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EULA, or Eulogy? Reckoning End User License Agreements and Near-Future Cyborgs

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EULA, OR EULOGY? RECKONING END USER LICENSE AGREEMENTS AND NEAR-FUTURE CYBORGS

Outstanding Note of the Year (2022)

Owen Carpenter†

ABSTRACT

Integrated biotechnology is a quickly-approaching future legal issue that will blur the line between technology and person. The technology will likely run through some kind of software, and users of the technology will likely need to agree to some type of licensing agreement to use the software. End User License Agreements ("EULAs") as they exist today have terms and clauses that will be problematic when applied to an implanted artificial heart, a replacement for the human eye that enhances vision, or other types of integrated technology. Current FDA regulation and EULAs are insufficient to deal with the problems that technology integration will create.

This Note argues for a new form of licensing agreement that will apply to integrated biotechnology, called a Biotechnology Licensing Agreement ("BTLA"). The BTLA will contain certain clauses that strengthen the bargaining power of the future cyborg when dealing with the creators of the integrated technology. Further, for creation of a new subdepartment of the FDA, the Biotechnology Adjudication Bureau ("BAB"). The BAB will handle regulation of integrated biotechnology and will assist cyborgs in the near future world of half-human half-machines. These solutions will dampen the problems and legal issues that will arise as the integrated biotechnology space becomes more mainstream and more pervasive.

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INTRODUCTION

Man and machine have always been distinct categories separated by a bright, organic line; the cyborg existing as nothing more than a metaphor.[1] Human beings are born with rights, giving them a great deal of control over their own bodies.[2] Machines, however, are created without rights, serving uncertain and varied masters over the course of their function and existence.[3] Some laws recognize the right of the human to use these machines,[4] whether it be the right to keep and bear arms, or the freedom of the press – but none of these rights are recognized in relation to the rights of the machine itself.[5] When the line between human and machine blurs, when flesh becomes less distinguishable from the technology that enhances it, the dream of real-life cyborgs becomes less akin to science fiction. Integrated biotechnology includes devices designed to merge with the human body, enhancing function or correcting for deficiencies.

1. Benjamin Wittes & Jane Chong, *Our Cyborg Future*: *Law and Policy Implications*, BROOKINGS INST. (Sep. 5, 2014), https://www.brookings.edu/research/our-cyborg-future-law-and-policy-implications/ [https://perma.cc/X7FH-4RX7].

2. *Id.* at 3.

3. *Id.*

4. "Machine" is defined as "an apparatus consisting of interrelated parts with separate functions, used in the performance of some kind of work". *Machine*, DICTIONARY.COM, https://www.dictionary.com/browse/machine [https://perma.cc/TDL5-LNXC] (last visited Sept. 25, 2022).

5. Wittes & Chong, *supra* note 1, at 3.

Many of these machines are governed by a different set of laws – namely consumer protection laws and licensing agreements provided by their creators.[6] The rights of humans and the rights of machines could not more starkly contrast, and this contrast will create problems in the near future that modern legal structure and doctrine cannot address in its current state.

End user license agreements ("EULAs") are agreements that govern the relationship between the end-user of the product, the product, and the company that created it. A EULA gives a user the right to use a software application in some manner. EULAs are designed to enforce specific software use limitations, such as using a software on only one computer. By entering into the agreement, the user is given permission to enjoy and benefit from the software.[7] Currently, implanted biotechnology accompanied by stringent EULA provisions are rare. However, the limiting terms of a typical EULA would have damaging effects to a person with implanted biotechnology, specifically if some of the limitations within EULAs were enforced on a piece of implanted biotechnology.[8] While these issues seem to be a far future problem akin to the world of Blade Runner[9], EULAs impacting implanted biotechnology are closer than they seem.

This Note discusses the future implications of integrated and implanted biotechnology and how end user license agreements will impact a person's use and enjoyment of their integrated technology. Part I gives an overview of cyborg law, the history of cyborgs, the applications of current integrated technology, and concerns with how legal issues will evolve around integrated

6. *See* SONY, *General Medical Device End User License Agreement*, https://www.sonybiotechnology.com/us/end-user-license/ [https://perma.cc/YV5D-PMEY] (last visited Sept. 25, 2022).

7. Margaret Rouse, *End-User License Agreement (EULA)*, TECHNOPEDIA, https://www.techopedia.com/definition/4272/end-user-license-agreement-eula [https://perma.cc/DQ6J-D4H2] (last updated Mar. 11, 2022).

8. *See generally End User License Agreement*, DOCK HEALTH (Jan. 3, 2020), https://www.dock.health/end-user-license-agreement [https://perma.cc/DU4V-F7FU].

9. *See* BLADE RUNNER (Warner Bros. 1982). The film is set in a dystopian 2019 Los Angeles, California, where technology and androids have become common place and many of the issues in the world revolve around the technology that drives society.

technology. Part II discuses EULAs and their current function for companies and licensing software and products.

Part III speaks to the limited amount of case law that could be defined as cyborg law, how that case law could inform cyborg law's development as integrated technology becomes more normative and widespread, and the application of available cyborg law to EULA case law.

Part IV reviews possible issues stemming from application of typical EULAs to life-altering and life-saving integrated biotechnology. Part V offers possible solutions for the legal logjam between the rights of the cyborg and the rights of the company that made the cyborg, namely a separate class of biomedical technology and software that would be governed by more stringent rules and restrictions on the company's control over the biotechnology after it is integrated with a person.

LITERATURE REVIEW

To date, there are a few articles and studies that have discussed and analyzed the implications of integrated or implanted medical technology.[10] These articles focus mainly on some of the changing conditions that accompany implanted biotechnology, and they discuss biotechnology implants in patients that healthcare professionals need to acknowledge when treating patients or the increasing complexity and scope of treatment that these implanted devices can provide.[11] Many of these articles focus on the issues with the physically engineered aspects of the implanted technology.[12] Further, there have been discussions on the impact that a EULA has on the typical contractual relationship between consumer and business.[13] These

10. *See e.g.* Wittes & Chong, *supra* note 1; Yeun-Ho Joung, *Development of Implantable Medical Devices: From an Engineering Perspective*, 17 INT'L NEUROUROLOGY J. 98 (2013); Margaret Kuder, Amanda Gelman, Jonathan M. Zenilman, *Prevalence of Implanted Medical Devices in Medicine Inpatients*, 14 J. OF PATIENT SAFETY 153 (2018); Henrique A. Almeida & Rui B. Ruben, *Medical Devices: From Design to Production*, 9 ADVANCES IN MECH. ENG'G 1 (2017).

11. *Id.*

12. *Id.*

13. *See generally* Jason T. Kunze, *Regulating Virtual Realms Optimally: The Model End User License Agreement*, 7 NORTHWESTERN J. TECH. & INTELL. PROP. 102 (2008); Jens

articles generally focus on how the EULA functions in how a consumer views a EULA, what they understand about the terms that they are agreeing to, and how it impacts the bargaining power between company and consumer. However, little has been said about the power of the EULA in relation to current implanted medical devices, let alone future medical devices that are less separable from the human being. Inspiration for this topic came from a Brookings Institute article on the increasing viability of technology integration and implantation into humans and the problems that this will bring.[14] The article did not offer solutions to the problems discussed in this Note. This Note will examine the contractual relationship between an implanted medical or enhancement device, consumer, and device creator. It will also provide specific solutions to the high stakes contractual complications that could come with an implanted biotechnology EULA.

PART I: A CYBORG FUTURE

Cyborg is defined as "a person whose physiological functioning is aided by or dependent upon a mechanical or electronic device."[15] The word "cyborg" was coined 61 years ago by Manfred Clynes to describe "an emerging hybrid of man's machines and man himself. The word combined cybernetics, the then-emerging discipline of feedback and control, and organism."[16] The word first appeared in an article called "Cyborgs and Space."[17] When most people hear the term "cyborg," they think of the classic science fiction half-human, half-machine

Grossklags & Nathan Good, *Empirical Stud. on Software Notices to Inform Pol'y Makers and Usability Designers*, SCH. OF INFO. CAL. BERKELEY (last visited Jan. 14, 2022); Miriam A. Cherry, *A Eulogy for the EULA*, DUQUESNE UNIV. L. REV. (2014).

14. Wittes & Chong, *supra* note 1.

15. *Cyborg*, DICTIONARY.COM, https://www.dictionary.com/browse/cyborg [https://perma.cc/Y65G-23VH] (last visited Oct. 23, 2021).

16. Alexis C. Madrigal, *The Man Who First Said 'Cyborg,' 50 Years Later*, THE ATLANTIC (Sep. 30, 2010), https://www.theatlantic.com/technology/archive/2010/09/the-man-who-first-said-cyborg-50-years-later/63821/ [https://perma.cc/MK28-7F2W].

17. *Id.*

creation.[18] Clynes did not intend for the cyborg to be a mythical, artificial being.[19] Rather, he intended that the cyborg would allow humanity to enjoy the unique human experience fully.[20] The cyborg was not less human, but more human.[21] While the world has not moved into the scientific strata that Clynes imagined, it has moved closer to that space than Clynes would have expected. Human reliance on smartphones and the interconnected world that social media and instantaneous communication has created is one of the largest paradigm shifts in human history.[22] When a plane lands, the moment that wheels meet runway, passengers grab their phones, reconnecting with the rest of the world.[23] Trains and buses are filled with sets of eyes staring into a screen.[24] All of these people are sending or receiving information through an electronic device.[25] Their devices are effectively as much a part of them as their hands.[26] While the relationship between human and phone is not enough to classify a person as a cyborg, human beings that depend on implanted technology surpass a dependent relationship.

Cyborgs exist today. The world's first legally recognized cyborg, Neil Harbisson, integrated biotechnology into his body for an understandable reason – employment.[27] Harbisson is a 33 year old artist who was born with achromatopsia, a form of complete and total colorblindness.[28] He has an antenna sensor implanted into his head that translates different light wavelengths into

18. *Id.*

19. *Id.*

20. *Id.*

21. *Id.*

22. Wittes & Chong, *supra* note 1.

23. *Id.*

24. *Id.*

25. *Id.*

26. *Id.*

27. Michelle Z. Donahue, *How a Color-Blind Artist Became the World's First Cyborg*, NAT'L GEOGRAPHIC (Apr. 3, 2017), https://www.nationalgeographic.com/science/article/worlds-first-cyborg-human-evolution-science [https://perma.cc/FNR4-ZLHU].

28. *Id.*

vibrations on his skull, which he perceives as sound.[29] This implant allows him to perceive color in a different way than other human beings, and without the implant he would not be able to perceive color at all.[30] This type of biotechnology will become more common as integrated biotechnology becomes more common for both gain of function and enhancement purposes, through either neurological (like Harbisson) or biomechanical implants.[31]

If Harbisson had purchased this device from a commercial company, the implant likely would have come with a set of terms and conditions in a EULA restricting what he could do with this technology. Would a violation by Harbisson of the EULA give a private entity the right to deprive Harbisson of his ability to perceive color? As this type of implant becomes more common and more complex, legal issues like that potential deprivation will become more pervasive. For that reason, companies should be restricted on the type of EULAs that they can attach to the biotechnology that they create.

Historically, a medical device manufacturer's right to their own proprietary information has trumped a consumer's right to know the detailed information regarding their medical device.[32] Intertwined with the economic boon and advantage that comes with patent protection and intellectual property rights, the tension between consumer knowledge and the protection of economic interest will always exist in a free-market, profit driven society. In some cases, this protection has taken the form of specific privacy provisions like the Health Insurance Portability and Accountability Act.[33]

Today, you may be sitting next to a real-life cyborg and not realize it. The person is not a techno demigod, towering over normal humans with a cold and robotic stature. The technology that makes this person a cyborg isn't a robotic hand, an eye with digital recording capabilities, or an implant in their brain that

29. *Id.*

30. *Id.*

31. Wittes & Chong, *supra* note 1.

32. 18 U.S.C. § 1831–39.

33. Roger Shindell, *The Dirty Little Secret About Medical Device Security*, TODAY'S WOUND CLINIC (Sept. 2017), https://www.hmpgloballearningnetwork.com/site/twc/articles/hipaa-privacy-security-compliance-dirty-little-secret-about-medical-device-security [https://perma.cc/6KKS-8T5G].

connects them to the internet. The technology that sustains them and saves their lives on a regular basis, that places them fully into the cyborg class, is a pacemaker.[34] The first pacemaker was implanted in a human being in 1958.[35] And today, these cyborgs are leading the fight for autonomy regarding how a person can interact with and alter their implanted technology.[36]

Karen Sandler, the executive director of the Software Freedom Conservancy, was implanted with a pacemaker, the device providing a lifesaving jolt of electricity that can steady her heartrate.[37] However, the pacemaker can give her a jolt when she does not need it, mistaking a slight deviation in her heart rate for a more serious one.[38] Sandler was pregnant during one of these misfires and she asked the manufacturer of the pacemaker if they could provide her with the source code to the device to make alterations that would prevent another misfire.[39] The manufacturer said no.[40] Instead of altering her device, Sandler was prescribed medicine that slowed her heart rate with detrimental effects.[41] Had Sandler been allowed to access and alter the source code of the device implanted into her body, she would have had the opportunity to alter the source code of the device, possibly preventing any misfires in the future. However, without any waiver of liability, the company would have likely been exposed to significant legal risks. Rather, the ability of the company to protect their intellectual property and to shield themselves from liability trumped Sandler's ability to treat an ailment caused by the product the company created.

34. Dyllan Furness, *Who Controls the Technology Inside Us? Budding Biohackers are Shaping 'Cyborg Law'*, DIGITALTRENDS (July 4, 2018), https://www.digitaltrends.com/cool-technology/cyborg-law-and-rights-of-augmented-humans/ [https://perma.cc/D7FU-R3M6].

35. Kirk Jeffery & Victor Parsonnet, *Cardiac Pacing, 1960-1985*, 97 CIRCULATION 1978, 1978 (1998).

36. Furness, *supra* note 34.

37. *Id.*

38. *Id.*

39. *Id.*

40. *Id.*

41. *Id.*

A fully integrated world is approaching at warp speed. In Sweden, the state-owned rail line, SJ, has begun scanning the hands of people with biometric chips embedded in their skin to collect train fares.[42] The company indicates that the service has gone well thus far, minus a few hiccups where the passenger's LinkedIn profile was displayed rather than paying for a ticket.[43] Further, an office space in Stockholm, Epicenter, is one of the leaders in the movement to build the office space of the future.[44] Employees were given the option to have a radio frequency identification (RFID) chip embedded in their hand.[45] An RFID chip is a small, grain of rice sized device that emits a specific radio frequency that is unique to each chip.[46] The chip is held up to a reading device, which can recognize the specific signal or tag.[47] When the reader recognizes the tag, the device to which the reader is connected will perform its designated function.[48] The reader can be designed to only recognize certain tags, or only perform certain functions for tags while allowing different results for others.[49] With the chip, employees can unlock doors, access

42. Chris Weller, *A Swedish Rail Line Now Scans Microchip Implants in Addition to Accepting Paper Tickets*, BUS. INSIDER (June 20, 2017), https://www.businessinsider.com/swedish-rail-company-scans-microchip-tickets-17-6 [https://perma.cc/4L8E-ZGR3].

43. *Id.*

44. Dyllan Furness, *From RFID Implants to Genital Yogurt, Epicenter is the Future's Awesomely Odd Office*, DIGITALTRENDS (Feb. 25, 2017), https://www.digitaltrends.com/cool-technology/epicenter-office-of-the-future/ [https://perma.cc/XN4Z-AE7C].

45. *Id.*

46. *What is RFID and How Does RFID Work?* AM. BARCODE & RFID, https://www.abr.com/what-is-rfid-how-does-rfid-work/ [https://perma.cc/N5UY-UPW2] (last visited Sept. 25, 2022).

47. Nicole Pontius, *What are RFID Tags? Learn How RFID Tags Work, What They're Used for, and Some of the Disadvantages of RFID Technology*, CAMCODE, https://www.camcode.com/blog/what-are-rfid-tags [https://perma.cc/8QDM-W8ZH] (last modified Sept. 21, 2022).

48. *What is RFID | The Beginner's Guide to How RFID Systems Work,* ATLAS RFID STORE, https://www.atlasrfidstore.com/rfid-beginners-guide/#rfidreaders [https://perma.cc/DTL5-PWFB] (last visited Oct. 7, 2022).

49. Pontius, *supra* note 47.

printers, and pay at vending machines without a card.[50] Of the 1,000 employees at the office, a "healthy handful" have opted to be chipped.[51] Epicenter is partnered with over 300 companies around the world, indicating that this movement is far from a one-hit wonder.[52] Moving away from private entities, thousands of Swedes have opted to implant microchips under their skin to aid with building access, payment, and storing important personal data.[53] The outgrowth of "chipping" and the growing application of embedded technology has seen little to no regulation within Sweden, and one company, Biohax International, is even trying to enlist Swedish medical professionals to keep up with demand.[54] Thus, the niche and often scrutinized biotechnology enhancement industry is coming to the mainstream market with global intentions in mind, employing government certified professionals to keep up with demand and ensure satisfactory installation.[55]

Another concern created by EULAs for integrated biotechnology is the so-called third-party doctrine.[56] Under the doctrine, "an individual does not have a reasonable expectation of privacy with respect to information he voluntarily discloses to a third party, like a bank or a telecommunications carrier, and the Fourth Amendment therefore does not regulate the acquisition of such transactional data from those third parties by government investigators."[57] Thus, when a human integrates technology into themselves, and that technology creates data that is accessible by the company that created the technology, bad actors (or government actors, potentially) would have nothing to bar them from attempting a warrantless acquisition of any data created.

50. Furness, *supra* note 34.

51. *Id.*

52. Furness, *supra* note 34.

53. Maddy Savage, *Thousands of Swedes Are Inserting Microchips Under Their Skin*, NPR (Oct. 22, 2018), https://www.npr.org/2018/10/22/658808705/thousands-of-swedes-are-inserting-microchips-under-their-skin [https://perma.cc/3HBV-KK4E].

54. *Id.*

55. *Id.*

56. Wittes & Chong, *supra* note 1.

57. *Id.*

The third-party doctrine is ill-suited to deal with the surveillance issues that will come with integrated technology.[58] As a human, one can adopt the fiction that we have a choice about whether we want to generate trackable and transferrable data, like using a digital telephone or engaging in modern financial institutions.[59] If a person is concerned with the government gathering any of their personal data, they can choose to protect that information from the institutions to which the third-party doctrine applies.[60] However, assuming that a cyborg has integrated technology that creates data inherently through its digital function, issues will arise with the third-party doctrine and how it interacts with a person's choice to keep their information private.[61]

Data surveillance of the cyborg is one issue – data surveillance *by* a cyborg is a separate, equally concerning issue entirely. Recent developments in types of pseudo-sousveillance have achieved admirable results, namely body camera requirements on police officers to identify inappropriate actions committed during police work.[62] While this may seem to be a positive outcome, this development could lead to a dystopian logical end: privacy may cease to exist as we know it with the integration of recording devices into near-future cyborgs. The idea of "privacy in public" may cease to exist given the recording capabilities that near-future cyborgs will enjoy.[63] Everyone will be at risk of being recorded, and thus an invasion of privacy, by everyone.[64]

While there are countless issues that will accompany a cyborg future, one of the most important is the contractual relation between new cyborgs and the companies that gave them the tools and technology to become one.

58. *Id.*

59. *Id.*

60. *Id.*

61. *Id.*

62. *Id.*

63. *Id.*

64. *Id.*

PART II: THE ALMIGHTY EULA

When a person downloads software, the download is often accompanied by a few documents: terms and conditions that the creator of the software asks to be read before the download is complete.[65] Typically, these agreements and licenses are called "clickwrap".[66] Clickwrap is "an agreement that appears when a user first installs computer software obtained from an online source or attempts to conduct an internet transaction involving the agreement, and it purports to condition further access to the software or transaction on the user's consent to certain conditions there specified; the user 'consents' to these conditions by 'clicking' on a dialog box on the screen which then proceeds with the remainder of the software installation or internet transaction."[67] In many cases, these agreements function as an adhesion contract.[68] Adhesion contracts are known as adhesive for their binary nature; adhesion contracts are generally drafted on a take-it-or-leave-it basis by the party with substantially greater bargaining power.[69] For the consumer, this creates a simple choice: agree to our terms, without any possibility for negotiation, or do not use our product.[70] While this does not seem like the kind of bargaining power equality that US contract law tends to support, courts have regarded clickwrap agreements as enforceable, valid contracts.[71]

65. Jessica Guynn, *What You Need to Know Before Clicking 'I Agree' on that Terms of Service Agreement or Privacy Policy*, USA TODAY (Jan. 28, 2020), https://www.usatoday.com/story/technology/2020/01/28/not-reading-the-small-print-is-privacy-policy-fail/4565274002/ [https://perma.cc/5VXU-F28B].

66. Nathan J. Davis, *Presumed Assent: The Judicial Acceptance of Clickwrap*, 22 ANNUAL REV. OF L. AND TECH. 1, 577 (2007).

67. *Id.*

68. *Adhesion Contract*, LEGAL INFORMATION INSTITUTE, https://www.law.cornell.edu/wex/adhesion_contract [https://perma.cc/T6N5-7935] (last visited Sept. 25, 2022).

69. *Id.*

70. *Id.*

71. *See generally* ProCD, Inc. v. Zeidenberg, 86 F.3d 1447 (7th Cir. 1996); Forrest v. Verizon Commc'n Inc., 805 A.2d 1007 (D.C. Cir. 2002); Motise v. Am. Online, Inc., 346 F. Supp. 2d 563 (S.D.N.Y. 2004).

Consumers might be outraged by the lack of autonomy and freedom that these clickwrap agreements allow, if they ever decide to read them. A Deloitte survey in 2017 found that 91% of consumers do not read terms of service or end user license agreements before consenting to them.[72] That number rose to 97% for consumers aged 18-34.[73] Thus, most consumers do not know what they are signing.[74] However, these contracts should not be overlooked.[75] They often contain restrictions that bar a consumer from using the product in multiple locations, bar repairs at nonapproved service facilities, restrict product resale, or ban reverse engineering, among other examples.[76] Businesses have incredible leverage over consumers when it comes to what they can include in EULAs and how a consumer would be able to take appropriate legal action in the event of an abuse of power.[77] Generally speaking, EULAs are held to be enforceable under U.S. contract law. Courts have held EULAs enforceable, since a consumer who does not want to agree to the terms after they have purchased the product or software can stop use or return the product for a refund.[78] Legal scholars have questioned this pattern since many of these terms are provided after the sale.[79]

72. Caroline Cakebread, *You're Not Alone, No One Reads Terms of Service Agreements*, BUS. INSIDER (Nov. 15, 2021, 7:30AM), https://www.businessinsider.com/deloitte-study-91-percent-agree-terms-of-service-without-reading-2017-11 [https://perma.cc/95EN-48VC].

73. *Id.*

74. *Id.*

75. *Id.*

76. Jeff Langenderfer, *End-User License Agreements: A New Era of Intellectual Property Control*, 28 J. OF PUB. POL'Y AND MARKETING 2, 202 (2009).

77. *Id.*

78. *Id.*

79. *End-User License Agreements*, JUSTIA, https://www.justia.com/intellectual-property/copyright/end-user-license-agreements/ [https://perma.cc/CQ7J-BT7D] (last revised Oct. 2021). *Cf.* Chelsea King, *Forcing Players to Walk the Plank*: *Why End User License Agreements Improperly Control Players' Rights Regarding Microtransactions in Video Games*, 58 WM. & MARY L. REV., 1365, 1375-1377 (2017); *see also* James Bonar-Bridges, *Regulating Virtual Property with EULAs*, 79 WIS. L. REV., 79, 86 (2016).

Even with the restriction on consumer freedom that EULAs entail, the incentives that a strong EULA regime provides to manufacturers, authors, and inventors by allowing them to extract the maximum amount of revenue from patented products cannot be ignored.[80] The balancing act between the anti-consumer behavior and the incentives provided to companies bringing products to market will play itself out over the coming years.[81]

Biotechnology devices that are driven by proprietary software often come with EULAs. The starkest example is the "as is" provision generally included with software. A typical example of an "as is" provision reads "You acknowledge and agree that use of the software is at your sole risk and that you are responsible for the use of the software. The software is provided 'AS IS,' [sic] without warranty, duty or condition of any kind."[82] This clause of the EULA indicates that if anything goes wrong with the software after the product is delivered and used by the end user, the company has protected itself against any liability or possibility for suit.

Further, companies generally relieve themselves of all liability for any failures of the software and any damages caused by a failure in the software. An example of a limited liability provision in a EULA is:

> In no event will FlowJo be liable for any consequential, special, indirect, incidental, or punitive damages whatsoever (including, without limitation, damages for loss of business profits, business interruption, loss of business information, loss of data or other such pecuniary loss) arising out of the use or inability to use the software, even if FlowJo has been advised of the possibility of such damages. In no case will FlowJo's aggregate liability arising out of this agreement and/or your use of the software

80. Langenderfer, *supra* note 76, at 207.

81. *Id.*

82. This clause of Sony's general medical device software EULA also expressly disclaims any implied warranties that would generally accompany a contract governed by Article 2 of the UCC. *General Medical Device End User License Agreement*, *supra* note 6.

> exceed the fees actually paid by you for your use of the software under this agreement.[83]

This clause indicates that the company that provides the software forces the consumer to absolve the company of all liability relating to any issues that their software causes, and even if the consumer can find a way to bypass the limited liability provision of the EULA, the company will only payout a refund on the cost of the software or service, regardless of the actual damages that the consumer can show.[84] Since most companies create the software that allows their devices to function for their intended purpose, consumers do not have a choice but to agree to the terms of the EULA in order to use the device or service.[85] By agreeing to use the service, the consumer is relinquishing their right to recover any damages for issues caused the software.[86]

Although parties are free to contract under the terms that they wish so long as those terms are not themselves unlawful, a consumer purchasing a piece of software who agrees to the terms of a EULA may be inadvertently agreeing to relinquish their right to be made whole. Many EULAs include a section that excludes most remedies under the law, restricting the ways that a plaintiff may recover in the event of a breach of the EULA by the private entity. A typical clause reads similarly to the one found in Microsoft's Windows 10 Terms of Use:

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83. *FlowJo End-User License Agreement (EULA)*, FLOWJO, https://www.flowjo.com/solutions/flowjo/eula [https://perma.cc/3SXH-H54W] (last visited Oct. 20, 2021). *See generally End-User License Agreement*, XCELPROS, https://xcelpros.com/products/end-user-license-agreement/ [https://perma.cc/W2U9-2UM5] (last visited Oct. 30, 2021); *MesaSure End-User License Agreement*, MESASURE, https://www.auderenow.org/mesa/mesasure/eula [https://perma.cc/U9ZY-LM9M] (last visited Oct. 31, 2021); *Microsoft License Terms*, MICROSOFT, https://www.microsoft.com/en-us/Useterms/OEM/Windows/10/Useterms_OEM_Windows_10_English.htm [https://perma.cc/3EC4-KW2W] (last updated July 2017).

84. *Id.*

85. Annalee Newitz, *Dangerous Terms: A User's Guide to EULAs*, ELECTRONIC FRONTIER FOUND. (Feb. 17, 2005), https://eff.org/wp/dangerous-terms-users-guide-eulas [https://perma.cc/H3TU-KK67].

86. *Id.*

> Except for any repair, replacement, or refund that Microsoft, or the device manufacturer or installer, may provide, you may not under this limited warranty, under any part of this agreement, or under any theory, recover any damages or other remedy including lost profits or direct, consequential, special, indirect, or incidental damages. The damage exclusions and remedy limitations in this agreement apply even if repair, replacement, or a refund does not fully compensate you for any losses, if Microsoft, or the device manufacturer or installer, knew or should have known about the possibility of the damages, or if the remedy fails of its essential purpose.[87]

This clause is a startling abuse of power by the creator of the software. Limiting remedies provides the company a way to provide damages inadequately (as admitted by the EULA) in the event that a plaintiff defeats the bulwark of legal indemnification that EULA provides to the creator of the product.[88] Even if the plaintiff gets to the courtroom and wins, they may still be left without damages. This term of the EULA admits that even if the company is at fault in the suit, is successfully sued, and must pay damages, the plaintiff has already contracted away their right to be made whole.[89] This assertion is assuming that the consumer can even get to the court room to claim damages, which other provisions of the EULA often restrict.

Companies also create unilateral termination leverage when a consumer violates a specific EULA provision. An example of a typical termination clause is "Without prejudice to any of its other rights, SBT may terminate this EULA if you fail to comply with any of its terms. In case of such termination, you must: (i) cease all use, and destroy any copies, of the software; (ii) comply with the requirements in the section below entitled 'Your Account Responsibilities.'"[90] This clause allows a company to entirely revoke the right to use a software if there is a single violation of the EULA, regardless of severity or scope. This clause will likely be one of the most impactful for the integrated technology EULA,

87. *Microsoft License Terms*, *supra* note 83.

88. *Id.*

89. *Id.*

90. *General Medical Device End User License Agreement, supra* note 6.

as a loss of function to an essential piece of biotechnology could be devasting to an individual who depends on that biotechnology for quality of life or even life itself. Since most of the terms of a EULA are written in extremely vague language, this clause gives companies a way to terminate the terms of a EULA for as many reasons as can be interpreted from the purposefully vague language. Unclear agreements damage consumer expectations and protections from the mandatory contractual agreement. The only alternative is not using the product at all.

The "right to repair" term within EULAs is one of the hot button issues in the relationship between companies and technology.[91] "Right to repair" and alternatively "right to tinker" movements oppose material obsolescence.[92] Material obsolescence encompasses the many practices that companies use to increase profit margins by the purchase of new products.[93] Some of the main strategies used to produce material obsolesce are as follows: first, making the product intentionally hard to repair, or making the tools required to repair the product hard to acquire and not providing any information on how to repair the product if the tools are easy to acquire.[94] Second, companies make parts incompatible with other (normally newer) versions of the product.[95] Third, right to repair restrictive covenants are used in EULAs to limit how a consumer can repair a company's product through aftermarket support.[96] An example of the issue that the covenant creates occurred in Nebraska, where farmers experienced problems with John Deere equipment and tractors. In one of the most high-profile examples of the limitation of right-to-repair terms, "John Deere Tractors rely heavily on copyrighted software subject to a EULA, and repairing a physical device

91. Sandra Lee, *Connected Devices and the Right-To-Repair Movement*, LEXOLOGY (Dec. 7, 2017), https://www.lexology.com/library/detail.aspx?g=514cc9c9-fd13-4fa4-b085-85fc4f61c221 [https://perma.cc/BBG6-EEV5].

92. Masayuki Hatta, *The Right to Repair, the Right to Tinker, and the Right to Innovate*, 19 ANNALS OF BUS. ADMIN. SCI., 1, 5–7 (2020).

93. *Id.* at 6.

94. *Id.*

95. *Id.*

96. Lee, *supra* note 91.

increasingly also requires access to the device's software."[97] Farmers who purchased John Deere tractors tried to make repairs to their tractors on their own.[98] However, the EULA provided with the tractors prevents them from making any repairs without a John Deere-approved technician inspecting the tractor, leading to roadblocks in what should be a relatively short and self-sufficient repair.[99] Thus, the right-to-repair term inhibits a consumer's ability to fix a product without contracting for repair services, and if they do need to contract for repair services, they are forced to choose a technician or institution that the company who designed the product prefers. This creates unnecessary delays and costs for the consumer, and creates a way for companies to bottle-neck their product into a contracted monopoly of repair services, unless the end user decides to break the terms of the EULA and suffer worse consequences than just a delay or repair fee.[100]

Manufacturers argue that the restriction on right to repair protects the consumer from danger in repairing ever more complicated technology, promotes economic efficiency through boilerplate agreements, and incentivizes innovation in the space through higher profit margins.[101] While these arguments make sense, the premise assumes an incorrect dichotomy. A middle ground exists where consumers can more easily repair their own devices, while also allowing manufacturers to protect themselves from liability. The right to repair movement asks that consumers are able to repair and tinker *if they chose to*, rather than removing the creator entirely.

Companies update software from time to time by sending new versions of the software to consumers over the internet.[102] EULAs can account for updates and changes for terms and conditions

97. *Id.*

98. *Id.*

99. *Id.*

100. *Id.*

101. Ayush Jalan, *6 Arguments Against Right to Repair that Make Sense,* MAKEUSEOF (Nov. 15, 2021), https://www.makeuseof.com/arguments-against-right-to-repair/ [https://perma.cc/ALN6-VBDH].

102. *Microsoft Services Agreement*, MICROSOFT (Apr. 1, 2021) https://www.microsoft.com/en-us/servicesagreement [https://perma.cc/7ZL3-7LTS].

with clauses that govern those changes.[103] A typical example of an update clause is shown below:

> We may change these terms at any time, and we'll tell you when we do. Using the Services after the changes become effective means you agree to the new terms. If you don't agree to the new terms, you must stop using the Services [and] close your Microsoft account . . . [104]

The terms in this clause indicate that to begin using a product, the consumer needs to agree to any future changes in the EULA or terms and conditions.[105] The consumer also agrees that they will terminate their relationship with the product if they do not agree to a change in the EULA or terms and conditions.[106] This implicates a classic contract law issue – reliance.[107] If a person uses a product or software and it becomes integral to their existence or to their livelihood, a sudden change in the terms and conditions or EULA that they do not agree with could force them to terminate their use of something that is integral to their existence. This could deprive them of their employment, or more importantly, their life. Further, they may not even know they have accepted the new terms under the parts of this clause that force agreement to the new terms or license by using the product after changes have been made.

The final part of the EULA that that creates problems for users of integrated biotechnology is the data usage clause that is typically included in EULAs that gather data from the user. A typical clause could read: "FlowJo may collect and process Usage Data in connection with the usage of the Software. 'Usage Data' means data related to the user's use of the Software, including without limitation, IP address, MAC address, browser type and version, operating system and interface, version of FlowJo, underlying license information, date and time of FlowJo usage."[108]

103. *Id.*

104. *Id.*

105. *Id.*

106. *Id.*

107. *Reliance*, LEGAL INFO. INST., https://www.law.cornell.edu/wex/reliance [https://perma.cc/B4EU-WRNG] (last updated Dec. 2020).

108. *FlowJo End-User License Agreement (EULA)*, *supra* note 83.

The most startling part of this clause is the vagueness with which the company defines the data that they will have control over. There is no definition of what kind of data that the company can use, only that they can use data without limitation. The EULA also provides "Flowjo agrees it will use Usage Data only for FlowJo's business purposes and for research and development purposes."[109] This creates a data sharing and privacy issue that is hard to justify with the growing concerns about public privacy in relation to how consumer information is monetized and used against consumers in the internet age in selective advertisement and risk assessment.[110] The right to surveil private individuals granted by the terms included is included in EULAs for wide-ranging product types, from continuous positive airway pressure ("CPAP")[111] machines sending information to insurance companies for the purposes of adjusting health insurance premiums based on medical information gathered by the device to Google pushing personalized and specific advertisements to individual users based on data gathered by Google itself, as well as information purchased by Google from various data-gathering third parties.[112]

PART III: CYBORG JURISPRUDENCE

Many of these issues are novel. However, some recent holdings have given hints on where legal precedent may take the relation

109. *Id.*

110. John Laidler, *High Tech is Watching You*, THE HARVARD GAZETTE: BUS. & ECON. (Mar. 4, 2019), https://news.harvard.edu/gazette/story/2019/03/harvard-professor-says-surveillance-capitalism-is-undermining-democracy/ [https://perma.cc/8EZ5-8WV6].

111. *CPAP Machine*, CLEVELAND CLINIC (Nov. 9, 2021), https://my.clevelandclinic.org/health/treatments/22043-cpap-machine#risks--benefits [https://perma.cc/VXD6-U6BV] (noting that a continuous positive airway pressure (CPAP) machine is used to treat obstructive and central sleep apnea, which interrupts breathing during the human sleep cycle and causes a lack of oxygen to various body systems, leading to higher risks for various diseases).

112. Laidler, *supra* note 110; Megan Rose Dickey, *It's Time to Admit the Amount of Information Google Gathers About Us is Terrifying*, BUS. INSIDER (June 18, 2014, 8:50 PM), https://www.businessinsider.com/the-information-google-is-gathering-about-us-is-terrifying-2014-6 [https://perma.cc/59VT-VXVH].

between human and machine. An example indicating the growing reliance and intricacies that our interconnected world presents is *Riley v. California*.[113] In *Riley*, a man was stopped for a traffic violation which eventually led to his arrest on weapons charges.[114] During the arrest, law enforcement officers searched through his cell phone and discovered information that led to a search of his apartment and further charges. The defendant was convicted on weapons and drug charges after the trial court denied his motion to suppress the information that was gained from the warrantless search of his cellphone.[115] The Supreme Court held that this search was unconstitutional under the Fourth Amendment.[116] The Court reasoned "[t]hese cases require us to decide how the search incident to arrest doctrine applies to modern cell phones, which are now such a pervasive and insistent part of daily life that the proverbial visitor from Mars might conclude they were an important feature of human anatomy."[117]

This case was the first time the Court formally recognized that a cell phone, a non-integrated piece of technology, enjoyed Fourth Amendment protections.[118] Further, this case recognized a growing shift in human intimacy with technology, with or without integration or implantation into the body as the phone was granted the same rights that a person has under the Fourth Amendment of the U.S. Constitution in the event of a search.

The Court further expanded the legitimacy of technology privacy in *Carpenter v. U.S.* In *Carpenter*, a defendant challenged a government search of his location using cell towers.[119] The Court reasoned that this case found a grey area between a person's expectation of privacy in their physical location and movements[120] and a person's expectation of privacy in information voluntarily

113. Riley v. California, 573 U.S. 373, 378 (2014).

114. *Id.* at 373.

115. *Id.*

116. *Id.*

117. *Id.* at 385.

118. *Id.* at 386.

119. Carpenter v. United States, 138 S.Ct. 2206, 2212 (2018).

120. United States v. Jones, 565 U.S. 400, 430 (2011).

turned over to third parties.[121] The Court held that the tracking of the defendant's location through cell data violated their Fourth Amendment rights.[122] While the Court made clear that this was a narrow holding that applied only to government searches and that the third-party doctrine regarding voluntary data disclosure was still precedential, Chief Justice Roberts noted:

> Allowing government access to cell-site records contravenes that [privacy] expectation . . . Mapping a cell phone's location over the course of 127 days provides an all-encompassing record of the holder's whereabouts. As with GPS information, the time-stamped data provides an intimate window into a person's life, revealing not only his particular movements, but through them his 'familial, political, professional, religious, and sexual associations.'[123]

The holding in *Carpenter* suggests that the Court is beginning to recognize how essential a piece of technology (in this case a cell phone) is to a human's sense of being and self.[124] These holdings are important, simply for the fact that the highest court in the United States has granted rights to technology because the technology exists almost *synonymously* with the person.[125] The Court may be inclined in the future to extend further legal protections to other pieces of technology that are more integrated with a human being than a smart phone.

PART IV: CYBORG MEETS CLICKWRAP

Cyborg law is in its infancy. The complex legal and technological innovations that will emerge as the 21st century presses on will bring exponentially more difficult problems to dissect, let alone solve.[126] Part IV examines various hypotheticals that could inflame legal issues in regard to the conflict between

121. Smith v. Maryland, 442 U.S. 735, 743–44 (1979); *Carpenter*, 138 S. Ct. at 2209.

122. *Id.* at 2223.

123. *Id.* at 2217.

124. *Id.* at 2218.

125. *See* United States v. Smith, 99 S.Ct. 2577 (1979); *see also Carpenter*, 138 S. Ct. at 2208.

126. Wittes & Chong, *supra* note 1.

current EULAs and future cyborg integration and biotechnology prominence.

The first issue is the "as is" provision of a typical EULA.[127] An "as is" provision protects the seller of a product of any liability for defects that the buyer finds after the purchase of the product. The "as is" provision is potentially problematic when looking at implanted and essential biotechnology. If implanted technology is delivered to a consumer and the purpose of the implant is to deliver life-changing or sustaining care and enhancement to the consumer, an "as is" provision will not be suitable to the patient's reliance on medical care and devices. If the "as is" provision is allowed to remain within an integrated biotechnology EULA, the expectations and quality of life that the consumer can enjoy will be diminished by the fact that the technology will be delivered "as is" without any repercussions. A company could deliver a 14-chambered heart or an IQ-enhancing brain implant that enhances the natural abilities of the cyborg, or a crucial replacement for the thyroid gland that keeps the patient alive and hormonally stable,[128] and if there is a catastrophic issue with any of the software that runs the implants and potentially kills the cyborg, the company could fully escape liability under an "as is" provision if that is included with the software's EULA.

The right to repair clause of the EULA in relation to cyborg law is a much more nuanced conversation. When the implant is integrated into the human being, some would argue that the implant is now synonymous with the human.[129] This creates a philosophical dilemma when talking about the right to repair. Is the implant now governed by the rights and laws pertaining to a human being, namely that a human being can seek care or self-medicate for ailments they feel need addressing without restriction, like bandaging a bruise? Or is the implant a separate piece of technology that is used by the human, retaining rights as a product only, governed by pre-existing laws? This question frames the issues that the right to repair clause creates in relation to cyborgs, but for the purposes of analysis, the technology is

127. *See supra* Part III.

128. *Thyroid Disease*, CLEVELAND CLINIC (April 19, 2020), https://my.clevelandclinic.org/health/diseases/8541-thyroid-disease [https://perma.cc/5UPV-VY6C].

129. Wittes & Chong, *supra* note 1.

assumed to be without the rights that the human enjoys.[130] If the human finds issues with the implants or technology that they have integrated into their bodies, they will likely seek a way to repair the technology. A right to repair clause, or even the authorized shops that many companies require to perform their repairs, would severely hinder the cyborg's ability to find care for themselves.[131] Further, the practices that businesses partake in are detrimental to consumers already in the realm of smartphones and more elective technology.[132] If a life enhancing implant is designed to achieve material obsolescence using any of the practices typically employed by businesses,[133] the impact on those that choose to implant or integrate the technology into their body could be detrimental.

Part V: A New Species of EULA

After addressing the near-future implications of integrated biotechnology, the use and power of end-user license agreements to govern consumer-company relationships, recent developments in cyborg law, and how the power of the EULA will negatively impact integrated biotechnology; it is clear that the EULA in its current form could present catastrophic issues to cyborgs implanted with integrated biotechnology.[134] The lack of liability assumed by companies is not compatible with the intrinsic relationship between the integrated technology and the person.[135] Limited legal remedies provided by mandatory arbitration agreements leave the damaged consumer without adequate means of redress.[136] Additionally, the inability of the cyborg to learn about their technology and the data that it creates in regards to privacy and self-care is detrimental to the person using the technology.[137]

130. *Id.*

131. Hatta, *supra* note 92, at 146.

132. *Id.*

133. *Id.* at 148.

134. *See supra* Part IV.

135. *Id.*

136. *See Supra* Part II.

137. *See supra* Part IV.

The way that the FDA currently regulates medical devices is not sufficient to encompass the complex issues are suggested by a biotechnology-driven market. Today, FDA medical devices are stratified into three classes: Class I, Class II, and Class III devices.[138] These classes denote the different types of testing and verifications that each class of device must receive before entering the market.[139] Class I devices are those deemed less dangerous to the user of the device or the patient being acted upon, and Class III devices are the most dangerous to the user or the patient, with Class II devices falling somewhere in between Class I and III in terms of danger.[140] Most Class I and II devices are exempt from any kind of premarket approval and can be marketed to the public like any other product, medical or otherwise.[141] Most Class III devices require premarket approval, which entails a rigorous course of testing that is submitted to the FDA to ensure that the device is safe for the user and the patient, as well as meeting certain quality and quality control standards.[142] Under this standard of medical device classification, the FDA seems to assume that all of these devices will be used or installed by or under the supervision of a traditional medical professional. However, the implanted biotechnology market will reach outside of the typical clinical environment.[143] Integrated biotechnology will be used and installed by medical professionals *and* can be used and installed by anyone with access to the biotechnology. These implanted biotechnological devices will fall somewhere between an organ transplant and an oil change in complexity and

138. *Device Classification Panels*, FDA (Aug. 31, 2018), https://www.fda.gov/medical-devices/classify-your-medical-device/device-classification-panels [https://perma.cc/EZ68-DRD9].

139. *Id.*

140. *Id.*

141. 21 C.F.R. § 882.1525 (describing a tuning fork as a Class I device under FDA medical device classification); 21 C.F.R. § 882.1350 (describing an electrode that is inserted under the skin as a Class II device under FDA medical device classification).

142. *Premarket Approval (PMA),* FDA (May 16, 2019) https://www.fda.gov/medical-devices/premarket-submissions-selecting-and-preparing-correct-submission/premarket-approval-pma [https://perma.cc/2JQJ-U3GS].

143. *Supra* Part II.

risk. As a result, the classification system currently used by the FDA far too rigid to classify and regulate software-operated biotechnology implants.[144]

Therefore, this Note argues for a different form of EULA called a Biotechnology Licensing Agreement (BTLA). Technology that invokes a BTLA regulation would be defined by a few key characteristics. First, the technology would be designed to be implanted into or attached to a human being. The technology would require considerable effort to remove. Smart watches and other wearable technology would not satisfy the requirements for a BTLA, because they can easily be removed. Examples of this technology include artificial hearts run by software, nerve sensing biomechanical limbs connected to the brain through a neural interface,[145] and ocular implants that allow humans to see in augmented reality, replacing the human eye.[146] Second, the technology would run through software that is proprietary to the device or company that created it or proprietary to a third party. This software is the focus of the BTLA, as the physical device is dependent on the software to function. Third, the device either replaces, enhances, or adds a function to the user that is unattainable through other means.

This analysis will deal with the specific hypotheticals that exist within EULAs today. The first issue that the BTLA will address is the "as is" provision that is common in most software and technology EULAs.

The "as is" provision within most EULAs is a way for companies prevent themselves from incurring any liability from defects that come with the software that they ship.[147] This

144. *Id.*

145. *Engineering with the Brain,* NEURALINK, https://neuralink.com/applications/ [https://perma.cc/CK8W-GBG3] (last accessed Jan. 16, 2022) (explaining that a neural link to the brain allows treatment of neurological disorders and restoration of sense and movement, among some as of yet determined or discovered applications).

146. Sarah Buhr, *Omega Ophthalmics Is an Eye Implant Platform With the Power of Continuous AR*, TECHCRUNCH (Aug. 4, 2017), https://techcrunch.com/2017/08/04/ophthalmics-is-an-eye-implant-with-the-power-of-continuous-ar/ [https://perma.cc/FJ6R-J5EZ].

147. Annalee Newitz, *Dangerous Terms: A User's Guide to EULAs*, ELECTRONIC FRONTIER FOUND. (Feb. 17, 2005),

provision makes sense when applied to other types of consumer software that serves a strictly commercial or entertainment purpose, since those relationships are purely economic. The justification for an "as is" provision is less persuasive when applied to a vital biotechnology implant that performs vital functions for a person.[148] If a company is given to right to profit from biotechnology that they deem fit for integration within a human being, they need to be held liable if they create a substandard product. Thus, according to the new BTLA, a company would not be allowed to include a strict "as is" provision for the software that runs with the implant.

There are two alternatives that could possibly balance the interests of incentivizing companies to innovate and provide these products and software without liability while protecting consumers. First, the BTLA could entirely outlaw any type of "as is" provision to fully protect consumers from any programming or coding errors that come with a new biotechnology implant or integration. Outlawing the provisions would prevent the creator of the technology from disclaiming any implied or express warranty that would typically govern a sale of this nature.[149] Second, the BTLA could allow some disclaimer of liability, without entirely letting the manufacturer off the hook. This middle ground would strike an even-handed balance between incentive to innovate and consumer rights.

The limited liability portion of a EULA is one of the most anti-consumer parts of the agreement when framed against the reliance and inherent importance that comes with integrated biotechnology.[150] Limited liability provisions can leave a consumer without recourse when they are injured by a product that a company has brought to market.[151] A BTLA will address the limited liability issue with a simple limitation on what kinds of damages can be restricted. It would be irresponsible to put a biotechnology company on the hook for business losses or other such damages that could arise from a failure in software. A law

https://www.eff.org/wp/dangerous-terms-users-guide-eulas [https://perma.cc/7FNF-V3UD].

148. Buhr, *supra* note 146.

149. U.C.C. § 2-315.

150. *Supra* Part IV.

151. *Id.*

firm should not be able to sue Microsoft for a rare failure by Microsoft Word that hurts a client deal. However, if the damage is more personal and more vitally affects the person that has the implanted technology or biotechnology, the BTLA will not allow companies to disclaim any of the typical warranties that normally accompany a product sold.

While this solution would favor the consumer and protect from defects in an integral implant or integration, this bright line solution creates an incentive issue. Forcing a company to bear any liability would create a negative incentive for a company to innovate in the biotechnology sphere.[152] However, a recent consumer trend has made this analysis more nuanced. As technology has become more complex and more dangerous, some companies have taken the initiative to combat any type of catastrophic liability that may come from these developments.[153] Some companies now make the safety of their products not just a feature, but the primary selling point.[154] Risk perception is one of the most powerful forces that can influence how safe a company will try to make a product that it sends to market.[155] Namely:

> Our understanding of the risks associated with emerging technologies improves over time, shaped by scientific progress and accidents. When there is a large increase in risk perception, which is often driven by high-profile accidents or lawsuits, users are often willing to experiment with technology and products that are high on safety but low on other quality dimensions.[156]

In a less clinical sense, how measurably safe a product is does not affect public perception of the product.[157] Rather, large public

152. Alberto Galasso & Hong Luo, *Risk Perception, Tort Liability, and Emerging Technologies*, BROOKINGS INST. (Mar. 23, 2021), https://www.brookings.edu/research/risk-perception-tort-liability-and-emerging-technologies/ [https://perma.cc/6XHW-RUDQ].

153. *Id.*

154. *See e.g. Cardiovascular Product Advisories*, ABBOTT, https://www.cardiovascular.abbott/us/en/hcp/product-advisories.html [https://perma.cc/5P25-D2F6] (last visited Oct. 8, 2022).

155. Galasso & Luo, *supra* note 152.

156. *Id.*

157. *See id.*

trials, settlements, and accidents drive the collective consumer mind to decide on a product or software's reliability. This data presents a novel view on incentivizing innovation. Forcing a company to bear liability for all accidents will not affect their willingness to innovate or enter a specific scientific space, as consumers are mostly influenced by catastrophic and high profile incidents.[158] Thus, enforcing heavy liability on companies for integrated biotechnology that they offer to the public could be a fantastic incentive for the market to dictate the safety level that the companies need to meet, while ensuring that those injured by faulty or poorly designed biotechnology are compensated for their injures.[159]

The right to repair clause of a typical EULA hinders the ability of a consumer to fix their own products and enables a company to bottleneck the repair process through authorized dealers to increase revenue streams.[160] To address the issues that a right to repair clause would create when a cyborg wants to repair or modify their integrated technology themselves, the BTLA will acknowledge that due to the importance of implanted technology and the consequences that could occur if a brain or heart implant is repaired by a technician that does not have the expertise, training, or tools to perform a safe and effective repair. A right to repair clause can still exist within the BTLA; however, the restrictions will not be decided upon by the company that writes the BTLA. Instead, this Note argues for a new department of the FDA regarding biotechnology implants, the Biotechnology Alteration Bureau ("BAB"). The BAB would have sole discretion to approve repair shops that meet the technological and repair-based requirements that would be essential to ensuring adequate care when working on biotechnology implants. This solution allows for a balance between the kind of quality and precision that is likely necessary for alterations or repairs to the complexity of technology that will be receiving the modification, repair, or upgrades, while allowing the consumer greater flexibility in determining how and when to get their biotechnology repaired. The process for becoming a recognized repair shop for

158. *See generally id.*

159. *Id.*

160. Elizabeth Chamberlain, *What Is Right To Repair?*, IFIXIT (June 9, 2022), https://www.ifixit.com/News/61140/what-is-right-to-repair [https://perma.cc/J5QH-4KPM].

biotechnology implants will function in a similar way to the application to become an independent Apple repair provider.[161] However, instead of a private entity accepting and reviewing the application, the BAB will perform the audit.[162] This will prevent businesses from leveraging their own interests in deciding who gets to repair their devices, while also ensuring that the images of businesses and biotechnology in general are protected from poor repair work.

If a consumer wants to do the modifications themselves, without the use of a BAB approved repair shop, they would still have that right, as their autonomy as a human would normally grant in regards to their own treatment and care. The BAB and BTLA would allow for a consumer to fully waive their rights in the event they want to upgrade, repair, or modify their biotechnology implant or software. The company that created the technology would still be required to provide support and knowledge if there is an issue with the modification that the cyborg is trying to complete, but the waiver would shield the company from liability in the event of a customer caused issue with the repair or modification.

For a cyborg with lifesaving biotechnology, loss of that technology without choice is literally a death sentence. Unilateral termination clauses that allow a company to terminate service without warning are problematic for obvious reasons. A violation of the EULA should not allow a company to cease service to software that powers a cyborg's brain, heart, or other vital functions. A BTLA for lifesaving technology will not contain a unilateral termination clause will be present. Enhancement or elective implants that would not have a fatal effect if turned off will still be allowed to include a termination clause, since the risk of harm to the patient is significantly lower.

The final issue that the BTLA will address is the constant revisions that companies make to software and how a new EULA can accompany the update with new terms. Companies still need to be able to update terms to their licensing agreements as they see fit due to altering marketplace conditions, changes in legislation, and unforeseen circumstances that need to be

161. *See generally* APPLE, *Independent Repair Provider Program*, https://support.apple.com/irp-program [https://perma.cc/U2H6-MGYW] (last visited Oct. 7, 2022).

162. *Id.*

addressed. However, the consumer needs a chance to accept or refute these changes to their licensing agreement without duress.

The simplest solution to this issue also happens to be the most effective: forcing companies to continue support of old terms and conditions and EULAs. When a piece of biotechnology is sold with a BTLA attached, it will come with a clause that provides certainty to the consumer about their future use of the product or the software that powers the product. Technology deemed lifesaving by the BAB will be exempt from any clause that requires acceptance of a change in terms to continue using a software. The risks and cost of removing and replacing an implant with serious or even fatal effects outweighs any desire by a company to change a part of their licensing agreement. However, enhancing or enabling implants will be treated differently under the BTLA regime.

If there is an update to the BTLA that the company wants to push through, a consumer will have a choice on what they want to do with the new terms. The consumer can choose to accept them, and the software will continue to function as it did with no interruption. However, if the consumer does not agree to the new terms that the company provides, they will be able to file a BTLA hold with the company. If a hold is filed, the company will be forced to support and honor the old BTLA for one calendar year after the hold is filed by the user of the biotechnology implant. After the year is up, the company can stop service for the old version of the software. The year-long hold allows consumers to look for alternatives to their biotechnology implant.

The EULA as it currently exists is not sufficient to deal with the approaching issues with integrated biotechnology. Using the BTLA to change how the consumer interacts with the software provider will allow for safer and more consistent interactions between the two. The BAB will allow for more personal choice within the self-modification sphere that people will often participate.

Conclusion

Our cyborg future is approaching quickly, and the law is going to meet that future head on. Whether it be the ability to perceive color, replace flesh with technology, or record everyday activity through the eyes, the possibilities for what a person will entail as near-future cyborgs enter the fray are endless. Current

contract law separates the user or consumer from the product with restrictive terms that prohibit a human's use of the company's product, and for good reason. But when the person becomes inseparable from the product, a modern EULA fails to meet the needs and demands of the cyborg.

The BTLA provides solutions to some of the concerns that could materialize in the near-future. It provides a consumer-friendly view on the technology that will be integrated with humans more intimately than any consumer good to date, while providing companies with the incentive to innovate in the cutting-edge space of integrated and implanted biotechnology. The BTLA will provide guidance in the ever-changing sphere of biotechnology so that we all, cyborg or not, may live long and prosper.