

Reframing Rights: Bioconstitutionalism in the Genetic Age

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Citation: SHEILA JASANOFF ET AL., REFRAMING RIGHTS: BIOCONSTITUTIONALISM IN THE GENETIC AGE (Sheila Jasanoff ed., 2011).

Relevant Legal and Academic Areas: Biological and Life Sciences, Biotechnology, Medical Ethics, and Law

Summary: *Reframing Rights: Bioconstitutionalism in the Genetic Age* assesses the evolving relationship between science and the law. Specifically, the authors focus on how advances in biological sciences and biotechnology in the last century have promulgated changes regarding the legal conception of life and individual rights. Told through a series of case studies, *Reframing Rights* argues these changes in law and science should be considered "bioconstitutional." Topics such as sterilization, DNA testing, and xenotransplantation are among those examined and argued by the authors as demonstrative of constitutionally significant changes that have developed between individuals, science, and the state in recent decades. With such considerable changes, the authors contend, the law must constantly evolve to maintain the balance between individual rights and state authority.

I. Introduction

In *Reframing Rights: Bioconstitutionalism in the Genetic Age*, the focus of the authors' inquiry is on the intersection between biosciences and the law in recent decades. The book's primary author and editor, Sheila Jasanoff, presents the argument that scientific and legal scholarship are not completely separate and conflicting studies. Rather, a great deal of influence and overlap exists between the two, particularly in the emerging fields of biology and biotechnology.¹ With this in mind, Jasanoff and her co-authors propose greater study into the

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¹ SHEILA JASANOFF ET AL., REFRAMING RIGHTS: BIOCONSTITUTIONALISM IN THE GENETIC AGE 1-5 (Sheila Jasanoff ed., 2011).

areas of convergence between science and the law, which they refer to as “bioconstitutionalism”; furthermore, they advocate for legal reforms that properly account for the impact of biosciences and biotechnology on individual rights.²

To illustrate the book’s arguments, Jasanoff and her colleagues explore how different areas of biological or biotechnological focus currently relate to the law and explain why there is a need for change. Accordingly, this review seeks to examine the authors’ assessments. Specifically, the following topics will be addressed: first, a case study involving sterilization practices in California; second, the concept of biopolitics, or the power to govern life, in embryonic stem-cell research and cloning; third, the role of DNA and other forensic technologies in the criminal justice system; fourth, concerns regarding human health in xenotransplantation and the imaginative concept of Genomic Health; and fifth, how the relationship between the people and their governments demonstrates the need for a reformation of legal principles. Once each topic has been discussed, this review will also highlight the significance of the authors’ analyses and present a clear assessment of the book’s argument.

II. Case Study: Sterilization

In the first area of assessment, co-author Alex Wellerstein delves into the intersection of law and biotechnology by examining the practice of sterilization. Specifically, he focuses his study on the state of California and its institutions for the mentally ill, which had produced the largest number of sterilized patients in the first half of the twentieth century.³ However, the

² See JASANOFF ET AL., *supra* note 1, at 4-5.

³ *Id.* at 29.

purpose of Wellerstein's inquiry is to prove, as he hypothesizes, that the record number of sterilizations within California during this period were not solely driven by the popular social ideology of eugenics, which he defines as "the desire to improve the human gene pool by discouraging the reproduction of the 'unfit.'"⁴ Rather, Wellerstein argues that the legal power to sterilize, and how it had snaked its way through California's local medical and social infrastructures, was primarily to blame for the state's egregious record.⁵

As there was no federal statute regarding sterilization practices in the early nineteen hundreds, such laws fell to the hands of the states.⁶ Originally enacted in 1909, California's state statute was amended by the legislature on various occasions, and the result was a law that permitted sterilization for a wide variety of reasons.⁷ The law also granted hospital physicians, administrators, and superintendents a broad amount of discretion in determining if an individual should be sterilized, and did not require a specific explanation be given.⁸ According to Wellerstein, it was evident that the personal beliefs and ideologies of these authority figures easily controlled the decisions about which patients required sterilization.⁹ Thus, it was the inadequacies of the state law that had allowed for this "unchecked authority" to promote this eugenics-like practice.¹⁰

⁴ JASANOFF ET AL., *supra* note 1, at 29-30.

⁵ *Id.* at 30.

⁶ *Id.* at 32.

⁷ *Id.* at 31-36.

⁸ JASANOFF ET AL., *supra* note 1, at 35.

⁹ *See id.* at 42-44.

¹⁰ *See id.* at 53.

Such a discovery is important to the discussion of bioconstitutionalism because sterilization is a popular focus of historical study that demonstrates how the intersection of the biological sciences with the law has instigated social change.¹¹ Moreover, what is evident from this discussion is that social progress mandates that the interdependent relationship between the law and science be realized. With this in mind, the authors move into a more general discussion regarding the government's power to govern life.

III. The Power to Govern Life

The discussion next moves into the realm of biopolitics, a term coined by French social theorist Michel Foucault, which concerns the government's power to govern life.¹² One specific area of focus is the ethical and legal battles that have surrounded embryonic stem-cell research.¹³ According to Jasanoff, the cultural beliefs and ethics of a nation are highly determinative in the substance of the laws that govern this field of research.¹⁴ For this reason, it has been difficult for lawmakers to define the legal status of an embryo. While different nations have settled on different determinations, the United States has been particularly indecisive for a long time.¹⁵ However, through bioethics, certain facets of life have been scientifically defined, which has given the United States the necessary justifications for evoking certain legal parameters.¹⁶

¹¹ JASANOFF ET AL., *supra* note 1, at 31.

¹² *Id.* at 59.

¹³ *Id.* at 62-64.

¹⁴ *Id.* at 61.

¹⁵ JASANOFF ET AL., *supra* note 1, at 67.

¹⁶ *See id.* at 77-79.

To contrast this, co-author Ingrid Metzler addresses in a later chapter the law in Italy, which has barred ‘scientists from “killing” Italian embryos for stem cell procurement.’¹⁷ Such a restriction, she contends, signifies the oppression of the state on the biosciences, which also inhibits the rights of the people.¹⁸ These political contrasts legitimize the idea of bioconstituionalism. Further, it is evident from this discussion that without such a framework for rights, hegemonic forces within a nation could easily be able to overtly and oppressively control the people by limiting their abilities to research and implement medical practices that could be lifesaving.

In the next area of discussion, the authors focus on the practice of cloning. Specifically, co-author Guiseppa Testa examines how the law enabled cloning practices in Britain, Italy, and the United States to be recognized as socially legitimate.¹⁹ Testa seeks to investigate how each nation defines the term “clone,” as well as their respective policies concerning the practice of cloning.²⁰ What is discovered is that the definitions of natural and artificial have varied among nations, which highlights how political cultures are integral to the development of biosciences.²¹ However, of greater importance is that, despite these differences, each nation has demonstrated the need to articulate the public purpose of these developments in cloning, which imposes upon the law the duty to legitimize its existence.²² Thus, it is evident through this assessment of

¹⁷ JASANOFF ET AL., *supra* note 1, at 106.

¹⁸ *See id.* at 106-107.

¹⁹ *Id.* at 85.

²⁰ *Id.* at 86.

²¹ JASANOFF ET AL., *supra* note 1, at 102.

²² *Id.*

cloning, as well as embryonic stem-cell research, that there is an inevitable crossover between the biosciences and the law, which the authors would argue requires a constitutional reformation of individual rights. Further, as the authors seem to suggest, without such recognition of rights, the government may have the unlimited power to govern life.

IV. Modern Technology and the Criminal Justice System

The next concept addressed by the authors is the role of technology in the modern criminal justice system. First, co-author Jay D. Aronson addresses the issue of postconviction DNA testing and constitutional rights.²³ Aronson explains that new advances in “forensic DNA analysis is increasingly being used in postconviction litigation to prove that innocent people have been wrongfully incarcerated.”²⁴ Yet, at the core of Aronson’s assessment are the notions of finality and certainty; in the United States, he explains, an individual can be incarcerated as long as his constitutional rights have not been violated, which demonstrates a preference for finality in legal proceedings rather than certainty of guilt.²⁵ Because there is no fundamental right to DNA testing, the law has been heavily criticized; however, most states as well as the federal government have mandated testing in certain situations through legislation.²⁶ Still, the laws vary from state to state, meaning there is no “ironclad” guarantee of postconviction DNA testing.²⁷

²³ See JASANOFF ET AL., *supra* note 1, at 125.

²⁴ *Id.* at 126.

²⁵ *See id.* at 125-28, 142.

²⁶ *Id.* at 126.

²⁷ JASANOFF ET AL., *supra* note 1, at 127.

For this reason, there is an argument for the expansion of rights that accounts for the possible remedies afforded by technological advancement.²⁸

Whether these rights should be fundamental is highly debated because DNA testing is not infallible and would not necessarily advance justice if it were to be treated as foolproof.²⁹ The flipside to that argument is that strong evidence of innocence does not have to be perfect – any cause for reasonable doubt would be sufficient.³⁰ Through this debate, the growing concern for individual rights is again evident; the law in its current stage would prefer finality for public face rather than certainty of guilt before stripping the individual of his rights. Because of the inadequacies of the law in protecting individual liberties, a compelling argument for bioconstitutionalism and the rectification of rights is apparent.

Following Aronson's discussion of DNA testing, co-author David E. Winickoff next addresses DNA databases, which are "reshaping legal understandings of security, freedom, and identity."³¹ Modern technologies such as the Combined DNA Index System (CODIS), a network that allows federal, state, and local crime labs to electronically exchange DNA profiles, have permitted more thorough and efficient criminal investigations.³² The concern here, however, is whether technology has gone too far in breaching personal privacy, albeit through largely virtual

²⁸ See JASANOFF ET AL., *supra* note 1, at 127-28.

²⁹ *Id.* at 141.

³⁰ *Id.* at 141-42.

³¹ *Id.* at 147.

³² See JASANOFF ET AL., *supra* note 1, at 148.

means.³³ Specifically, it has been argued that government use of new and invasive forensic technologies, such as a DNA database, is a violation of the Fourth Amendment,³⁴ which states:

The right of the people to be secure in their persons, houses, papers, and effects, against unreasonable searches and seizures, shall not be violated, and no Warrants shall issue, but upon probable cause, supported by Oath or affirmation, and particularly describing the place to be searched, and the persons or things seized.³⁵

From the text of the Fourth Amendment, it is evident the concern with the DNA database is that it may constitute an unreasonable search or seizure of one's private genetic material, depending on the context in which the database is used.³⁶ Despite these concerns, judges have continually disagreed over whether DNA databases even require a Fourth Amendment analysis;³⁷ thus, as of yet, there is no clear and accepted argument that DNA databases delve too far into personal privacy as to violate one's constitutional rights.

Currently, judges have discretion in determining on an individual case basis the constitutionality of government forensic inquiry and whether there has been a violation of rights.³⁸ Again, there are competing approaches to the current legal framework; one faction argues that DNA databases and similar forensic technologies are a "lurking dystopia," while others advocate for continued leniency and discretion because of the greater need for public safety.³⁹ Regardless of varying judicial interpretations, one thing is clear: these new

³³ See JASANOFF ET AL., *supra* note 1, at 147-49.

³⁴ *Id.* at 148.

³⁵ U.S. CONST. amend. IV.

³⁶ See JASANOFF ET AL., *supra* note 1 at 149.

³⁷ *Id.* at 151.

³⁸ See *id.* at 164-65.

³⁹ See *id.* at 165.

biotechnologies will continue to bring about changes that will require the government to constantly reassess its laws to ensure the rights of the people are not violated.

From these discussions, it is clear that technological advancements have greatly impacted the criminal justice system in recent decades. As both Aronson and Winickoff point out, there is great concern for how the law currently addresses these changes. Although, in the case of DNA databases, most judges have yet to find individual rights infringed upon to the point that such an intrusion is a constitutional violation, it is clear why there is reason for concern. Furthermore, it is evident that a reassessment of individual rights and their protections, particularly under the U.S. Constitution, will become increasingly necessary as biotechnologies allow greater access into people's private lives, so that the criminal justice system can operate as a stable institution that guarantees the protection of individual liberty. From these discussions of the criminal justice system, the authors next look at health care.

V. Biotechnology and Human Health

The next topic of discussion concerns biotechnologies and health care. First, co-author Mariachiara Tallacchini addresses xenotransplantation, which is “the transplant of cells, tissues, or organs between different species.”⁴⁰ According to Tallacchini, experiments in xenotransplantation began around the 1960s.⁴¹ However, it was not until 1984 that the general public became aware of such experiments – in that year, “Baby Fae,” the infant that survived twenty-one days after she was given a baboon heart, made headlines.⁴² In earlier years, the

⁴⁰ JASANOFF ET AL., *supra* note 1, at 169.

⁴¹ *Id.* at 171.

⁴² *Id.*

practice was highly controversial and arguments against xenotransplantation generally revolved around the ethical treatment of animals.⁴³ There was also a wealth of concerns for individual rights, particularly that of informed consent, because the little known effects posed enormous health risks.⁴⁴

In the United States, xenotransplantation at its infancy was a cause for major public anxiety; the potential for spreading infections, such as AIDS, through the practice was initially very high.⁴⁵ Yet, despite all the concern, xenotransplantation has become an accepted practice throughout the world – primarily because the law has reshaped and resized the risks involved to “resemble ordinary forms of risk.”⁴⁶ Thus, xenotransplantation now serves as a model for how legal changes have accommodated scientific advancements while preserving the integrity of individual and collective rights. Through regulatory orders implemented in nations across the globe, the practice of xenotransplantation has become much safer.⁴⁷

Following the discussion of xenotransplantation, co-author Kaushik Sunder Rajan addresses a concept called Genomic Health.⁴⁸ The appeal of Genomic Health is freedom of choice; using an individual’s genomes, accurate assessments could be made involving individual health risks that would ultimately minimize a person’s particular health risk through preventative

⁴³ JASANOFF ET AL., *supra* note 1, at 169-70.

⁴⁴ *Id.* at 170.

⁴⁵ *Id.* at 173-77.

⁴⁶ *See id.* at 188.

⁴⁷ JASANOFF ET AL., *supra* note 1, at 188.

⁴⁸ *Id.* at 198.

measures.⁴⁹ Currently, such an imaginative and experimental idea has little legal support within the United States.⁵⁰ However, it is clear that Rajan advocates for further inquiry into this line of health care, as well as a possible reworking of the law to allow for its implementation, as the benefits would be enormous.

Clearly, the authors' discussions of biosciences and biotechnology as they relate to health care have unearthed ways in which the law has made once dangerous and experimental methods of treatment safer. At the same time, these discussions have also addressed ways in which the law has yet to consider current experimental methods of research and treatment. This contrast shows that lawmakers have made some strides to improve healthcare as new technologies evolve, but can in some instances be unwilling or unable to act. After an exhaustive discussion of health care, the authors' next take a deeper look into the relationship between the people and their governments.

VI. Between Citizens and Their Governments

After careful analysis of specific advancements within the biosciences, co-authors Robert Doubleday and Brian Wynne address the relationship between citizens and their governments; specifically, they examine public engagement in the sciences and the place of the people in shaping public knowledge.⁵¹ Utilizing the United Kingdom as the focus of study, Doubleday and Wynne examine how much control citizens have over policy choices regarding

⁴⁹ JASANOFF ET AL., *supra* note 1, at 198-202.

⁵⁰ *Id.* at 212.

⁵¹ *Id.* at 241.

biotechnologies.⁵² According to the authors' assertions, it appears the British government, with its own scientific agenda, has been undermining the legitimacy of the public and the agency of individual citizens.⁵³ As Doubleday and Wynne highlight, "[i]n effect, citizens play a role on [the] condition of alignment of their meanings with those already laid down by science and the state."⁵⁴ If true, this assertion further supports the need for a reframing of rights worldwide that address the changes in law and society brought on by the biosciences.

Another point of contention for the authors is the reordering of society that has appeared in recent decades: while genetic understandings of human life have emerged, it has become evident that the "legal and social meanings" are in no way transparent.⁵⁵ Science has become a necessity in society, largely because of the commercial markets and the concept of consumerism; yet the social, political, and economic ramifications of advancement are still unclear.⁵⁶ Thus, co-author Jim Drawta's discussion of the "precautionary principle," which has been implemented throughout Europe is of important note. Although the United States is skeptical about this principle, it is important because it deals with "the scientific uncertainties surrounding the regulation of biotechnology."⁵⁷ Drawta advocates that the precautionary principle is essential because, in factoring risk and predictability, it serves as a legitimate means of regulating the

⁵² See JASANOFF ET AL., *supra* note 1, at 241.

⁵³ *Id.*

⁵⁴ *Id.*

⁵⁵ *Id.* at 3, 256.

⁵⁶ See JASANOFF ET AL., *supra* note 1, at 263, 281-83.

⁵⁷ *Id.* at 263.

biosciences and how they interact with individuals and institutions.⁵⁸ Furthermore, Drawta alleges that, as a careful legal approach to biotechnology, it has distinctive strengths that serve the constitutional needs of the people.⁵⁹ The accuracy of his assertion is evident from the successful use of the precautionary principle in Europe.⁶⁰

Although Drawta provides good reason to suggest the need for the precautionary principle in America, it appears that such a method is just one way to approach the growing relationship between biotechnology and the law. Moreover, the more important message is that advances in biosciences require a profound rethinking of individual rights. Essentially, Drawta's discussion leaves the reader with the stark realization that, in order for society to advance, the law needs to seriously consider how the biosciences affect the freedoms and safeties of the people.

VII. Conclusion

As evidenced by the topics of discussion throughout, it is clear that the book's objective is to address the more significant biological and technological changes in recent decades and demonstrate how they fit into the framework of bioconstitutionalism. Each of the areas assessed strengthen the foundation of the book's central argument, with the first object of observation laying the corner stone. Wellerstein's examination of the sterilization practices in California exemplifies how the lack of a uniform set of constitutional protections allowed for authority figures to abuse power and make decision based upon personal convictions rather than law.

⁵⁸ See JASANOFF ET AL., *supra* note 1, at 263-64.

⁵⁹ *See id.*

⁶⁰ *See id.* at 281-83.

Moving away from the historically popular mode of inquiry, the second area of assessment, regarding embryonic stem-cell research and cloning, addresses a similar concern: the power of the government or other elite political entities to govern life. The following third subject of study highlights how the lack of a “bioconstitutional” framework has allowed the government to exercise, and perhaps abuse, its discretion in utilizing forensic technologies to advance the criminal justice system. The fourth issue of inquiry, the concerns regarding human health in xenotransplantation and the concept of Genomic Health, serves to contrast the government’s willingness and abilities to provide proper legal accommodations for emerging technologies regarding human health. While the law has the reduced risk factors involved with experimental technologies involving interspecies organ transplants, it currently fails to support a project that could prove significantly beneficial to the medical field. Lastly, the fifth entity of examination, the relationship between the people and their governments, serves to tie the book’s central argument, advocating for a constitutional reformation of rights, back together.

As exemplified by the various topics addressed, it is evident throughout the book that the authors’ advocacy for bioconstitutionalism stems from a deeply rooted concern for the preservation and future protection of individual rights. Such freedoms, the authors contend, are very much in danger if the framework of the Constitution fails to keep up with changes in science. In presenting this argument, the authors clearly identify how key technological and scientific innovations of recent decades have affected individual rights and present realistic insight as to what the future may hold. Accordingly, this leaves the reader with the disconcerting realization that a reformation of constitutional rights is necessary to adequately prepare individuals and institutions for a society inescapably linked to biosciences and technologies.