

## Outside Counsel

## Expert Analysis

# Rights of Cyborgs: Is Damage To Prosthetic a Personal Injury?

From time immemorial, our common law has provided one set of remedies for damage to one's property and another set for damage to one's person. While the latter allows the full gamut of recovery including pain and suffering, lost earnings, medical expenses, lost enjoyment of life and loss of consortium, the former merely allows recovery of the property's repair or replacement value. One cannot even recover for the sentimental value of property.<sup>1</sup> Yet today, many of us depend on our devices to perform all the normal tasks of living, such as walking, talking, hearing and seeing. Damage to these prosthetics can leave a person without the ability to work or perform activities of daily living until that prosthetic is repaired. As demonstrated in this article, there is arguably a new suspect class in need of protection—cyborgs.<sup>2</sup>

A 2014 article in *Spectrum*, a publication of the Institute of Electrical and Electronics Engineers, reported on the prosthetics developed by Hugh Herr, who at the age of 17 lost both

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his legs to amputation in a mountain-climbing accident. Three decades after his accident, Herr walks on bionic limbs he created as director of the bio-mechatronics group at MIT. His prosthetics allow him to function normally, run and even rock climb. Herr is quoted in the article as saying he believes that the concept of physical disability will be eliminated entirely in the coming decades.<sup>3</sup>

The age of the cyborgs is upon us. State-of-the-art prosthetics communicate directly with the human nervous system. Amputees can anticipate the ability to move a prosthetic as naturally as they would a regular body part. These prosthetics are activated by electrical signals from muscles just above the prosthetic, which provide instructions to the microprocessors. The next generation of prosthetic will not only allow a person to mentally direct the prosthetic, it will provide sensory feedback. Herr envisions the day when "amputees...feel the grass beneath their prosthetic toes.... When that happens it will not matter

what [the prosthetic] is made of, it will be you...I feel, therefore I am."<sup>4</sup>

This integration of man and machine will provide new challenges in the area of tort law as the distinction between property damage and personal injury blurs. A person with a damaged prosthetic may not experience pain and suffering, but he is capable of suffering many damages typically associated with personal injury, such as lost enjoyment of life, lost earnings and the need for hired assistance.

### Workers' Compensation

Long before the term cyborg was coined in the 1960s, courts and legislatures have grappled with how to categorize an injury to a prosthetic. In an early case, *London Guaranty and Accident Co. v. Industrial Commission of Colorado*<sup>5</sup> the Colorado Supreme Court held a wooden leg is a man's personal property for which he could not be awarded Workers' Compensation. This view held through most of the 20th century.

In *National Union Fire Insurance Company of Pittsburgh, Pennsylvania v. Janes*,<sup>6</sup> the breaking of a metal plate used to repair a femur did not qualify for Workers' Compensation in Texas since the metal plate was a "static, inanimate thing."<sup>7</sup> In the late 20th century, most state Workers' Compensation statutes and the

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Federal Employees' Compensation Act (FECA) were amended to make damage or loss to a prosthetic device a compensable injury.<sup>8</sup>

These statutes however, only typically allow recovery if the damage was incidental to a bodily injury. Thus, if a worker suffers an employment injury only to his prosthetic, he has no compensation claim even if the injury caused temporary disability.

Even where a statute considers damage to a prosthetic an injury, a worker cannot claim temporary disability. Section 13(a) of the New York Workers' Compensation law states:

(a) Damage to or loss of a prosthetic device shall be deemed an injury *except that no disability benefits shall be payable* with respect to such injury under section fifteen of this article (emphasis added).

In *Seckman v. Wyo-Ben*,<sup>9</sup> where the statute did not prohibit disability benefits for an injured prosthetic, the plaintiff made a claim for permanent disability for a damaged prosthetic and sought 140 weeks of compensation. Although the court visualized a situation where "a claimant could receive an award for the loss of use of an existing prosthesis" it denied the claim for a permanent disability since damage to a prosthetic is never permanent.<sup>10</sup> The claimant apparently did not claim a temporary loss of the prosthetic, which while less lucrative, would have made a more persuasive argument.

### Tort Law

In the field of tort law, there has yet to be a published case where a litigant sought to expand available damages for a damaged prosthetic. Since prosthetics are personal property the only existing legal remedies for their damage is the cost of repair/replacement. If someone damages your car you

cannot recover for your lost enjoyment of life while it's in the shop.

Yet it is easy to imagine a scenario where the property/injury distinction would cause significant unfairness, such as where a person dependent on a device loses his independence when the device is damaged. Linda MacDonald Glenn, an attorney and bioethicist, handled such a case, and her written account of it inspired this article.<sup>11</sup>

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Glenn's client was a veteran quadriplegic, entirely dependent on a power mobility assistance device (MAD) for traveling and to protect against hypotensive episodes. In October 2009, his MAD was damaged beyond repair by an airline leaving him bedridden for 11 months while he awaited its replacement. The airline did not declare the MAD a total loss until December 2010. During this time he was unable to run daily errands including trips to the pharmacy, supermarket, post office and bank. He had to hire people to perform these errands. The experience not only robbed him of his independence and enjoyment of life, it left him with bedsores. Notwithstanding, the airline only offered him the \$1,500 replacement value for the MAD. To the airline, the accident was akin to damaging his car.

In her paper, Glenn wrote: Educating the adjuster proved to be a challenge; she was not aware of the difference between

a wheelchair and MAD. She kept asking why Mr. Collins could not use a manual wheelchair. Finally, after a video demonstration of the extensive differences, the adjuster began to realize the sizeable difference and impact. The video demonstration also helped to explain that the MAD was a prosthetic and operated as an extension of Mr. Collins' body, functioning as his lower limbs and lower torso muscles. We explained that modern day prosthetics no longer consist of inanimate separate objects; that interactive prosthetics are the new normal: implants, transplants, embedded devices (e.g. pacemakers), nanotechnology, neural prosthetics, wearables, and bioengineering. And the interactive prosthetics are changing who we are, physically—who would Stephen Hawking be without his assistive devices? The MAD was an extension of Mr. Collins; by harming his MAD, the harm extended to Mr. Collins.

Eventually, the adjuster understood that despite there being no prior precedent supporting Collins' claims, the case had more value than the mere replacement of the MAD. Her client was offered \$20,000 which he accepted due to his dire circumstances. Glenn concluded her paper noting:

We will continually incorporate more and more computer technology into our lives, and ourselves, until we become one with it. Our lawmakers and policy makers need to consider the impact of personhood-property boundaries changing.

### Progress Brings Questions

Now that the rights of the LGBT community have been widely taken

up and broadly recognized, perhaps next in line for equal protection will be those humans who by necessity or choice have merged with their machines—who have for lack of a better word become cyborgs. To the extent such a movement takes hold it will likely grow out of the conflict raging between amputees and the insurance industry.

Although insurance plans differ in scope, if someone needs an operation to save his leg, arm or eye, his medical insurance will pay for the treatment, as long as it is medically “necessary,” subject only to the policy’s deductible and coinsurance provisions. Prosthetics coverage, however, is not part of this basic coverage. It is incidental, subject to caps and only covered to the extent the prosthetic is “necessary.” This naturally raises the question whether a neural prosthetic costing \$40,000 to \$65,000 is medically necessary. A neural prosthetic is “any electronic and/or mechanical device that connects with the nervous system and supplements or replaces functions lost by disease or injury.”<sup>12</sup> The question is often moot since many policies have annual and lifetime caps, sometimes for as little as \$2,500-\$5,000.

Such policies may have been sufficient in past decades when prosthetics were merely another kind of “durable medical equipment,” similar in price and kind to wheelchairs and orthopedic braces. But a chasm has opened between what amputees and insurance companies consider a “necessary” prosthetic.

While it is easy to side with the plight of the amputee, there is no easy solution to the dilemma. Should insurance companies be obligated to pay for the top-of-the-line prosthetic for every amputee? When controlling the cost of health care is foremost in the minds of policy makers, man-

dating neural prosthetics for every amputee may not be politically or economically feasible. The most expensive prosthetic also may not be the most reliable or durable. And once a neural prosthetic is provided, should there also be a mandate requiring regular upgrades and/or replacements, and if so, at what frequency and cost?

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While standard prosthetics are typically used for years, neural prosthetics will, like other technological devices, quickly become obsolete. As John Niman, an Affiliate Scholar for the Institute for Ethics and Emerging Technologies, commented, “[a] cutting-edge prosthetic limb in 2020 might well be half as efficient as a limb created in 2022, a quarter as efficient as a limb in 2024, and so on.”<sup>13</sup>

The cost issue may, however, not be as intractable as it sounds, since unlike traditional health care services, neural prosthetics will continually drop in price as the industry matures. The insurance industry should keep this in mind as it reassesses its underwriting in order to take into account the technology and changing expectations of the public.

It is apparent the pace of technology is outstripping society’s ability to evolve timely solutions. The plight of Collins and his MAD is dramatic evidence. There has been a sudden shift in the world, one society seems ill prepared for. The renowned inventor

and futurist Ray Kurzweil has long predicted, and is now advising that we are entering what he calls “the knee in the curve” where the rate of “technology begins to rise almost vertically, a perpetual doubling, that will negate the linear models of progress that people have relied on for so long.”<sup>14</sup> Kurzweil warns the progress will be so great it will “appear to rupture the fabric of human history.”

While technology is subject to Moore’s law,<sup>15</sup> the realms of social policy-making are not. While computers and the Internet make lawyers, politicians and businessmen more productive, they may be unable to keep pace with the coming technological explosion. The legal, ethical and technological questions of the near future are daunting. In order to keep up we will either need time-travelling cyborg lawyers from the future, or we may have to merge with our own machines and join the cyborg revolution.

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1. *Twersky v. Pennsylvania R. Co.*, 152 Misc. 300, 273 N.Y.S. 328 (1st Dept. App. Term, 1934).

2. Cyborg is defined as a fictional or hypothetical person whose physical abilities are extended beyond normal human limitations by mechanical elements built into the body. [http://www.oxforddictionaries.com/us/definition/american\\_english/cyborg](http://www.oxforddictionaries.com/us/definition/american_english/cyborg)

3. “We Will End Disability by Becoming Cyborgs—Neural interfaces and prosthetics will do away with biology’s failings,” by Eliza Strickland, posted 27 May 2014; <http://spectrum.ieee.org/biomedical/bionics/we-will-end-disability-by-becoming-cyborgs>.

4. <http://spectrum.ieee.org/biomedical/bionics/we-will-end-disability-by-becoming-cyborgs>.

5. 80 Colo. 162, 249 P. 642 (1926).

6. 687 S.W.2d 822 (Tex. App. 1985).

7. *Janes*, 279 S.W.2d at 318; See also *Lail v. Richland Wrecking Co.*, 280 S.C. 532, 313 S.E.2d 342 (S.C. App. 1984); *Behl v. General Motors Corp.*, 25 Mich.App. 490, 181 N.W.2d 600 (1970) (hearing aid); *Geiger v. Bell Aerosystems Co. Division*, 54 Misc.2d 1049, 283 N.Y.S.2d 906 (1967).

8. 9A Couch on Ins. § 136:57; *Larson, Workmen’s Compensation Law*, Vol. 1B, Sec. 42.13 (Matthew Bender, NY 1990).

9. 783 P.2d 161 (Wyo., 1989).

10. Section 27–12–403(a), W.S.1977.

11. “Case Study: Ethical and Legal Issues in Human Machine Mergers (Or the Cyborgs Cometh), *Annals of Health Law*,” 175 (2012). Available at <http://lawcommons.luc.edu/annals/vol21/iss1/16>.

12. <http://medical-dictionary.thefreedictionary.com/neural+prosthesis>

13. <http://ieet.org/index.php/IEET/more/Niman20130502>.

14. <http://www.cnn.com/2011/US/03/08/vbs.singularity.kurzweil/>.

15. Moore’s law is the observation that, over the history of computing hardware, the number of transistors in a dense integrated circuit doubles approximately every two years. See [http://en.wikipedia.org/wiki/Moore's\\_lawspec](http://en.wikipedia.org/wiki/Moore's_lawspec).