I believe that there is no "virtual" world as distinct from the "real" world, because all virtual worlds consist of the actions of real humans toward one another via a computerized medium. Thus, I think that law can reach virtual worlds by reaching the person sitting at the keyboard. With these predispositions in the open, I proceed to a policy-oriented analysis of some of the prescriptions in *Virtual Justice*.

### A. Cyberdynamism

Lastowka's best and most exciting premise is that virtual worlds are themselves jurisgenerative, as loci of culture and creativity. This is not a standard cyberseparatist argument. Lastowka adroitly disaggregates cyberexceptionalism from cyberseparatism, which in itself is a serious contribution to the field. The argument advanced by John Perry Barlow was that online communities ought to be free to make their own rules and free from the rules of real-world sovereigns.[76] Lastowka seems to believe that virtual worlds can have the first without the second. Like municipalities, corporations, or sports organizations, virtual worlds as games can set rules without needing to secede from the real world. Cyberlaw in general has spent a lot of time in these weeds, and Lastowka's book is worthwhile purely on the grounds that he succeeds admirably in getting the strands of exceptionalism and separatism untangled in the field of virtual law.

More importantly, however, Lastowka appears to be establishing a new and important take on the nature of law with regard to technology. He embraces the critical role that legal history and the past play, which takes him beyond cyberexceptionalism. Lastowka instead measures and evaluates change over time—the delta—of law, rather than its substantive outcome on any given issue. Thus, we should read Lastowka as neither cyberexceptionalist (although he might not object to the term) nor cyberseparatist (to which he probably would object), but as *cyberdynamist*, interested in the process of change and the path of the law over time and in its response to novel technologies. In the same way that his castles progress from parapets to packets, he views law as a measured process, rooted in the past, but evolving as new technologies emerge.

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75. *Id.* at 193.
76. *Id.* at 85.

## B. Games and Government

One place Lastowka's dynamism and exceptionalism come together is in his treatment of the prospect of regulation of virtual worlds. There is some nervousness about the future of regulation in virtual worlds. It is likely that the rumblings from the Internal Revenue Service (IRS) and Federal Trade Commission (FTC) will be followed by proposals to regulate virtual worlds, most likely under the rubric of protecting children. This is where Lastowka's theory of games may play a critical role. The line "it's a game" has tremendous impact as part of the political process. Legislators feel silly delving into games (not that it has stopped them). Also, citizens wonder why taxpayer money is being spent on investigating video games. Thus, the political value of the "it's a game" approach is undeniable. If a legal commentator had one sound bite on CNN with which to fend off regulators, "it's a game" would be the quote.

I share Lastowka's desire to see virtual worlds—especially games—set their own rules and be as free from outside interference as is possible. I do wonder if the "it's a game" meme will eventually cease to be a shield for virtual worlds and become a regulatory sword. Games, especially games with money payoffs, are particularly regulated. And citizens and regulators might begin to wonder why law should defer to game rules if games are trivial. If it's just a game, what's the harm in government regulation? This is why it is imperative to understand that when Lastowka says games are not serious, he does not mean they are trivial; that is absolutely the contrary. Lastowka asserts that virtual worlds are games, or, more accurately, that people play games in virtual worlds, but he does not think they are "just games."

## C. Non-Games

Taking *Virtual Justice's* analysis of law and games as true, some may wonder about the implication for non-game virtual worlds. Assume that law steps back to permit true play to occur in virtual worlds. One implication is that law will not step back for worlds that are manifestly not games, or for activities in virtual worlds that are manifestly not play. The prospect is not entirely a negative one, and is indeed reflected in some compromises currently seen. For example, legal commentators seem to agree that the IRS should not tax virtual property gained as part of a pure game activity, but instead, tax the income derived from those activities when a player "cashes out," or sells the game-related virtual property for real dollars.[77]

77. *See* Leandra Lederman, *"Stranger than Fiction:" Taxing Virtual Worlds*, 82 N.Y.U. L. REV. 1620 (2007); Bryan T. Camp, *The Play's the Thing: A Theory of Taxing Virtual Worlds*, 59 HASTINGS L.J. 1 (2007).

One possible objection to that approach is that law impinges on pure "games" all the time. Congress held hearings in 2005 on the baseball steroid scandal, just as Congress held hearings in 2008 on children in virtual worlds.[78] The IRS taxes income earned from games in every form, from an NFL player's salary to the winnings from poker, horseracing, and other games.[79] So as a descriptive matter, it seems unlikely that government will stay out of even the purely game elements of virtual worlds, so long as sufficient money or public opinion is at stake.

The analogy most important is one that Lastowka focuses on early in the book, law's deference to local community rules.[80] This deference might be grounded in several different rationales, including efficiency (locals are likely to make better rules), buy-in (locals will ignore rules that do not meet their needs), information asymmetry (locals are likely to know more about the situation), and consent (locals are likely to abide by rules they participate in forming). Whichever of these rationales is compelling, the upshot is the same—governments should consider leaving room for virtual worlds to develop their own rules regardless of the game nature of the enterprise.

## D. Effect on Games

Limiting legal deference to games may also have an impact on games themselves. Lastowka notes that mixing work and play can be corrosive to play.[81] For example, although I believe gold farming to be a productive, welfare-maximizing activity in virtual worlds generally such that its prohibition reduces social welfare, I understand that certain players do desire a level playing field and may wish to create a separate community where that playing field cannot be disrupted by raw cash. It is not unreasonable for players to focus on a game that involves socialization and goal achievement. Those goals can be short-circuited with sufficient money. To the extent that A's achievements in the game must be advantageously compared with B's in order for A to feel satisfaction, B's ability to simply buy his way in may disrupt A's enjoyment of the game.

It is worth asking, though, what the effect would be of strong legal deference to game rules. First, strong legal deference to game rules would strengthen corporate control. Although Lastowka notes that community norms ought to be at least a coequal source of game rules with the EULA, the fact is that courts and legal commentators tend to mistake the EULA or Terms of Use or Code of Conduct for the rules of the game itself.[82] In backyard baseball, the players set the rules. But online, courts tend to let the EULA set the rules.[83]

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78. *See* Benjamin Duranske, Congress Holds First Hearing on Virtual Worlds; Linden Lab CEO Philip Rosedale Testifies, VIRTUALLY BLIND, (Apr. 1, 2008), http://virtuallyblind.com/2008/04/01/congress-virtual-worlds/.

79. *See, e.g.*, U.S. v. Maginnis, 356 F.3d 1179, 1183 (9th Cir. 2004) ("Lottery prizes are treated by the tax code as gambling winnings, which are taxed as ordinary income.").

80. LASTOWKA, *supra* note 3, at 195.

81. *Id.* at 117.

82. *See id.* at 121 (suggesting that the EULA does not sufficiently provide for the "rules" of the game in contractual form—". . . [T]he exact scope of permitted lawlessness is not made clear by any

This common judicial error of casting game rules as contract clauses is compounded by a powerful rule of Internet immunity, section 230 of the Communications Decency Act, which immunizes providers of interactive computing services from suits based on either the actions of third parties, such as a disruptive player, or from consequences flowing from the provider's censorship or failure to censor content.[84] Courts have held that EULA promises from the Internet service provider (ISP) to the user that purport to create rules of conduct governing other players are unenforceable by users against the ISP.[85] The ISP can promise contractually to monitor and control the behavior of other players, for instance, and a court may well find that the promise is unenforceable. Thus, strong legal deference to game rules means that the body that sets the rules of the game, in this case the corporation, increases its control over the game and community, and worse, that courts may well find those very rules unenforceable against the ISP that made the promise.

Strong *sui generis* deference to the rules of online games also may result in regulatory arbitrage. For example, in *SEC v. SG Ltd.*,[86] the Securities Exchange Commission (SEC) closed down a virtual stock exchange, claiming that the game was essentially a Ponzi scheme. The virtual exchange, of course, claimed that it should be exempt from SEC regulation because it was only a game. In effect, a fraud scheme cloaked itself as a game to benefit from legal deference to games. Even within admitted games, those parties seeking to commit fraud do so under the claim that this is part of the game. So, for example, in the game EVE Online, some players were able to deceive others into trusting them with control of certain virtual assets.[87] These con artists then stole virtual goods worth thousands of dollars.[88] What is interesting is that the deceptive conduct extended well beyond the virtual world. The con artists deceived their targets in real life as well, building offline personal friendships that they then used to access and steal the virtual goods. When the thefts became apparent, the thieves argued that their actions, including their real-world deceptive conduct, were all part of an elaborate game. To avoid regulation, they attempted to include their wrongdoing as part of the game norms. Although deception may well be an important part of some games such as Poker, the danger is that deception and fraud will be imported into games for which fraud and deception are not integral parts, or even spill over into the real world. In short, virtual law cannot help but impact the real world even if virtual world exceptionalism prevails. Therefore, all that exceptionalism will accomplish is regulatory arbitrage.

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formal mechanism (that is, contract), making it possible for various parties to have different understanding of what is and is not allowed within the game.").

83. *See, e.g.*, Davidson & Assocs. v. Jung, 422 F.3d 630 (8th Cir. 2005).

84. Communications Decency Act, 47 U.S.C. § 230 (2009).

85. *See* Doe v. SexSearch.com, 502 F. Supp. 2d 719 (N.D. Ohio 2007) (holding that an online dating service's promise that all members were over 18 was not enforceable against ISP under the Communications Decency Act, 47 U.S.C. § 230).

86. Sec. Exch. Comm'n v. SG Ltd., 265 F.3d 42 (1st Cir. 2001).

87. LASTOWKA, *supra* note 3, at120.

88. *Id.*

In the front pages of *Virtual Justice,* Lastowka provides an epigraph from Henry David Thoreau's *Walden*: In the front pages of *Virtual Justice,* Lastowka provides an epigraph from Henry David Thoreau's *Walden*: "If you have built castles in the air, your work need not be lost; that is where they should be. Now put the foundations under them."[89] It is often the goal of legal scholars to write the definitive work on a subject; the last word. Lastowka has succeeded in doing even better—he has written the first word. With humor, exhaustive research, and precise, moderated analysis, he has written a foundational text that necessarily must undergird all that will certainly follow. As he set out to do, Lastowka has not finished the debate. Rather, he has crafted a solid foundation on which the field can now build.

89. LASTOWKA, *supra* note 3, at vii (quoting HENRY DAVID THOREAU, WALDEN: OR, LIFE IN THE WOODS 295 (Shambhala Publications, Inc. 2004) (1854)).

# CHIMERAS, HYBRIDS, AND INTERSPECIES RESEARCH: POLITICS AND POLICYMAKING

Andrea L. Bonnicksen
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Andrea Bonnicksen's *Chimeras, Hybrids, and Interspecies Research: Politics and Policymaking* is an excellent antidote to the prevailing fantastical imagery associated with early interspecies research (ISR). Bonnicksen distinguishes *early* ISR, which "involves human-nonhuman cell transfer at the earliest, prenatal stages of development"[1] from *general* ISR. An example of early ISR would be the creation of a chimeric embryo by injecting human embryonic stem cells into a mouse (or other nonhuman) blastocyst. An example of general ISR would be replacing human heart valves with pig valves—a practice that is not usually viewed as morally problematic. Because *early* ISR has the potential to lead to inheritable genetic modifications, there tends to be more moral controversy surrounding the creation of entities such as chimeras, cybrids, or hybrids, particularly when human and nonhuman cells or genetic material are combined. For some, opposition to early ISR is part of their broader objection to research using human zygotes, blastocysts, or embryos. Bonnicksen, however, explains that much controversy rests on ignorance or confusion about the techniques and outcomes of early ISR.

In her introductory chapter, Bonnicksen informs the reader that her goal is to provide a "more mundane rendering of the role of early ISR in contemporary research"[2] to reframe public discussions and debates about ISR in a way that will promote policymaking that is neither overreaching nor riddled with dangerous loopholes. This "mundane rendering," which Bonnicksen delivers successfully, functions as a salve for those who find themselves exasperated by popular depictions of contemporary ISR or flabbergasted that such poorly informed beliefs serve as a foundation for legislation. While we can forgive

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1. ANDREA L. BONNICKSEN, CHIMERAS, HYBRIDS, AND INTERSPECIES RESEARCH: POLITICS AND POLICYMAKING 7 (2009).

2. *Id.* at 5.

the director of *Splice*,[3] a laughable and therefore ineffective cautionary tale about the dangers of crossing species boundaries, the enactment of Arizona's prohibition on the creation of human-animal "hybrids" is a more serious matter.

The recent revisions to Arizona law governing embryo research[4] demonstrate a clear need for Bonnicksen's book to be circulated to legislators and policymakers for careful reading prior to drafting and enacting laws governing ISR. Arizona's law prohibiting the intentional creation of a human-animal hybrid went into effect in late July 2010 and is similar to laws recently enacted in Ohio and Louisiana. The Arizona law's definitions of "human-animal hybrid" betray a failure to understand the distinction between hybrids, chimeras, and cybrids—distinctions that Bonnicksen makes clear in her book. Arizona's legislation forbids an individual to "knowingly engage in destructive human embryonic stem cell research,"[5] effectively outlawing human embryonic stem cell research (hESCR) in Arizona. The bulk of the text, however, focuses on characterizing human-animal "hybrids" and delineating actions that would constitute unlawful creation of entities containing a mixture of human and nonhuman cells or genetic material.[6] Aside from the law's focus on entities and techniques that are least likely to serve any scientific purpose—namely, embryo transfer from humans to nonhumans or vice versa, and the creation of hybrids—the law also appears to assume that procreation rather than research is a primary objective. Furthermore, due to the failure of lawmakers to heed Bonnicksen's requirement that legal restrictions on ISR be grounded in conceptual precision, clearly articulated values, and an accurate depiction of the current state of research, the Arizona law is likely to perpetuate misinformation about ISR and impede more research than intended.[7] Despite the law's exception for "research involving the use of transgenic animal models containing human genes,"[8] its prohibition on the creation of human-nonhuman chimeras (which the law mischaracterizes as "hybrids") is likely to interfere with some transgenic research. As Bonnicksen points out, the creation of chimeras is often an integral part of developing stable genetic lines in transgenic mice.[9] Moreover, this law, like others that lack either a solid justification or a clear explication of underlying values, fails to clarify "when the blending is too much and why."[10] Bonnicksen's question remains: "If splicing limited

3. The June 2010 movie *Splice* depicted two overzealous scientists aspiring to advance science and procure cures for diseases by combining DNA from multiple species, including humans. Their unauthorized creation ("Dren") exhibits both human and nonhuman traits and proceeds to wreak havoc after they liberate her from the laboratory. Like most science-fiction movies, *Splice* delivers the message that any combining of human and nonhuman DNA is to be avoided because it is likely to end badly.

4. ARIZ. REV. STAT. ANN. §§ 36-2311 to -2313 (2010) (West).

5. *Id.* at § 36-2313.

6. *Id.* at §§ 36-2311 to -12.

7. *See* Bonnicksen, *supra* note 1, at 134–37.

8. § 36-2312.

9. Bonnicksen, *supra* note 1, at 38–39, 104.

10. *See id.* at 133.

human DNA sequences to animals for study is acceptable . . . , why are human-nonhuman chimeras not acceptable?"[11]

In Chapters 1–3, Bonnicksen identifies and examines four common objections to the creation of chimeras, hybrids, and cybrids, and the processes of cross-species embryo transfer and nonhuman-human transgenics. She examines the soundness of the concerns regarding the impact of these techniques and the resultant entities on human dignity, procreative practices, and prevailing views about species boundaries. These chapters also discuss existing laws and policies around the world as well as the general direction of policymaking in places where policies are vague or nonexistent. Chapter 4 examines four categories of beliefs underlying people's reactions to ISR, including people's orientation toward biotechnology, willingness to accept intuitive reactions to the creation of entities such as chimeras, confidence in the ability of scientists and society to draw lines, and beliefs regarding species boundaries, especially between humans and nonhumans. In addition to these four chapters, Bonnicksen provides a meticulous and exquisitely clear introductory chapter and a necessarily brief concluding chapter, given that each preceding chapter contains a pithy yet comprehensive summary section.

Chapter 1 focuses on chimeras and distinguishes between chimeras as presented in art and literature over the centuries and the comparatively less flashy chimeras found in today's laboratories. Unlike hybrids, where "every cell contains a mixture of genetic material from both originating species,"[12] chimeras contain cells from "at least two genetically distinct zygotes."[13] *Intra*species chimeras occur seldom in nature and generally go unnoticed, but the prospects of human-nonhuman chimeras, whose cells are widely integrated and may affect procreation, provoke great interest.[14] Scientists have routinely created nonhuman interspecies chimeras for research purposes, but aside from general concerns about the creation and use of nonhumans as research subjects, their use does not tend to raise unique ethical concerns, as does the prospect of creating human-nonhuman chimeras. Bonnicksen acknowledges that chimeras can be created by fusing zygotes, but explains that they are usually created by injecting stem cells from one being into the blastocyst of another. The characteristics of the host organism predominate, so without closer examination of the chimera's cellular constitution, the fact that a particular being is a chimera is lost on the casual observer.

Bonnicksen notes that people are particularly troubled by the possibility of creating beings composed of a combination of human and nonhuman primate cells or nonhumans that possess a significant quantity of human neural cells. The latter concern emerged in the aforementioned Arizona law, which included in its list of definitions of a human-animal hybrid, "[a] nonhuman life

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11. *Id.*

12. *Id.* at 29 (quoting Renee Mirkes, *Is It Ethical to Generate Human-Animal Chimeras?*, 6 NAT'L CATH. BIOETHICS Q. 109, 115–16 (2006)).

13. *Id.* at 27 (quoting NAT'L INSTS. HEALTH, FINAL REPORT OF THE HUMAN EMBRYO RESEARCH PANEL 104 (1994).

14. *Id.* at 28.

form engineered so that it contains a human brain or a brain derived wholly or predominantly from human neural tissues."[15] As with other elements of the Arizona law, this definition exhibits a failure to understand the likely products of ISR, as well as procedures involving the transfer of human neural tissue. Had the legislators heeded Bonnicksen's recommendation and crafted the legislation using a "product-based focus on research outcomes," they may have avoided the "emotion-based conclusions, and conceptual confusion"[16] that plague this piece of legislation. As Bonnicksen points out, while "the creation of and research on beings with human and nonhuman traits may be valid concerns with nonhuman primates, this dignity-based objection holds less weight in research involving rodents and other animals. Here the transfer of neural cells . . . is not likely to lead to human-like cognition."[17] She goes on to cite Shreve and Koybashi, who both emphasize the importance of the environment into which human neural cells are introduced for the development of human-like cognition.[18] Bonnicksen agrees that we should refrain from creating certain types of chimeras (by, for example, transferring human neurons to primate brains),[19] but this recommended prohibition is aimed at protecting the welfare interests of nonhuman research subjects rather than honoring vague concerns about ISR as a threat to human dignity or species identity.

In Chapter 2, Bonnicksen clarifies that a hybrid is "an organism resulting from fertilization of the egg of one species with the sperm of another."[20] True hybrids, she explains, are rare, though they do occur in nature and have been created with the assistance of human breeders.[21] Hybrids, however, are difficult to create and may not survive, depending on how closely the species are related.[22] Throughout her book Bonnicksen notes that varying ideas of hybrids and chimeras abound in science fiction literature and movies and that such fantastical imagery is a more potent force in shaping people's views about mixing species than scientific knowledge. In her chapter on hybrids, which is comparatively brief, Bonnicksen explains that in addition to the technical difficulties associated with creating hybrids, there is no scientific or medical urgency to create either animal-animal hybrids or human-animal hybrids.[23] That said, she does point to a "tangential" technique, the "'humster' assay or hamster oocyte penetration (HOP) test," which is used in the context of treating infertility to test the ability of sperm to penetrate eggs.[24] When successful, this technique, which uses hamster eggs in lieu human eggs, creates a hybrid, but it is not permitted to develop beyond the two-cell stage. Bonnicksen notes that limiting the growth of the humster is practiced by convention in some

15. ARIZ. REV. STAT. ANN. § 36-2311 (2010) (West).
16. BONNICKSEN, *supra* note 1, at 135.
17. *Id.* at 43.
18. *Id.*
19. *Id.* at 124.
20. *Id.* at 59.
21. *Id.*
22. *Id.* at 59–60.
23. *Id.* at 61–62.
24. *Id.* at 62.

places but written into law in others (for example, Australia).[25] Even if a human-animal hybrid such as the humster were permitted to continue developing, the mismatch in the number of chromosomes between species, among other things, would prevent the hybrid zygote from growing beyond early preimplantation stages.[26] Hence, contrary to the images that permeate our culture, humsters beyond the two-cell stage are unlikely to emerge as a consequence of conducting ISR aimed at learning more about diseases and human or animal development. Instead, aside from the limited use of the HOP technique, fully developed human-animal hybrids will remain confined to automobile advertisements and science fiction.

Even though humans have created nonhuman hybrids for various nonscientific purposes, including labor (such as mules), food (like beefalo), and entertainment (for example, ligers), the creation of *human*-nonhuman hybrids for such purposes is not on the horizon. Given our historical fascination with anomalies of nature, however, the desire to create either human-nonhuman hybrids or chimeras for entertainment purposes, or to meet other relatively trivial desires, is of more pressing moral concern than the desire to create them for early ISR or other types of biomedical research. In the context of biomedical research, there is little need to create or use hybrids, especially human-animal hybrids. And even in the limited capacity in which human-animal hybrids are used for research or therapeutic purposes, they do not develop into beings that raise the sorts of concerns that haunt us in science fiction.

Though some object to conducting any type of research on human embryos, others oppose ISR because of their lack of confidence in scientists' or society's ability to draw lines between legitimate scientific inquiry and dangerous or ethically dubious scientific experiments. Arguably, certain practices within the field of assisted reproductive technology (ART), sometimes referred to as the "wild west" of medicine, contribute to reasonable doubt about people's ability to draw lines in the world of biotechnological intervention. For example, using the cytoplasm of (enucleated) eggs from younger women and the nuclear DNA from the eggs of older women, one fertility clinic did permit the development of human-human cybrids for procreative purposes until the Food and Drug Administration (FDA) "placed a clinical hold on the transfer of ooplasm . . . ."[27] Although things often have gone awry in the context of scientific research, the fact that scientists are generally required to provide some rationale for undertaking a particular line of research should provide a measure of comfort when compared to the realm of procreation, where justification for pursuing that end is viewed as entirely unnecessary. Along these lines, Bonnicksen notes that a "well-crafted investigation using a small number of embryos with an animal component for highly promising research would . . . be more ethically acceptable than a study on human embryos done for frivolous reasons with little regard for the number of embryos used and without an

25. *Id.* at 64, 72.
26. *Id.* at 62.
27. *Id.* at 88.

animal component."[28] Even on those occasions where careful planning and reflection are involved in procreation, the desire to procreate has been known to interfere with good judgment about the means of attaining that goal (for example, transferring six fertilized eggs to a woman's uterus).

It is impossible to deny that serious ethical violations have occurred in biomedical research, but it is clear that agents in the contemporary world pay careful attention to the means of achieving research goals. Contrary to the image of the mad scientist gleefully and helplessly zipping down the slippery slope, Bonnicksen recalls that we actually have exercised considerable restraint, noting the "more controlled unfolding of transgenics . . . in which oversight and public planning play[ed] an important part."[29] She also reminds us that the U.S. government allotted "funds to study the ethical, legal, and social implications of the Human Genome Project," and that policy groups have convened recently to examine ISR.[30] Hence, Bonnicksen agrees with Alex Mauron and Jean-Marie Thévoz's alternative description of the slippery slope, which "looks more like a ramshackle staircase: once in a while, we trip down a few steps. . . . wake up, take stock of ethical shortcomings, and climb up the stairs by appropriate measures such as societal regulation."[31]

Alongside lingering doubts about our ability to pause or halt as we proceed with developments in ISR, there are also a myriad of cultural influences on people's attitudes toward biotechnology, including prevailing myths or fictional stories about the spawn of a particular type of technological intervention. For example, consider the generally dystopian portrayal of robots in popular Hollywood movies versus the more positive portrayals in Japanese culture and the apparently greater willingness to incorporate robots and other artificial beings into various facets of daily living. At least as influential as images arising from mythological and science fiction accounts of chimeras and hybrids are the depictions of deities across various western cultures. Gods are predominantly depicted as possessing humanlike qualities. Even though Xenophanes, an Ancient Greek philosopher, recognized several centuries ago that it is far more likely that we make gods in our image rather than vice versa, the latter view prevails. For instance, the Greek gods were depicted as humanlike, complete with significant character flaws that Xenophanes thought rendered them unworthy of reverence. Even the Judeo-Christian God of the contemporary world is depicted as possessing humanlike traits, though in the superlative. Some humans are wise, but not omniscient; good, but not omnibenevolent; powerful, but not omnipotent. An example of a contrasting depiction of a deity is Ganesh, a God of the Hindu religion, who is depicted as part elephant and part human. Ganesh, a deity with animal features, is not viewed as a monster to be avoided, in contrast with chimeras in other cultures such as Greek mythology.

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28. *Id.* at 85.

29. *Id.* at 120.

30. *Id.*

31. *Id.* (quoting Alex Mauron & Jean-Marie Thévoz, *Germ-Line Engineering: A Few European Voices*, 16 J. MED. & PHIL. 649, 658 (1991)).

Throughout the book, Bonnicksen addresses the common concern that crossing species boundaries constitutes a threat to human dignity, and she reflects on whether introducing nonhuman cells into a human or vice versa might compromise human dignity. She notes that those distressed about the possibility of nonhumans exhibiting human traits have in mind beings different from entities actually created for ISR. She explains that contemporary ISR studies "involve small animals, mild chimerism, and animals that fail to develop or are sacrificed before or shortly after birth."[32] This is yet another indication of the importance of looking closely at what is actually occurring in the laboratories, including the likely outcomes, rather than permitting deeply embedded narratives about chimeras and hybrids to direct our attitudes or social policies regarding ISR.

Nevertheless, there is a lingering enigma about why nonhumans exhibiting human-like traits should bother us. First, it is not clear which human-like traits would be particularly troublesome if displayed by nonhumans. Permitting nonhumans to express human proteins in their milk, muscles, or organs is not generally considered objectionable to those who voice concern about nonhumans taking on human traits. Bonnicksen highlights the fact that the "creation of mouse models for a range of human diseases is a sought-after goal."[33] Second, given that we often find it endearing when nonhumans behave in a human-like manner, it is odd that the risk of a nonhuman behaving more like us should be a strike against creating such beings. Along these lines, Bonnicksen mentions Washoe the chimpanzee who developed a significant vocabulary and was able to communicate via American Sign Language.[34] There are numerous other examples of dogs, whales, dolphins, elephants, and other nonhumans exhibiting human-like traits, and unless their behaviors are aggressive or harmful, humans are usually quite pleased to see nonhumans acting like humans.

Among other objections to ISR, Bonnicksen addresses the "wisdom of repugnance" objection and explains that there is not necessarily wisdom in repugnance.[35] At best, this reaction is a prompt to conduct further inquiry about a particular matter. It is also an opportunity to explore the possible basis for negative feelings that emerge when confronted with something novel. In some cases, the repugnance turns out to be well founded, but in other situations, it is grounded in irrational prejudices. Hence, we should not simply allow an initial tendency to recoil to carry significant moral weight.

For those who embrace the view that the line between human and nonhuman species should not be crossed, Bonnicksen reminds the reader, that although the recognition of species boundaries has practical value, this does not translate to their having inherent moral value.[36] Interestingly, the concept of species boundaries seems to be clearer and more rigid in the context of moral

32. *Id.* at 133.
33. *Id.* at 45.
34. *Id.* at 46.
35. *Id.* 114–16.
36. *Id.* at 122.

discussions than among biologists. Contrary to the prevailing view—the one that carries the most weight in public discussions of hybrids and chimeras—neither the concept of species nor the lines between species are as clear as we presume. Bonnicksen points out that there are at least twelve "serious definitions"[37] of what constitutes a species under discussion within the scientific community. When such outcomes occur naturally, as in the case of hybrids such as "grolar" bears, "wholphins," and "zedonks" that have been the topic of recent news stories, we behold them with awe and wonder rather than revulsion or moral confusion.

Bonnicksen can be regarded as a supporter of ISR, provided there are well-reasoned constraints on the research. She, however, does not offer an impassioned defense or make overreaching claims about the ability of ISR to cure all that ails us. Instead, she provides a measured account of the current state of the research and public policy in the area, while also acknowledging the need for further reflection on various assumptions underlying attitudes and practices surrounding ISR. It is her considered view that "policy problems are not so great as to require new laws" governing ISR.[38] Instead, she encourages "watchful deliberation" and appropriate modification of existing policy frameworks.[39] Bonnicksen's book should be required reading for anyone involved in creating or implementing policies related to ISR, and it is a valuable resource for the rest of us, especially those who discuss ISR or embryo research in bioethics or health policy courses. Though ISR is the focus of the book, her analysis of the topic also is relevant to a broad range of bioethical issues including the moral relevance of species boundaries or genetic composition; the importance of creating policies based on accurate science and carefully articulated values rather than vague feelings or kneejerk reactions; the need to consider the welfare interests of nonhumans alongside those of humans; and the relevance of myriad influences on people's attitudes toward biotechnological developments.

37. *Id.* at 121.
38. *Id.* at 134.
39. *Id.*