

Who Owns You? The Corporate Gold Rush to Patent Your Genes

By David Koepsell

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The Human Genome Project (“HGP”), an international effort to map the human genome, was completed in 2003. By the completion of this project, scientists had mapped a substantial percentage of the genes comprising the human genome. Because the project was publicly funded and aimed to aid biologists and researchers in genetics studies, any genes identified during the project became part of the public domain and forfeited patent protection. In reaction to the rapidity with which genes were becoming part of the public domain, private corporations began their own human genome projects in efforts to patent genes. These privately funded projects resulted in a sizeable portion of the human genome falling under patent protection. These gene patents present obstacles to individuals and organizations conducting genetic research because they must pay royalties to conduct research on patented genes.

David Koepsell, in *Who Owns You: The Corporate Gold Rush to Patent Your Genes*¹, draws on his background in law and philosophy and examines gene patenting from multiple angles. Koepsell earned his PhD in philosophy and his J.D. from the University of Buffalo. He has written many scholarly articles concerning law, religion, science and philosophy. He previously wrote the book *The Ontology of Cyberspace: Philosophy, Law, and the Future of Intellectual Property*. He is currently an Assistant

¹ DAVID KOEPSSELL, WHO OWNS YOU: THE CORPORATE GOLD RUSH TO PATENT YOUR GENES, (Michael Boylan ed., Wiley-Blackwell) (2009).

Professor of Philosophy at the Technology University of Delft, in Holland, and a Senior Fellow at 3TU Centre for Ethics and Technology, also in Holland.

Koepsell begins by stating that in order to fully understand gene patenting, we have to understand genes, individuals, persons and how they all relate. DNA is our genetic blueprint.² It is a molecule composed of millions of base pairs (three million in humans) and it contains instructions for building and operating an organism.³ These instructions are carried by genes, which comprise our DNA.⁴ In particular, genes carry information for making necessary proteins, which largely determine how we look and function.⁵

Koepsell distinguishes between individuals and persons, explaining that individuals are merely distinct members of their species, while persons are such units that think, reason, and consciously experience their surroundings. Genes almost exclusively shape one's individuality but they shape one's personhood in conjunction with one's environment and life path. For Koepsell's purposes, the important point is that one's genes do indeed largely shape who one is as a person. Given the importance of genes in molding us as rational beings, Koepsell argues that it violates an extra legal sense of justice that corporations can own the very building blocks of our personhood.

However, intellectual property law, the current law regulating gene patenting, does not stem from an extra legal sense of justice, but rather from interests of pragmatism and economic efficiency. Therefore, the legal framework regulating gene patenting is not

² KOEPSSELL, *supra* note 1, at 24.

³ KOEPSSELL, *supra* note 1, at 24.

⁴ KOEPSSELL, *supra* note 1, at 24-25.

⁵ KOEPSSELL, *supra* note 1, at 24-25.

disturbed by injustice alone. Koepsell proceeds to make several arguments for abolishing gene patenting even within the framework of intellectual property.

As the phrase suggests, “gene patenting” falls within the framework of patent law, as opposed to trademark, copyright, or trade secret law. The twin goals of patent law are to provide an incentive for innovation and to ensure that the public benefits from increased access to knowledge. Koepsell argues that gene patenting actually hinders the goals of patent law. The public suffers because genetic research that scientists could have conducted is now restricted because of a patent on a particular gene. Moreover, a company that patents a gene loses motivation to continue innovating with respect to that gene because patent obstacles significantly reduce the likelihood of competition. In other words, gene patenting encourages companies to sit on their patents. However, if patents did not protect genes, competition to patent technologies involving gene sequences, as opposed to the genes themselves, would spur innovation. Moreover, researchers and the public would still have full access to genes.

Koepsell further contends that the primary dichotomy in intellectual property law is that of the idea versus expression dichotomy. One can patent expressions but not ideas. For example, one cannot patent the idea of a table, thereby creating a monopoly on all tables. However, one could patent a particular design for a table. This is also known as the type versus token dichotomy, with types being ideas and tokens being expressions. Typically, intent on the part of the creator is required to make something an expression. Unaltered products of nature, such as genes, are not expressions but rather belong in the world of ideas and therefore do not deserve patent protection.

Given that intellectual property law currently treats gene patenting improperly, Koepsell next focuses on finding a different legal system to regulate this issue. He argues that traditional property law will not suffice, as genes differ too fundamentally from real and personal property. Traditional attributes of real and personal property, such as exclusivity and the state of being rivalrous, do not apply to genes. Nobody exercises dominion over one gene to the exclusion of everyone else, and a person's possessing a gene does not prevent others from enjoying its benefits.

Koepsell argues that the law of the commons adequately applies to genes. The commons is a concept in English common law that refers to any land that is useable by all, such as rights of way, easements, and pastures. Nowadays, the commons refers not just to land, but to any resource that is used by all, and therefore, owned in common by the public. Such resources include lakes, airwaves, rivers, and airspace. Although each individual has his or her own particular genetic makeup, a large percentage of it is similar; as a result, the human genome can be considered collectively owned. The author further notes that there are two types of commons: commons by choice and commons by necessity. Commons by choice means that private owners allow their resources to be used by the public, like a pasture, for example. Commons by necessity refers to resources that because of their nature are incapable of enclosure, such as the ocean. The author categorizes genes and DNA as commons by necessity, referring to DNA's nature to propagate between generations. As genes are part of the commons, corporations cannot privately own them, and therefore, should not be able to patent them.

Who Owns You provides an excellent introduction to the concepts and issues involved with gene patenting. It does not focus heavily on any one particular area, but

rather blends law, science, and ethics together in understanding the issue. That said, the book is not without its flaws. For example, in recounting the development of the law regarding gene patenting, Koepsell refers several times to *Moore v. Regents of the University of California*.⁶ This case stands for the principle that one does not have an absolute right in one's cells. In particular, one has no property rights in cells that have been removed from one's body. Although these principles do figure into the gene patenting debate, they do so only conceptually. Patent law is federal law, and this case was decided by the California Supreme Court, so it is not dispositive on the issue, despite the relevance of the concepts.

Additionally, Koepsell criticizes the aesthetic versus utility dichotomy distinguishing between copyright and patent law as inadequate. Copyright law covers those inventions that are unique in their aesthetic appeal while patent law covers those inventions unique in their utility. In criticizing this dichotomy, Koepsell points to software which blends aesthetics with utility thus evading a clear categorization. He advocates for the idea versus expression dichotomy as superior. While I appreciate the author's contention that the aesthetic versus utility dichotomy fails to address certain gray areas effectively, I object to his using it as a base of comparison to elevate the idea versus expression dichotomy. The aesthetic versus utility dichotomy distinguishes between different fields within intellectual property law while the idea versus expression dichotomy indicates whether something falls under intellectual property protection in the first place. These two dichotomies deal with different layers of intellectual property, and contrasting them for the sake of distinguishing one over the other is inappropriate.

⁶ 793 P.2d 479 (Cal. 1990).

Finally, I found a tension between the author's general tone of merely exploring issues in gene patenting and his decided stance against gene patenting disconcerting. This may be a stylistic issue but one would expect an exploratory work to focus exhaustively on both sides of an issue, as opposed to taking the reader on a journey that just happens to culminate in what the author believes to be true. A work advocating for a particular stance should do so in a clear and direct manner. It could be just that gene patenting is so "patently" unjust that even a purely exploratory work reveals its injustice. Nevertheless, I would recommend this book because of how it effectively blends several disciplines (law, ethics, and science) in discussing gene patenting.