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Law in the U.S. Jury System as A Human Endeavor or Science

Modern American democracy stands predicated on the advances of centuries of fine tuning a more fair, free and democratic judicial process. The ancient Greeks tackled the dilemma of human error in the jury system by having 500-1500 jurors per trial, evading bribery and personal biases to the extent it was possible (Blackwell). However, Plato in *The Republic* critiques the jury system, describing blind law-abiding mindsets, jealousy and falsehoods as the cause of Socrates' guilty verdict. Today, racial discrimination, faulty human memory and other forms of ingrained bias continue to plague democratic judicial verdicts. A possible solution involves the replacement of jurors with technology. Scholars like D'Amato propose a technological takeover in the judicial system, weighing the advantages and disadvantages of such an alteration. In addition, works like Phillip K Dick's *Minority Report* warn about the over-reliance on such technologies controlling the handling of the law. On the other hand, scholars of the law like Denny Chin describe the necessity of the empathy shaped by human jurors, specifically in cases where the defendant comes from a unique, crime-susceptible background. While some works propose the full replacement of human jurors with technology, others argue that the lack of empathy wrought by such devices would curtail freedom and endanger this critical democratic process. A gap in the literature paves the way for the marriage of empathy, efficiency, and veracity, in the combination of human and AI inputs in democratic court cases.

Given that the American judicial system mainly borrows from those that come before it, examining the first instances of jury implementation will help pinpoint the most vulnerable facets of the current system. Cleisthenes, an Athenian statesman and exiled member of the aristocracy, sparked the creation of one of the most important juror systems in history. He

initiated laws for representation of poor Athenians amid unrest of rivaling aristocratic families due to economic and political crises around 510 B.C. Among the institutions he created, one of the most influential implementations were the dikasteria, which were courts consisting of juries that would pioneer court cases, argue for both sides, and deliver verdicts by majority rule. Jurors numbered anywhere from 500 and 1500 members selected by lot from male citizens over the age of 30 ("Ancient Greek Democracy"). Furthermore, according to a Stoa Publication on Athenian Democracy, young Athenian men "underwent a scrutiny before the members of his deme before he was enrolled in the list of citizens" (Blackwell). Higher council members asked potential citizens questions pertaining to family lines, tax payments, oracle shrines maintained, etc. In addition, during trials, jurors in Athens made decisions among themselves, without deliberation, and based on their own interpretation of the law (Blackwell). Ultimately, it was necessary for the law system in Ancient Greece to apply that representation of the people in the judicial system to diminish tyranny and the rule of only a few aristocratic elitist families.

Continuing, a long line of jury systems come after Greece's, although scholars still argue over the exact order and circumstances of these systems. Most refer to the important systems in Greece, Rome, Germany, Scandinavia, England, and many others in between, with each system borrowing from its predecessor. However, the 12-man system that is prevalent in America today borrows mainly for the English 12-man jury system history, since the U.S. legal system separated from England's at the time of the American Revolution. The Frankish Inquest, which developed in 829 A.D., constituted a system in which a jury of 12 credible men in the locality determined royal rights. The Frankish Inquest arrived in Britain with William the Conqueror in 1066. Eventually, England's King Henry II adopted one of the first influential instances of a 12-man jury. The king selected 12 knights to resolve land disputes and gather information from the

case through their own investigations. Later, King Henry's son, King John, helped to produce the Magna Carta, which protected the rights of English citizens by ensuring representative government and trial by jury ("History of the Judiciary"). Jurors could not easily avoid bias in this time, given that if the king did not like their judgement, he would remove them. Thus, this history with the others above contribute to liabilities in the American system that pave the way for the consideration of technological aid in this technologically innovative era.

An amalgamation of past jury systems, especially borrowing from the English, the U.S. judicial system still suffers from the biases, issues of education, unequal punishments, and other misfires of justice present in other democratic structures. The system begins with the selection process. The American Bar Association explains that jury selection in the United States revolves mainly around a process called *voir dire* in which prospective jurors are questioned by both sides representing a case. Before questioning, jurors are selected randomly from a pool of citizens of at least 18 years of age. During this process, lawyers and judges question jurors on the topic of their personal beliefs. Lawyers can ask judges to dismiss jurors who they feel will have a bias or are in some way related to the case. A judge will excuse anyone whose biased attitudes will interfere with his or her duties as a juror. Lawyers can also use a certain number of peremptory strikes, which allow them to strike a juror without reason ("How Courts Work"). In general, the sixth amendment guarantees the right to a trial by an impartial jury to protect the defendant from the government. Although the founding fathers included the jury with the intention of protecting a person from the government, an article by the *William and Mary Bill of Rights Journal* reveals a contradiction to this intention when it notes, "the comparative infrequency of the jury trial and of acquittals in atypical cases presented before juries contradicts the Founders' vision of juries as a

vital protection for the defendant against the government" (Deitch 1061). The article further attributes this infrequency to jury selection procedures.

The misuse of peremptory challenges stands as one of the first flaws in the selection process. Although lawyers are not allowed to use these strikes discriminatorily, they often do, despite acts put in place to deter this. For example, people see the Batson challenge, which allows one to accuse a lawyer of using strikes discriminatorily, largely as a failure, since a lawyer only has to give a non-race or non-sex-based reason for striking the juror, and courts have allowed a wide variety of reasons (Vox). Therefore, lawyers influencing the jurors selected in this way lead to more bias for one party over another, likely causing inaccurate verdicts. It also contradicts the original protection intentions for the jury trial against the government, since the government and lawyers essentially have the power to decide the fate of the case in the jury selection stage. In addition, just as the Greeks would not have been able to bypass the biases of jurors by adding more members to the panels, our system cannot guarantee the elimination of conscious or unconscious biases through voir dire. While these implicit biases in jury selection are sometimes appropriately sorted through strikes, integrating technology into the jury deliberation system, would ensure that ultimately whatever remaining biases exist do not control outcomes.

Biases ingrained in jurors that affect jury deliberations especially support the need for the integration of this technology. The question of the efficiency of a system in which laymen determine the fate of a defendant by each member's own personal standards and interpretations of the law based on their own personal experiences and inherent biases has remained the focus of many research projects, court system discussions, and creative pieces for many years. One of the most notable pieces that speaks on the subject, Reginald Roses', "12 Angry Men," demonstrates

the enormous influence of the "humanness" of the jury system and the extent to which bias influences verdicts. Examining the shortcomings of the jurors shows how one juror wants to leave as soon as possible to make it to a baseball game, while another is outwardly discriminatory (Rose). Beyond many such outward flaws with the jurors, an article from the *Canadian Journal of Psychoanalysis* details the unconscious affiliations these jury members have with the defendant. For example, juror number three's only arguable "facts" for the entirety of the deliberation rests on his unconscious hatred of his son and of himself for causing his son to run away, which causes him to desire the defendant's death (Garfinkle 171). Overall, without juror number eight's care and close attention to "reasonable doubt," a man may have been wrongly sentenced to death. The movie adaptation demonstrates that ultimately, the human flaws of the jurors are overcome when juror number eight helps juror number three with his jacket in a moment of compassion, changing the outcome of the trial. It is possible though, that this portion was only embedded to render a "hopeful" outlook that critics would find enjoyable. Realistically, without juror eight's presence, the other men would have likely acted on their biases. This loops back to the concerns for the methodology of selecting these jurors, given their obvious biases, and how unreliable our jury system is in delivering "correct" verdicts due to inherent biases and "humanness."

In addition to jurors still having undiscovered internal biases, one must consider jurors being capable of overly empathizing or sympathizing with certain defendants over others. In a research piece regarding juror empathy, author Bryan C. Edelman demonstrates the downsides of empathy in a jury trial in discussing how white jurors in jury trials empathize more with a white than black victim. Overall, jurors having more similarities with defendants side with those defendants (Edelman 3). The finding directs one to question the necessity of empathy in jury

trials. How much does empathy contribute to final verdicts in American court cases? In a law review of Kalven and Zeizel's Univesrsity of Chicago Jury Study, the author summarizes the study's findings, which "calculated that sympathy for the defendant causes a jury to disagree with a judge about 22% of the time" (Linder). Even more, some prospective lawyer textbooks give the advice that lawyers should weave in stories about themselves and the defendant that make the jurors sympathize with the defendant (Linder). In other words, lawyers heavily rely on juror sympathy and empathy to win them the case. Analyzing this idea further, the high impact of sympathy and empathy in cases is sensible, given that jurors are only human and most likely will not be able to avoid expressing compassion for, for example, defendants who are old, sick, crippled, young, or whose family members are distraught. This concept may result in incorrect jury verdicts. In "Estimating the Accuracy of Jury Verdicts," the author includes that use of DNA analysis after trials has shown that incorrect decisions were made by juries even in cases where the death penalty was assigned. The rate of agreement between the jury's verdict and judge's verdict provides an important indicator of jury accuracy (Spencer 1). While there are certainly a myriad of factors that contribute to "incorrect" verdict outcomes, it is likely that too much empathy, sympathy, and unavoidable human emotion are contributing factors to these "incorrect" outcomes, which change the course of a person's life forever.

Moreover, there are still several other human limitations that contribute to the inaccuracy of jury trials, which solidify the need for technology to play an essential role in the jury pool. The system requires this technological aid especially as modern cases tend to be long, complex, and thought-intensive due to the evolving sense of justice that comes with changing generations. Specifically, a Forbes magazine article on the topic lists ways in which jurors may be flawed as including how humans are prone to fatigue, persuasion, and memory failure (DiSalvo). Thus, the

possibility these human shortcomings are at the forefront of such crucial decisions cannot continue to be acceptable in a time where access to the technology that can prevent these faults remains readily available. An article by the *Wall Street Journal* finds that using even artificial intelligence to decipher lies given in testimonies by detecting deceptive speech patterns could also be a reason to replace jurors (Gershman). Although an abundance of reasons to replace jurors exist, one must consider the implications of a total technological takeover in the jury system and what harm could come from such a radical alteration in the judicial system. Pieces like Phillip K. Dick's, *Minority Report*, serve as a cautionary reminder of the dangers of relying too heavily on technology in the law when the protagonist is almost sent to prison for life because of two false majority reports given by machines (Dick). Regarding jury trials, this piece demonstrates how replacing all jurors with technology could lead to an over-reliance on the technology that is susceptible to some percentage of error. Another piece on the matter of computers replacing judiciary members describes the concern that a computer does not understand what it means to, "have a hand, to touch things, to experience a kinesthetic emotion upon touching them… understand the feeling that two young people in love share when they hold hands… know human hopes and fears… have the fear of death that is so deeply rooted in the human experience" (D'Amato 5). It thus becomes important to consider the value of human emotion in cases of human law, which a computer could never completely understand. Accordingly, although the same article by the *Wall Street Journal* does not believe all jurors could be replaced by computers, it does conclude that it would be helpful to "orient them [jurors] toward probable paths" (Gershman).

There is therefore little doubt that technology could drastically improve the accuracy of jury verdicts. So, deciding the extent in which the judicial system might incorporate technology

depends on the relative frequency of scenarios in which cases necessitate human emotion. A simple thought experiment outlines a credible reason to keep the empathy of human jurors in the judicial system: imagine a young child facing criminal charges for harming their abusive parent--while an algorithm could produce a fair punishment disregarding age, race, or class, one's instinct may lead to invoking leniency on the child who clearly suffers from the consequences of their abusive upbringing. While the example lacks specificity, such cases make it clear that technology should not entirely replace human jurors in judicial proceedings. In the specific case of children who commit patricide or matricide after years of abuse from their parents, for instance, empathy for the defendants almost becomes completely necessary, depending on whether one wants to believe in whether the abuse was real. In most cases with juries, the importance of empathy is that it allows for a step back from the, at times, strict criminal justice system, which a computer might not always afford. In the *University of Pennsylvania Law Review*, the author describes the 1985 Vernon Lawson Stabbing case, where jurors admitted to having empathy, or an understanding of the defendant's perspectives, which led to a penalty of only manslaughter instead of murder. The juries' understanding of the struggles that led the defendant to commit a heinous crime resulted in him receiving a lesser punishment (Chin 24). Here, the idea of empathy allows for more chances of hope and redemption. Thus, what may be objectively *fair* fails to necessarily encompass what would most benefit society--a rehabilitated child placed into foster care clearly beats a child serving a lengthy prison sentence, denied a normal educational experience and future employment opportunities. While empathetic logic could be programmed into a very sophisticated device, maintaining human input in the judicial system seems the most logical option for modern American democracy.

Marrying technological and human inputs for the above reasons would thus strengthen the current US jury system and correspondingly bolster its democratic status. While human jurors fall susceptible to implicit biases, excessive emotion, poor judgement, faulty memories, and fatigue, technological aids could help to ensure that human biases do not factor into the final verdict. One possible way in which the American jury system could smoothly incorporate computers most effectively would be in the deliberation room. One could program a computer to ask all the necessary questions associated with a case, so that the jurors do not have to rely too heavily on the "facts" from previously provided testimonies in court. Specifically, one would have to input the testimonies and the computer would feed the jurors in-depth questions, including outlying possibilities jurors may not think of, as is usually the job of a programmer. After all, why have inexperienced jurors, uneducated in law, who sit through a lengthy, fatiguing trial, possibly consumed with anxiety or nerves, think of all outlying questions when they can be pre-programmed and thought of according to keywords and themes.

For instance, one of several possible testimonies in a case might be entered into the program as, "old man saw a guy kill a girl with a knife in the middle of the night across the train tracks on the 21st of April". Based on keywords like "saw," "old man," "kill," "knife," "girl", etc., the program would produce questions to attest to the practicalities of the testimony with questions possibly including, but not limited to the following: Does the old man have good vision? Could he have seen the wrong person? Was his place of living small enough so that he could have made it to the window in time to see it? Would the old man be looking for attention? Do cameras show that they both could have been there that night? Could he have been dreaming? Does the old man have memory issues or a history of health problems that could impact the case? If yes, then branch to testimony 2, given that testimony 1 is partially unreliable. In this

way, after each question the jurors would have to decide on an answer, and the computer would lead to questions dependent on those answers. This program could be separated into subroutines based on the people involved, places, dates, items or actions involved, etc. Overall, it would function similarly to how a computer algorithm knows how to beat a player in chess-- that is, based off certain moves, take this approach, or ask these questions. Humans would then safely be able to input their emotionally influenced opinions in answers and in the final verdict, without having too much "humanness" control the case because of the computer-generated questions. Although, no matter how developed a program might be in terms of thinking of outlying possibilities in a case, the program will still not be able to think of absolutely every possibility. It is nonetheless undeniably a great help to jurors who may possibly not know where to start or what questions to ask. Additionally, this helps eliminate bias because more diverse questions are being asked, which are not limited to the imaginations of a bias or emotional juror. Ultimately, including these e-jurors in jury deliberations would allow for a scrutinizing of the facts in a manner that would lead to a fairer, more logically and emotionally balanced verdict.

Another reason why this technological aid would be beneficial in the jury system is because it is able to adapt to the changing sense of justice over the generations with simple program updates, alongside the jurors. Each generation of citizens and legislatures shifts minutely--and sometimes greatly--what is right and wrong in society. An example includes the recent upheaval of previous' decades war on drugs in the US. As some states begin to relax and decriminalize marijuana possession laws, the line of legality becomes blurred in a way that may be unclear to jurors in the face of the current laws. Updating the program to include these cultural shifts, would lead computers to asking more specific and pertinent questions in the context of society's culture. This could be done manually or by having social media trends and

updates considered in the computer program, which would allow it to automatically update. However, a machine would not respond perfectly as well as the common mood of a set of jurors with the same cultural experience of the defendant. Maintaining this human failsafe is critical to avoiding stagnancy and protecting the longevity of democratic rule as each generation trends toward its own conception of morality and justice.

There are also several other ways in which technology could be implemented to aid jurors and the judicial system aside from such a program as outlined above. For example, cameras in the courtrooms could be used to help prospective jurors prepare for their jury duty. Footage of court proceedings (in states where recording of trials is permitted) could be dispersed to potential jurors before their case to allow them to become familiar with their upcoming roles. This would be especially helpful given that normal juror inexperience likely leads to higher tensions in the deliberation room, potentially contributing to inaccurate verdicts. Live feed of the witnesses and defendants, and corresponding monitors during the trial could also help the jurors focus on everything trial participants deliver, along with how they act and carry themselves. These details could potentially change the direction of the case in the deliberation room. For instance, if a man has a limp, which those from the jury box can easily notice from the monitors, and these minute details become important in that the jurors need to know if it was possible for a man with a limp to run so quickly to his door to see a killing, then this technology would be a massive aid in deciphering the verdict. According to an article by the National Center for State Courts, the author directed a series of survey questions to trial jurors and alternates that concluded that 94% of participants believed that the use of technology in the courtroom improved their ability to serve as jurors (Dixon). Generally, more technology, in any capacity, could be implemented in a way that helps jurors tasked with such difficult obligations to make these responsibilities run

smoother, ultimately saving redeemable lives of criminals or preventing innocents from being sentenced to prison or death.

The implications of incorporating this technology ultimately meant to help jurors with nearly impossible tasks in the deliberation room goes far beyond clerical improvements. Too much reliance on the aid of these software programs for jury deliberations could lead to a potential dimming of the much-needed emotion and empathy that jurors contribute. At the same time, harsh news of crimes and other negative occurrences prevalent in social media are beginning to numb jurors from having empathetic reactions to similar trials. This then leads to the question of if this technology will even make much of a difference in terms of affecting juror emotion and "humanness" in trials? Thus, there is the possibility that the transition from all human-jury panels to a perfectly balanced mix of e-jurors and human jurors may be easier than one would think. Beyond this, the potential to make law in the jury system as much of a science as possible is exciting, since it means less trying work for jurors, and more jobs in tech industries. A resulting increase of individuals entering the STEM field, will lead to more innovations that will help move society forward at a rate that is unprecedented, saving more lives now not only in court cases, but also within all other aspects of society.

Overall, the fundamental tension between human empathy, human bias, and technological capabilities is one that will only intensify as democratic innovation continues in the decades to come. This exploratory analysis has found that, critically, key human biases can be corrected through the use of technology in the court and the jury deliberation room. Ultimately, human empathy and the changing perceptions of justice with each generation require us to maintain some form of human input into the jury process. Nonetheless, we stand to gain immensely through incorporating the unbiased, thorough, and ultimately fair technological instruments at

our disposal. Ultimately, the jury system can evolve to be both a human endeavor and the product of scientific innovation if the system can achieve a steady and peaceful integration of this technology. With the dispersion of readily available quantum computing on the horizon, the limits of just how much aid these inputs can provide is almost limitless, paving the way for more trust in the jury system, more faith in democratic system, and thus corresponding leadership and law more oriented to suit the people.

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