The Bright Side of *Gattica’s* Dark Future: An Argument for the Expansion of DNA Databases

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For those unfamiliar with the movie *Gattica*, the premise is that humanity’s understanding of the human genome has progressed to such a level that, for a price, individual traits can be selected or removed in order to ensure that each child born reaches their fullest genetic potential. Those born “naturally” are considered second-class citizens and relegated to more menial careers while those whose genetic potential has been maximized explore the limits of science and the universe. The movie is, of course, a cautionary tale of genetic exceptionalism—the “naturally born” protagonist beats the system by assuming another’s identity to achieve his dream of becoming an astronaut, sent to explore Saturn.

While the movie’s main themes are those of eugenics and the societal dangers of prenatal screening and genetic engineering, there is another aspect of this dystopian future that is merely ancillary to the plot—a universal archive of each and every individual’s genetic information as a means of identification. The protagonist must go to great lengths on a daily basis to erase any genetic material he may leave in the world in order to maintain his assumed persona, while at the same time procuring daily blood and urine samples from his benefactor—employers and government officials performs quick, routine genetic tests in lieu of identification badges or cards.

While this universal indexing of individuals’ genetic code is presented as a barrier to the movie’s protagonist, it does present a methodical form of
identification that, absent the movie’s eugenics-influenced prenatal screening, could serve an important function in society—accurately identifying individuals and deterring criminal activities. This article presents an argument for such a universal database of genetic information for identification purposes, albeit one that accounts for the practicalities and privacy concerns present in the real world. Given suitable checks and controls, a universal DNA database could serve to expedite criminal investigations by providing a reliable method of identification, both for victims and suspects, particularly at the scenes of violent crimes, which are inherently more likely to contain DNA evidence.

The main hurdle preventing truly effective use of our current DNA databases is the limited scope of the individuals that are indexed therein. In the United States, each individual state maintains its own database, all of which contribute to the FBI’s Combined DNA Index System (CODIS).¹ While any individual arrested or detained for a federal crime is indexed in CODIS,² a number of states only index individuals who are actually convicted of the crime for which they were charged,³ further reducing the pool of individuals indexed in both states’ individual databases and in CODIS.

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There are a number of very good reasons that courts and legislatures have been hesitant to extend database indexing, particularly individuals’ privacy and Constitutional searches and seizures relating to the actual taking of genetic material for indexing. Nevertheless, in *Maryland v. King*, the U. S. Supreme Court held that valid arrests for serious crimes satisfy the “reasonable” requirement of the Fourth Amendment regarding taking DNA samples for indexing. However, this merely opens the doors for state legislatures, many of which were already indexing individuals arrested for such crimes.

Ultimately, even if every individual arrested for every crime were indexed in CODIS, the database would still only cover a small percentage of Americans. While it may be true that many crimes are committed by repeat offenders, effectively using DNA as a means of identification requires universal indexing, particularly in the case of identifying unknown victims of crimes. Furthermore, safeguards could be established to protect individuals’ privacy, such as only indexing certain loci—those that do not code for any known genetic disorders—and only storing genetic information, not genetic material. Such safeguards would help ensure that the information in the database would be useful for investigators without unduly invading individuals’ privacy.

While the logistics of populating such a database seem immense, already-existing infrastructures, such as newborn screening and individuals’ routine blood

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4 *See generally*, Maryland v. King, 569 U.S. ___ (2013) (holding that taking a DNA swab from an individual arrested with probable cause for a serious offense is reasonable under the Fourth Amendment as a police booking procedure. The Maryland statute in question allowed for DNA indexing of individuals arrested for “crimes of violence,” which include murder, rape, first degree assault, kidnapping, arson, and sexual assault).
work for medical testing, could be utilized to ease the burden. While there are certainly very valid concerns relating to individual privacy implicated by a universal DNA database, the benefits of readily identifying criminals and victims outweighs the dignitary harm of knowing that somewhere a portion of your genetic code is stored on a computer—if you never commit a crime, that information will never be used except for your benefit.

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