

# CONDEMNED BY BIRTH: THE IMPLICATIONS OF GENETICS FOR THE THEORIES OF CRIME AND PUNISHMENT

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*This article traces debates around relevance of genetics in determining culpability. The chief trends in this regard are illustrated by decisions of the American Courts over the past century, which have moved from applications of blind heredity to sophisticated molecular analyses. Since genetics impacts the basic assumption of “free will” in criminal law, its use as a defence has been examined at length. Finally, this article examines the methods and theories of punishment, and their effectiveness in preventing and penalizing the actions of “genetic offenders”.*

## 1. New Jurisprudence for a New Science?

“Criminals are not born, but the odds at the moment of birth of becoming one are not even.”

-Steven Connor<sup>1</sup>

Since the completion of the Human Genome Project, the impact of genetics has been felt in every sphere of life. In its most beneficent form, genetic research has provided explanations or cures for diseases like thalassaemia, epilepsy, Down’s syndrome and certain types of cancers.<sup>2</sup> On the flip side, however, genetics has brought back the spectre of heredity as a natural, unalterable factor influencing people’s behaviour and abilities. It has successfully put forward scientific evidence of links between parentage and behaviour. In the face of such developments, do legal systems have to change and accommodate in order to preserve their own effectiveness, despite their discomfort with the new science?

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<sup>1</sup> S. Connor, *Do Your Genes Make You a Criminal?*, INDEP., February 12, 1995, 19, quoted in A.R. Evansburg, “*But Your Honor, It’s In His Genes*”: *The Case For Genetic Impairments As Grounds For A Downward Departure Under The Federal Sentencing Guidelines*”, 38 AM. CRIM. L. REV. 1565, 1565 (2001).

<sup>2</sup> *See generally*, B.S. MAHAJAN & M.S. RAJADHYAKSHA, *NEW BIOLOGY AND GENETIC DISEASES* (1999).

Hitherto, every mature criminal system had prided itself on the fact that it did not brand people by birth. Such branding has traditionally been seen as “archaic” and “uncivilized”. For example, in India, the caste system was seen as one such branding, and hence, faced vehement opposition from egalitarian sections.<sup>3</sup>

New advances in genetics have taken the science beyond physiology and have begun providing links between human behavior and attitude and hereditary factors. For example, alcoholism as well as certain types of anti-social behaviour, have now been shown to have a cogent link to genetic factors.<sup>4</sup> For a criminal justice system, this implies that the parentage and genetic make-up of suspects, accused and victims become factors pertinent to take into consideration, for all stages of the criminal process-investigation, prosecution or punishment.

The new criminal jurisprudence that the genetic revolution will give rise to, will have to tread the thin line between genetic segregation as prevalent in the Nazi system, and turning a blind eye to scientific advances. The current attitude of criminal justice, where parentage and heredity are given little or no importance is bound to change in the near future. A symptom of this impending change is the number of cases before American Courts that have used genetic and scientific defences.

The strongest impact of genetics is on “free will”, that has served as one of the cornerstones of criminal law. The question that genetics poses is that when one can prove that one’s actions were not motivated by oneself but by hereditary factors, can one be said to have acted out of “free will”. And how this idea will affect punishment and sentencing of such offenders?

The first section in this article surveys the way in which American courts have dealt with issues of genetics and heredity of behavioural traits raised in criminal trials during the course of this century. The second section deals with the impact of genetics on the assumption of “free will” in criminal law. It discusses the various strategies to accommodate new scientific advances and possible legal responses. The third section focuses on the impact of genetics on punishment. It deals with how the various theories of punishment would react to cooption of genetics in the law and its impact on their effectiveness.

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<sup>3</sup> See generally, M. RADHAKRISHNA, *DISHONoured BY HISTORY: ‘CRIMINAL TRIBES’ AND BRITISH COLONIAL POLICY* (2001); D. D’SOUZA, *BRANDED BY LAW: LOOKING AT INDIA’S DENOTIFIED TRIBES* (2001).

<sup>4</sup> See, J. C. Crabbe, *Genetic Contributions To Addiction*, 53 ANN. REV. PSYCHOL. 435 (2002); M. McGue & T. J. Bouchard Jr., *Genetic And Environmental Influences On Human Behavioral Differences*, 21 ANN. REV. NEUROSCIENCE. 1 (1998).

## 2. “... But She was Born this Way”: Genetics and Criminal Trials:

The concept of a ‘born criminal’ is not new. It has affected both legal thinking and techniques of crime detection for a long time.<sup>5</sup> With the advent of Darwin’s theory of evolution and Mendel’s experiments in heredity, the concept received some scientific backing which later scientists tried to capitalize on.<sup>6</sup> The first scientific theory that dealt with this was that of Cesare Lombroso, who sought to identify criminals by certain physical features they were born with.<sup>7</sup> Lombroso wrote out his theories in his book *The Criminal Man* and has the distinction of being the first person to advocate the scientific study of the criminal rather than the legalistic study of the crime.<sup>8</sup> Lombroso was also the first person to raise the idea that the punishment meted out to criminals should be decided according to the individual biological makeup of the criminal and not the nature of the crime. He suggested that sentences should be administered expert criminal anthropologists who would study the best way to reform the criminal and sentences should be indeterminate depending completely upon the time taken to reform the criminal. However, he also recommended indefinite incarceration or incapacitation for persons he considered “born criminals” who were incapable of reform.<sup>9</sup> Lombroso’s theories were later discredited due to their lack of scientific data and spurious statistical analysis.

### A. 1920s - Simple Heredity: “Weeding Out” by Eugenics

The term *Eugenics* was coined by Francis Galton and it referred to “the science which deals with all influences that improve the inborn qualities of the race... [and] develop them to the utmost advantage.”<sup>10</sup> The Eugenics movement as it started out in England was essentially a harmless attempt at promoting

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<sup>5</sup> Steven I. Friedland, *The Criminal Law Implications of the Human Genome Project: Reimagining a Genetically Oriented Criminal Justice System*, 86 KY. L. J. 303, 321 (1997).

<sup>6</sup> Marcia Johnson, *Genetic Technology And Its Impact On Culpability For Criminal Actions*, 46 CLEV. ST. L. REV. 443, 447 (1998).

<sup>7</sup> Michael Willrich, *The Two Percent Solution: Eugenic Jurisprudence and the Socialization of American Law, 1900-1930*, 16 L. & HIST. REV. 63, 83 (1998).

<sup>8</sup> Lombroso, Cesare, THE COLUM. ENC’PEDIA (2001).

<sup>9</sup> Marvin E. Wolfgang, *Pioneers in Criminology: Cesare Lombroso (1835-1909)*, 52 J. CRIM. L., CRIMINOLOGY & POLICE SCI. 361, 386 (1961).

<sup>10</sup> Robert J. Cynkar, *Buck v. Bell: “Felt Necessities” v. Fundamental Values*, 81 COLUM. L. REV. 1418, 1420 (1981).

healthier breeding practices. However, in the early 20<sup>th</sup> century, eugenics migrated to the United States and was made the basis of punitive and restrictive legislation, coloured by fraudulent scientific backing, racism, and ethnic discrimination.<sup>11</sup>

In the now criticized decision of *Buck v. Bell*,<sup>12</sup> the U.S. Supreme Court upheld the Virginia legislation that provided for compulsory eugenic sterilization, and ordered the sterilization of Carrie Buck who was considered to be the daughter of a feeble minded woman and the mother of a feeble minded child.<sup>13</sup> The reason was that she would only produce socially unfit offspring and hence harm the race. The attitude of the times was reflected in the dictum of Justice Holmes, who observed, “three generations of imbeciles are enough.”<sup>14</sup>

After this decision, twenty states in the US passed eugenic sterilization laws within the next ten years. The implementation of such laws that was low as doubts regarding their constitutional validity still persisted. Between 1927 and 1964 early 60,000 eugenic sterilizations were performed in the U.S.<sup>15</sup>

The effect of *Buck v. Bell* was partially overturned by a 1942 ruling of the U.S. Supreme Court when it refused to accept the application of eugenics to inheritance of criminal tendencies. This was discussed in the case of *Skinner v. Oklahoma*<sup>16</sup> in which the constitutionality of a statute passed by the State of Oklahoma, which provided for the sterilization of “habitual criminals” was challenged. While striking down the statute, the Court noted that there was no scientific proof or common knowledge that proved that certain criminal tendencies are inheritable. This decision ended punitive sterilizations.

The buzz about Eugenics however, continued till the early 1960s. In the interim, Nazis used it to their advantage, passing eugenic sterilization laws modeled on the U.S. laws, as an enabling measure in their genocidal plans in pursuit of a “pure race”.<sup>17</sup>

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<sup>11</sup> M.K. Pelias, N.J. Markward, *Human Genome In The Public View: Genetics, Geneticists, And Eugenics*, 13 ST. THOMAS L. REV. 827, 829.

<sup>12</sup> 274 U.S. 200 (1927).

<sup>13</sup> *Supra* note 10.

<sup>14</sup> *Supra* note 12, 201; *see also, supra* note 5, at 321.

<sup>15</sup> P.A. Lombardo, *Three Generations, No Imbeciles: New Light On Buck v. Bell*, 60 N. Y. U. L. REV. 30, 31.

<sup>16</sup> 316 U.S. 535.

<sup>17</sup> *Supra* note 10.

**B. 1968-75 – Chromosomal Conclusions: The XYY Syndrome**

In 1968, American scientists discovered the “XYY Syndrome”. Males suffering from this syndrome had an extra Y chromosome which was one more than the normal XY combination. Researchers further found that there was a link between the presence of this extra chromosome and anti-social behaviour, in fact, a kind of “hyper-male” aggressiveness.<sup>18</sup> One study noted that in all such persons “intellectual capacity, sexual instincts, aggressive impulses, and emotional responses all showed evidence of immaturity, defective development, or inadequate control”.<sup>19</sup>

The XYY Syndrome was the first genetic defence to be used in criminal trials. In *People v. Tanner*,<sup>20</sup> the Court, concluding that U.S. law did not recognize the concept of a “genetic criminal” rejected the defence on two main grounds. First, it held that the expert witnesses had only proved that criminal behaviour could be one possible manifestation of the syndrome but not a necessary incident of it. Secondly, expert evidence failed to sufficiently establish that the aggressive behaviour seen in the accused was solely due to the chromosomal abnormality.<sup>21</sup>

In *Millard v. Maryland*<sup>22</sup> the defence was rejected on the grounds that the Syndrome could not be classified as a “mental disease or defect” which would then allow for a consideration that the defendant was not in a position to exercise enough control over his actions.

In *People v. Yukl*,<sup>23</sup> the Court commented on the admissibility of genetic evidence and concluded that it had not reached a sufficient level of scientific acceptability to be admissible in Court. The case involved the murder of a young woman by Yukl, soon after he had been released from prison for a similar brutal murder. The defence, seeking to argue insanity, asked for a cytogenetist’s test to analyse the genetic makeup of Yukl to prove that he was aggressive due to his genes. The court, while rejecting the request laid down a qualifying test that is often cited and reads as:

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<sup>18</sup> Richard G. Fox, *The XYY Offender: A Modern Myth?*, 62 J. CRIM. L., CRIMINOLOGY & POLICE SCI. 59, 62 (1971).

<sup>19</sup> M.P.Coffey, *The Genetic Defense: Excuse or Explanation*, 35 WM. & Mary L. REV. 353,361 (1993).

<sup>20</sup> 91 Cal. Rptr. 656 (1970).

<sup>21</sup> *Supra* note 19, at 362.

<sup>22</sup> 261 A.2d. 227 (1970).

<sup>23</sup> 372 N.Y.S.2d. 313 (1975).

“An insanity defence based on chromosome abnormality should be possible only if one establishes with a high degree of medical certainty an etiological relationship between the defendant’s mental capacity and the genetic syndrome. Further, the genetic imbalance must have so affected the thought processes as to interfere substantially with the defendant’s cognitive capacity or with his ability to understand or appreciate the basic moral code of his society.”<sup>24</sup>

Even scientifically, the XYY Syndrome was subsequently discredited because of the unnaturally small sample size and unreliable statistical dependence.<sup>25</sup>

### **C. 1990s – Linking Chromosomal Abnormalities to their Effects**

The most recent connection of a specific gene to violent behaviour was in the case of a deficiency of an enzyme called Monoamine Oxidase A (M.A.O.A.). In a study of four generations of a Dutch family, it was found that all males who lacked the genetic mechanisms to produce this enzyme displayed violent and aggressive behaviour and an increased tendency towards criminal behaviour.<sup>26</sup> It was in an advance over the science of the XYY syndrome because it was more precise – the XYY syndrome pointed to a chromosomal variance, while the M.A.O.A. disorder referred to a chromosomal defect and then directly linked it to a specific chemical disorder which would as a further direct consequence impact individual behaviour.

This deficiency, too, was sought to be used as a defence in the U.S. Courts. In the case of *Turpin v. Mobley*,<sup>27</sup> Mobley was convicted of robbery and murder. On appeal to the Georgia Supreme Court, he sought to challenge his conviction on the grounds that he was denied funds to get experts to test him and find out whether he had an M.A.O.A. deficiency problem given that he had a history of violence in his family.<sup>28</sup>

Once more, the Court pointed out that genetic research was still at a nascent stage. It noted “theory behind the request for funds will not [reach] a scientific

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<sup>24</sup> *Id.* at 319.

<sup>25</sup> Deborah W. Denno, *Human Biology And Criminal Responsibility: Free Will Or Free Ride?*, 137 U. PA. L. REV. 615, 622 (1988).

<sup>26</sup> Cecilee Price-Huish, *Born to Kill? “Aggression Genes” and Their Potential Impact on Sentencing and the Criminal Justice System*, 50 S.M.U. L. REV. 603, 610 (1997).

<sup>27</sup> 502 S.E. 2d 458.

<sup>28</sup> *Supra* note 26, at 612.

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stage of verifiable certainty in the near future and that Mobley could not show that such a stage will ever be reached.”<sup>29</sup>

In the course of a century, genetic sciences have moved from a vague notion of heredity to specific diagnoses that pinpoint particular enzymes, which affect and promote criminal behaviour. Criminal law has remained largely silent to these developments, taking refuge in the nascence of the science. It is a tenuous plank, which will lose its credence as science advances.

### **3. Genetics and the “Free Will” Assumption**

The Human Genome Project<sup>30</sup> has brought with it much clearer evidence between human behaviour. In fact, this has led to a new field of scientific research known as “behavioural genetics” which studies the external manifestations of the genetic structure of individuals.<sup>31</sup> Research in the field of behavioral genetics has asserted claims for a genetic basis of several physical tendencies, including aggression, homosexuality, impulsivity, and nurturing.<sup>32</sup> Almost all the cases that were confronted with a genetic defence, though striking it down for the present, did not rule out its utility for the future, both as a defence as well as a means to determine the extent of the responsibility to be pinned on the accused. Genetics could also be used to predict the likelihood of the accused committing the offence again and hence be a relevant factor in determining her punishment.

Hence what now engages both legal and scientific thinkers is the question of the impact of the genetic discoveries of the last decade on existing criminal systems, and the level of importance they should be given. The main dilemma that now emerges is the need to reconcile the concept of “free will” or autonomy and the fact that a person may be genetically predisposed towards criminal behaviour.

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<sup>29</sup> *Supra* note 27, at 462.

<sup>30</sup> The Human Genome Project is one of the biggest initiatives in genetic sciences. It was started in 1988 and it involves several countries and many eminent scientists. The aim of the project is to identify, record and sequence the approximately 100,000 genes of human D.N.A.

<sup>31</sup> The Official Website of the Human Genome Project, available at [http://www.ornl.gov/sci/techresources/Human\\_Genome/home.shtml](http://www.ornl.gov/sci/techresources/Human_Genome/home.shtml) (last visited October 18, 2005); see also, J. D. McInerney, *Genes And Behavior -A Complex Relationship*, 83 JUDICATURE 112 (1999).

<sup>32</sup> M. A. Rothstein, *The Impact Of Behavioral Genetics On The Law And The Courts*, 83 JUDICATURE 116, 116 (1999).

The concept of “free will” underlies the logic of most criminal systems. This was recognized by the U.S. Supreme Court when it said “belief in freedom of the human will and a consequent ability and duty of the normal individual to choose between good and evil [is a belief that is] universal and persistent in mature systems of law.”<sup>33</sup> This assumption is not scientifically precise or calculated but is often just convenient. As Herbert Packer puts it, “The law treats man’s conduct as autonomous and willed, not because it is, but because it is desirable to proceed as if it were.”<sup>34</sup>

The convenience of this assumption lies in the fact that when society metes out a punishment to an individual, it attaches moral blame on to her for her own actions, for which she is solely responsible and which she herself “willed”.<sup>35</sup>

The “free will” assumption enters a criminal trial in two of its stages. First, in the stage of deciding the culpability of the actor – it is much easier to hold the actor liable if she is found to have been acting voluntarily rather than under the influence of some person or chemical and that she had been capable of exercising her own judgment. Genetic influence could in some cases constitute a defence or excuse, for example, in cases of insanity, intoxication or a plea of superior orders. Secondly, the presence or lack of “free will” is also an important factor at the time of sentencing. In systems that specifically use different theories of punishment, it would provide the rationale behind deciding which theory to use. In others, it would help decide the quantum of punishment.<sup>36</sup>

Determinism is a philosophical doctrine in direct opposition to “free will” that postulates that an individual’s actions are determined by prior causes.<sup>37</sup> Like insanity and diminished mental capacity do now, genetic predisposition would form a deterministic defence. For example, if it can be proved that a certain individual, when subjected to certain stimuli starts behaving aggressively because of genetic factors, it becomes very hard to presume that her actions were free.<sup>38</sup> Hence it would be quite difficult to attach complete blame on to a person if it were proved that she was not able to control her behaviour leading up to the crime, since she did not have the bodily mechanism to do so.

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<sup>33</sup> *Morrisette v. United States*, 342 U.S. 246, 250 (1952).

<sup>34</sup> Matthew Jones, *Overcoming The Myth Of Free Will In Criminal Law: The True Impact Of The Genetic Revolution*, 52 *DUKE L. J.* 1031, 1035 (2003).

<sup>35</sup> *Supra* note 5, at 326.

<sup>36</sup> *Supra* note 34, at 1037.

<sup>37</sup> *Supra* note 5, at 331.

<sup>38</sup> *Supra* note 34, at 1041.



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Allowing genetics into the criminal justice system would mean replacing the importance of individual psychological decision making with biological modes of conduct.<sup>39</sup> Further, it would mean that if an individual's behaviour could be completely defined in terms of her genes, the law would have to construct a concept of "normalcy" which would not be related to the particular circumstance of the case but to the individual involved, and judge criminal liability by that.<sup>40</sup> For example, the question of provocation would not be decided on the basis of the heat of an exchange or virulence of words, but rather, on whether those words or actions were enough to provoke a person with the genetic make-up of the accused.

Similarly, the concept of a "reasonable man" would have to be completely done away with. Each man's reasonableness would be seen to be a manifestation of her genes. Hence what would be a "reasonable" reaction would be measured according to the standard of a "normal" person of the same genetic composition.

A genetic defence can also not be co-opted into the general category of the insanity defence. The insanity defence as understood in India, is best explained by the M'Naughten Rule which covers cases where the accused is "labouring under such a defect of reason, from disease of the mind, as not to know the nature and quality of the act (s)he was doing; or, if (s)he did know it, that (s)he did not know (s)he was doing what was wrong." Here, the emphasis is on the individual's ability to comprehend the outcome of her conduct or appreciate its nature. As a result, the individual may be completely exonerated. In contrast, when the problem is genetic, the individual may know her conduct is wrong and forbidden and yet be unable to control her actions. Allowing such a defence to be regarded as comparable to "insanity" would amount to letting a person who knew of the error of her actions, go free.

A possible leeway would be allowing the defence of "diminished mental capacity" which is recognized in several Western countries. This defence works on the basis that a person may not be completely incapacitated by mental disease but is sufficiently impaired so as to reduce her accountability for her actions.<sup>41</sup>

However, all of this would ensue if at some point of time a genetic defence was accepted as a complete defence. What seems more likely now is the gradual acceptance of genetic predisposition as a partial defence leading to a mitigation of the sentence rather than complete exculpation. There are several reasons for this.

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<sup>39</sup> *Id.* at 1043.

<sup>40</sup> *Supra* note 5, at 335.

<sup>41</sup> *Id.* at 388.

### **A. Determining on the basis of Probabilistic Information**

First of all, genetics points to at best a predisposition, and predisposition is never certainty. Genetic tests yield only probabilistic information, as the relationship between predisposition and the actual expression generally remains unknown.<sup>42</sup> This means that all that an expert will be able to prove is that the genetic makeup of an accused is such that she is likely to commit a crime but not that her genetic makeup is the cause of the commission of the crime. Criminal liability cannot be decided on the basis of statistical possibilities. To actually be admissible as evidence, a genetic defence will have to move from the realm of mere speculation to that of certainty.

### **B. Heredity v. Environment**

Secondly, no scientific discovery till now has been able to discount the value of environment and socialization in making up a person's mental framework. The "nature versus nurture" debate, as it is called, seeks to take the limelight away from the genes in determining an individual's personality and tendencies. Hence it would be difficult to isolate the cause of a single action to genes alone and not to a variety of factors that would have influenced the person from childhood.<sup>43</sup> To borrow from Dorothy Nelkin, "The gene is not a completely deterministic force, independent of history or environment."<sup>44</sup>

Also, genetic excuses would be best used for apparently motiveless crimes like serial killings or rapes of strangers or unprovoked road rage. When it comes to crimes that have a motive, however small, like a son bludgeoning his parent to death or a man killing his wife, the defence would have a difficult job using genetics as a complete defence. At best, the accused can be proved to have a propensity to aggressiveness, which is beyond his control.<sup>45</sup> However, there could be other external factors such as a monetary dispute with the parents or the fact that the wife and the accused had had disagreements over a period of time. Such factors would be under the control of the accused and cannot be explained away by

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<sup>42</sup> Rochelle Dreyfuss and Dorothy Nelkin, *The Jurisprudence of Genetics*, 45 VAND. L. REV. 313, 318 (1992).

<sup>43</sup> *Supra* note 26, at 616.

<sup>44</sup> Dorothy Nelkin, *After Daubert: The Relevance and Reliability of Genetic Information*, 15 CARDOZO LAW REVIEW 2119, 2125 (1994).

<sup>45</sup> *Supra* note 33, at 725.

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genes.<sup>46</sup> “A genetic disorder may predispose an individual to aggressive behavior; it cannot cause that individual to commit a violent crime.”<sup>47</sup>

### **C. Opportunity for Self-Control**

Further, a genetic disability will not be such as to completely make an individual incapable of obeying the law. What it does is that it gives her such a predisposition that it becomes hard for her to exercise self-control in certain circumstances. Hence, the fault of the genes is that it reduces the amount of self-control that the individual could exercise. The fault of the individual is that she failed to exercise even that amount of remaining self-control and for this failure it is necessary to hold her liable.<sup>48</sup>

A good illustration would be two cases in California that came up before the same Court in the gap of one year. Both the cases – *Baker v. State Bar of California*<sup>49</sup> and *In re Ewaniszyk*<sup>50</sup> related to embezzlement of client’s funds by attorneys. Both the attorneys pleaded a genetic predisposition to alcoholism. In *Baker*, the Court considered this as a mitigating factor in sentencing and did not disbar him. In *Ewaniszyk* it was not allowed. The difference in the two cases was that in *Baker*’s case the defence was able to show that the attorney had no knowledge of his predisposition and hence was unable to control his addiction. The Court believed that now that he knew of it, it would he would be in a better position to control himself and not relapse into alcoholism. In contrast, in *Ewaniszyk*, the Court found that the attorney had failed to exercise adequate human control to prevent his alcoholism in spite of knowing of his predisposition. Hence, it refused to mitigate the sentence.

### **D. Needs of the Victim**

Allowing genetic predisposition to completely negate criminal responsibility will not satisfy the desire for revenge of the victim and the society.<sup>51</sup>

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<sup>46</sup> Amanda R. Evansburg, “*But Your Honor, It’s In His Genes*” *The Case For Genetic Impairments As Grounds For A Downward Departure Under The Federal Sentencing Guidelines*, 38 AM. CRIM. L. REV. 1565, 1566 (2001).

<sup>47</sup> *Id.*

<sup>48</sup> *Id.* at 1579.

<sup>49</sup> 781 P.2d 1344 (Cal. 1989).

<sup>50</sup> 788 P.2d 690 (Cal. 1990).

<sup>51</sup> *Supra* note 34, at 1049.

Extraction of revenge is one of the important aims of a criminal justice system. When the victim and her relatives know that the offender will not be treated leniently by the State, it prevents acts of vigilante justice and violence. When a genetic disability is allowed as a defence, what essentially is being said is that it is not the criminal who is to blame but rather her internal “hardwiring.” She is born that way. This would hardly be an answer good enough to satisfy the victim of a criminal act.<sup>52</sup>

Hence, at the present level of scientific accomplishment in the field, genetics is hardly ready to turn the criminal justice system around. “Free will” is a premise that has been the base of the system for a very long time and it will not be easy, convenient or rational to do away with it.

Most legal scholars, hence, suggest a reconciliation allowing space for the new science as well as the old concept. The idea is that genetic impairment be treated as any other condition that leads to diminished capacity such as insanity, intoxication, mental retardation and the like.<sup>53</sup>

Hence at best, a genetic predisposition can be treated as a mitigating factor in judging guilt. A genetically unfit person cannot be free from punishment. “While genetic ideas are unlikely to affect the exculpatory pillars of criminal responsibility, they may well reinforce the tendency of criminal justice systems to control, categorise and label people.”<sup>54</sup>

However, there is also an opposite stream of thought that questions the very idea of genetics being treated as a mitigating factor. If genetics forms the basis of criminal behaviour, then the system is essentially dealing with a person who is “inherently dangerous” and cannot be rehabilitated or cured. This would be a justification for longer, harsher periods of confinement.

Hence, if genetics is allowed to affect the “free will” presumption in criminal law what is essentially being allowed is the creation of a kind of “status offense” where a person is not branded responsible for her wrongful acts, but her internal make-up. This would lead to a natural reduction of her liberties and opportunities to engage in such behaviour and may actually weigh against the offender.<sup>55</sup>

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<sup>52</sup> *Id.*

<sup>53</sup> *Supra* note 25, at 666.

<sup>54</sup> C.Wells, ‘I Blame the Parents’: *Fitting New Genes In Old Criminal Laws*, 61(5) MOD. L. REV. 724, 738-9(1998).

<sup>55</sup> *Supra* note 43, at 331.

In such circumstances, the main question that now faces the criminal law system is what kind of punishment can actually be meted out to such a person, such that it is mid-way between the early eugenic sterilizations and absolving her of all blame.

#### **4. Genetics and the Theories of Punishment**

If criminal law were to accept the notion that where a person is not branded responsible for her wrongful acts, but her internal make-up, it would affect from other notions of criminal law- mitigating circumstances, defences- and may actually work against the accused, as she will be found guilty as long as the criminal act is attributable to her, and her genes indicate propensity for such act. If genetic predisposition of a person is found to be more towards aggressive behaviour leading to violent crimes, serious offenders like murderers or sexual offenders would stand a greater chance of going free because of their genetic condition.<sup>56</sup>

However, punishing such an offender raises a significant question for the authorities. It defeats justice if the only rationale behind the sentencing is that similar offences get similar punishments even though the offender has a different capacity for self- control. In essence, the problem is which theory of punishment would best suit the condition and circumstances of such a person. This section lays specific emphasis on the four most widely recognized theories – retribution, deterrence, rehabilitation and incapacitation.

##### **A. Retribution**

The retributive theory expects that a wrongdoer must pay for her wrongdoing. It incorporates the need for revenge of the victim and society both.<sup>57</sup> The idea is that there was a certain balance of justice in society that was disturbed by the crime of the offender and she must be made to suffer in order to restore it.<sup>58</sup> As the U.S. Supreme Court put in the case of *Furman v. Georgia*,<sup>59</sup> “The instinct for retribution is part of the nature of man, and channeling that instinct in the administration of criminal justice serves an important purpose ... When people begin to believe that organized society is unwilling or unable to impose upon

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<sup>56</sup> *Supra* note 25, at 665.

<sup>57</sup> J.Salmond, *JURISPRUDENCE* 98 (1995).

<sup>58</sup> *Supra* note 26, 618.

<sup>59</sup> 408 U.S. 238 (1972).

criminal offenders the punishment they “deserve”, then there are sown the seeds of anarchy...”<sup>60</sup>

There are two perspectives to the retributive theory.

The “eye for an eye” approach in which the logic is that the offender must be punished irrespective of her circumstances.<sup>61</sup> The idea is that the punishment must match the harm and there is no special consideration given to the circumstances of the offender. This method has been called “horrifyingly precise” because it pays no heed to the actual culpability of the offender.<sup>62</sup>

The modern theories of “desert’ in punishment are also derived from retributive theories.<sup>63</sup> In these cases, the infliction of harm depends as much upon circumstances and personal characteristics as the actual harm caused.<sup>64</sup>

In both cases, what a retributive punishment essentially requires is first, proof of culpability of the criminal<sup>65</sup> and secondly, proportionality between the offence and the punishment.<sup>66</sup>

When genetics enters the picture, it affects the first factor, i.e. the proof of culpability. While the “eye for an eye’ approach may justify simply punishing the offender irrespective of her genetic abnormality, the second theory will find it more difficult to do so.<sup>67</sup> This is because, it will be close to impossible to prove that the offender made a conscious choice in breaking the law when she is genetically unable to control her behaviour.<sup>68</sup> Hence it will be rather difficult to prove her culpability based on free choice when violent behaviour is in her physical circumstances. What society would be doing in effect, is extracting vengeance for birth defects and such a punishment would fail even in achieving the social purpose that a retributive punishment is expected to achieve.<sup>69</sup>

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<sup>60</sup> *Id.* at 308.

<sup>61</sup> *Supra* note 34, at 1038.

<sup>62</sup> A.W. Alschuler, *The Changing Purposes of Criminal Punishment: A Retrospective on the Past Century and Some Thoughts on the Next*, 70 U. CHI. L. REV. 1,19 (2003).

<sup>63</sup> A. ASHWORTH, SENTENCING AND CRIMINAL JUSTICE 59 (1992).

<sup>64</sup> *Id.* at 19.

<sup>65</sup> *Supra* note 26, at 619.

<sup>66</sup> *Supra* note 64, at 59.

<sup>67</sup> *Supra* note 34, at 1038.

<sup>68</sup> *Supra* note 26, at 619.

<sup>69</sup> *Supra* note 19, at 392.

**B. Rehabilitation**

The theory of rehabilitation concentrates on the offender rather than the offence. The basic premise it works on is that the behaviour of the offender is based on previous causes and these causes can be identified. Therapeutic treatment subsequent to such identification can remedy the criminal behaviour.<sup>70</sup>

Hence, punishment based on this approach seeks expert help to provide facilities and training specific to the need of the particular offender, to make her fit to reenter society. This could include vocational training to remove economic causes of crime, psychiatric help or de-addiction programmes.<sup>71</sup>

Rehabilitative theories will not have any relevance if the presumption is that the person is genetically “hard wired” to act in a certain way, there is very little scope for behaviour modification and hence rehabilitation would hardly work.<sup>72</sup> Genetic traits are not susceptible to change as other sociological or behavioural traits are.<sup>73</sup>

Rehabilitation has been said to be the approach that relies the most on “free will”.<sup>74</sup> An individual can only be made to realize the wrongfulness of her actions and change them if the actions were ones that she chose to carry out. Hence if an offender was incapable of determining the course of her actions, punishing her is not going to transform her.<sup>75</sup>

However, one course of action that could be considered is gene therapy. This could be done by various methods that would involve scientific descriptions. For example, there could be drug therapy, which would use chemicals to replace chemical imbalances caused due to genetic deficiency. This is the method that has been suggested for the M.A.O.A. deficiency disorder.<sup>76</sup>

Another alternative is genetic engineering. “Genetic engineering is the scientific process of altering the genetic properties of living cells.”<sup>77</sup> Processes of

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<sup>70</sup> *Supra* note 26, at 619.

<sup>71</sup> *Supra* note 64, at 63.

<sup>72</sup> *Supra* note 26, at 620.

<sup>73</sup> *Supra* note 19, at 393.

<sup>74</sup> *Supra* note 34, at 1038.

<sup>75</sup> *Id.*

<sup>76</sup> *Supra* note 26, at 621.

<sup>77</sup> *Supra* note 2, at 469.

genetic engineering have not been used on humans so far. However, if in future, the technology does develop to a level where it receives scientific acceptance and approvals for application on to humans, its effect in addressing criminal behaviour will need to be assessed at length, both scientifically and legally. Presently, such an examination is beyond the scope of this article.

Genetic therapies have often been compared to therapies given to alcoholics or psychiatrically ill persons. However, the fundamental difference is that genetic interventions interfere permanently with the internal bodily make-up of the person. Interfering with genetic factors has never been looked upon favourably, raising spectres of Frankenstein-like monsters.<sup>78</sup>

### **C. Deterrence**

The deterrence theory of punishment, believes that the punishment given to a criminal must be such as to deter future crime. Hence this theory, rather than aiming at the offender himself, looks at the potential offender. There are two types of deterrence. General deterrence attempts to set an example to the rest of society and keep it away from crime by punishing one particular offender.<sup>79</sup> Specific deterrence aims at the offender herself and seeks to punish her so that she will not commit the same crime again. Hence, deterrence in general, tries to prevent reoccurrence of the same offence.<sup>80</sup>

General deterrence as a theory may withstand the impact of genetics. The assumption it works on is not the “free will” of the offender concerned but that of other members of society in general. Hence those members of society who are rational and can exercise good control over their actions will be able to perceive the punishment meted out to the criminal as an example and alter their behaviour in consonance with it so as to avoid the same punishment.<sup>81</sup> Therefore, the question of whether the offender was substantially impaired from controlling her actions will not affect the punishment given to her as the punishment is aimed as a lesson to society as a whole and not just her.

Specific deterrence on the other hand, stands on unstable ground. It presumes that an individual on seeing the punishment given to her will think

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<sup>78</sup> *Supra* note 5, at 340; *supra* note 6, at 469.

<sup>79</sup> *Supra* note 64, at 59.

<sup>80</sup> *Id.*

<sup>81</sup> *Supra* note 34, at 1038.



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rationally about her conduct, weigh the benefits and balances and refrain from such conduct in the future.<sup>82</sup> Also, this approach relies strongly on the “free will” assumption that would enable the offender to refrain from the particular conduct in the future.<sup>83</sup>

A genetic predisposition would negate both these presumptions. First, the offender would not be able to exercise “free will” when faced with certain stimuli that require controlling of aggressive behaviour. Secondly, even if the offender is punished for such conduct, there is no guarantee that when she is faced with similar stimuli again, she will rationally think about the prospect of punishment and refrain from that conduct. The concept of deterrence has not received empirical support even for person to whom the defence of genetic condition, do not apply.<sup>84</sup> For genetically predisposed persons, the possibility of its working is even less.

### ***D. Incapacitation***

The rationale behind the incapacitation theory is that society must protect itself from dangerous criminal offenders and this can be done by completely eliminating the offender’s ability to commit crimes in the future.<sup>85</sup> Incarceration, death penalty and legal disqualifications from particular conduct are forms of incapacitation. Here, the only angle from which the offender is seen is her future potential to commit crime or her “dangerousness”. The main perspective is that of what is “good” for the society.<sup>86</sup>

Many commentators find that whether “good” or “bad”, at least for the present, if genetics is co-opted into the criminal justice system, incapacitation will be the most likely judicial response to such offenders.<sup>87</sup>

In fact, in contraposition to mitigation of sentences, one possible judicial response to genetic predispositions would be enhancing of sentences. This is because, a person genetically predisposed to crime and unable to control her behaviour would be naturally dangerous, and society would best have her

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<sup>82</sup> *Supra* note 26, at 621.

<sup>83</sup> *Supra* note 34, at 1038.

<sup>84</sup> *Supra* note 44, at 60.

<sup>85</sup> *Supra* note 26, at 621.

<sup>86</sup> *Supra* note 67, at 65.

<sup>87</sup> *Supra* note 26, at 622; *supra* note 34, at 1039; *supra* note 5, at 338.

removed from its midst. In such circumstances, incarcerating her for a longer period of time than other persons would be a reasonable response to the problem.<sup>88</sup>

Hence, a situation would arise where persons are incarcerated because they are neither capable of being reformed, nor cured and simply have to be kept confined because of their internal characteristics.<sup>89</sup> However, this may more often than not be counter-productive. It is well known that environment plays a major role in triggering tendencies to violence in genetically predisposed offenders.

Sterilisation, like the *Carrie Buck* case, would be another possible method of incapacitation. This would ensure that the offender is not able to produce any more genetically deficient persons like himself.<sup>90</sup> However, in contemporary systems, this would raise serious human rights questions.

Hence, a genetically oriented system of incarceration raises specters of a Nazi-style eugenics movement where genetically unsound persons are systematically “weeded out” of society. This is evidenced by one popular suggestion to establish special institutions, like asylums for the insane that would accommodate such individuals and keep them away from the mainstream.<sup>91</sup> Such an institution would have to look to treatment and control while also keeping such individuals away from the deleterious effects of a normal prison.

A genetic predisposition could also provide an argument for the death penalty. This is directly contrary to the argument in the *Mobley* case where the defence sought to get a mitigation of the death penalty on the grounds of the genetic disability of the accused. Once a genetic predisposition is proved and it is clear that the offender is beyond rehabilitation or cure, her continued existence would just prove a threat to society. In contrast to other criminals, there is a virtual guarantee that she will repeat such crimes in similar circumstances. Hence, advocates of death penalty would have a strong case when it comes to such offender.<sup>92</sup>

If genetics is admitted into the criminal law system in the near future, incapacitation seems to be the most likely remedy to be used. However, as science advances, there will also be attempts to introduce genetic engineering and gene

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<sup>88</sup> *Supra* note 25, at 668.

<sup>89</sup> *Supra* note 19, at 392.

<sup>90</sup> *Supra* note 5, at 361.

<sup>91</sup> *Supra* note 43, at 331; *supra* note 26, at 622.

<sup>92</sup> *Supra* note 26, at 622.

therapy as a part of the punishment. Though it is too early to comment on their admissibility and impact, they are bound to raise interesting legal and constitutional questions at some point of time.

## **5. Conclusion**

Genetics, as a scientific discipline, has brought a measure of predictability to our life whether in forewarning us of diseases, assessing our abilities or explaining our behaviour. Methods and techniques in the science evolve from day to day and each discovery brings fascinating new implications for human behaviour. Criminal law must be on its toes to co-opt the new science to keep itself effective and acceptable. Hence, the aim of this article was to re-orient the criminal justice theory to developments in genetics, especially focusing on the need to rethink the punitive theories.

As noted earlier, accepting genetics as a complete defence does not look like a tenable proposition because of the low level of accomplishments in the fields currently. Further, even more recent science notes that genetics points to a mere predisposition and not to a complete causal link. There are many other factors, which in aggregation, cause a person to commit criminal acts, and simply pinning it down to genetic factors would be unacceptable. Thus, though genetics will impact the “free will” assumption in criminal law, it isn’t likely to totally eliminate it. At best, it will be treated as a defence that diminishes capacity for self-control like insanity or mental unsoundness.

For penal theory, at present, incapacitation look like the most logical fallout of reconciling societal concerns with those of persons who have a genetically determined disability that predisposes them to violent behaviour and inhibits their power to exercise self control.

However, in the future, chemical genetic therapies and genetic engineering could work their way into systems of punishment. They would act as rehabilitative measures to ensure that the offender is capable of returning to society as a normal person. Yet, as and when such remedies are available, their constitutionality and acceptability, vis-à-vis the emerging discourse on human rights, will be suspect. Notions of genetic “imbalance” or “handicap” of any kind, will depend on a primary notion of what is genetically “normal”. Who determines this “normalcy” and how, will reflect socio-political dynamics of a particular society. It may even lead to racial/ethnic stereotyping, in the case of multi-racial or multicultural societies. Such propensity in a society, could well pave the path for systems like the eugenics movement and Nazi policies of segregation, sterilization and exterminations.