DIGITAL ECOSYSTEM OF ACCOUNTABILITY

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ABSTRACT

Criminal defense attorneys often engage in plea negotiations on behalf of their clients without knowledge of material, exculpatory information that the prosecution may possess, placing the defense at an unfair disadvantage. The recent proliferation of electronically-stored information ("ESI") is further exacerbating this informational imbalance. Without proactively accounting for ESI in criminal discovery, the informational gulf existing between the prosecution and the defense during plea negotiations will continue to foster uninformed legal representation, inconsistent results, and an enduring lack of public confidence in the criminal justice system. Although scholars have promoted open-file criminal discovery as a cure to narrow this informational gap, neither the literature nor recently enacted open-file criminal discovery have sufficiently considered the importance of digitizing open-file criminal discovery to fix the imbalance. This Article argues for the nationwide implementation of digitized open-file criminal discovery schemes as a means of correcting the current pre-plea informational asymmetry, leading to more reliable results and improved defense lawyering. Digitizing open-file criminal discovery will produce a digital ecosystem of accountability benefitting both defendants and prosecutors alike.

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INTRODUCTION

In 2006, the state of Texas indicted George Alvarez for felony assault of a public servant despite possessing video of the incident that would have exonerated him.[1] Without the exculpatory video evidence pre-plea, Alvarez, represented by counsel, pleaded guilty to an eight year deferred sentence, which he ultimately served in prison.[2] Four years into the sentence, Alvarez learned that the local police department had the video evidence the whole time.[3] He was eventually adjudged innocent of the crime.[4] Still, a federal appellate court ultimately reversed a jury's award of monetary damages in his favor because long-standing precedent provided that a criminal defendant is constitutionally not entitled to *Brady* material prior to entry of a plea.[5]

Over 95% of criminal cases are resolved pursuant to plea agreements,[6] where pleading defendants may not receive material, exculpatory information in the prosecution's possession. The increase in electronically-stored information ("ESI") exacerbates the information asymmetry[7] currently existing between criminal

1. *See* Alvarez v. City of Brownsville, 904 F.3d 382, 387–88 (5th Cir. 2018).
2. *See id.* at 388.
3. *See id.*
4. *See id.*
5. The jury awarded Alvarez $2.3 million on his § 1983 claim based on violations of *Brady v. Maryland,* a decision later reversed by the Court of Appeals for the Fifth Circuit. *See id.* at 388-89.
6. *See* Missouri v. Frye, 132 S. Ct. 1399, 1407 (2012) (explaining that 97% of federal comvictions and 94% of state convictions are a result of pleas); *see also* Thea Johnson, *What You Should Have Known Can Hurt You: Knowledge, Access, and* Brady *in the Balance,* 28 GEO. J. LEGAL ETHICS 1, 32 (2015) (describing that 97% of federal cases were resolved via plea in 2010); Daniel S. McConkie, *Criminal Law: Structuring Pre-Plea Criminal Discovery*, 107 J. CRIM. L. & CRIMINOLOGY 1, 17 (2017) (explaining that "nearly all convictions result from plea bargains").
7. *Cf.* George A. Akerlof, *The Market for "Lemons": Quality Uncertainty and the Market Mechanism,* 84 Q. J. ECON. 488, 488–92 (1970) (examining how "information asymmetry" between buyers and sellers of market goods affects quality of goods available); Miriam H. Baer, *Timing* Brady, 115 COLUM. L. REV. 1, 25 (2015) ("[C]riminal discovery's information asymmetry severely undermines the integrity and reliability of the plea-bargaining process.").

> [R]emoving the wall between intelligence surveillance and law enforcement has created a troubling *asymmetry* in the criminal justice system. The government acts expeditiously to secure those records that it needs to secure a conviction, but it may overlook or at least not pursue digital information that undermines the prosecution. Such duplicity is incompatible with a fair adversarial system . . . .

defense attorneys and the prosecution. The proliferation of ESI in the criminal justice context has been recently described as creating a veritable digital ecosystem of accountability,[8] one which is readily accessible to prosecutors but not to defense attorneys. This imbalance of information leads to uninformed defense lawyering, inconsistent results, and a lack of public confidence in the criminal justice system.

This Article proceeds in three parts. Part I examines the increasing information asymmetry at the plea-bargaining stage, particularly considering the recent increase of ESI. Part II explores how the criminal discovery literature and recently enacted open-file systems fail to account for the ever-expanding universe of digitized information. Part III calls for the implementation of digitized open-file criminal discovery systems nationwide. Digitized open-file criminal discovery will render the digital ecosystem of accountability equally accessible to both the prosecution and the defense. It will also position criminal defense attorneys to deliver capable, well-informed legal representation, leading to more appropriate results and increased confidence in the criminal justice system.

I. INFORMATION ASYMMETRIES IN PLEA BARGAINING

Defendants are the most vulnerable participants in the criminal justice system, and their vulnerability necessitates that their lawyers provide competent legal representation. Unfortunately, attorneys representing most criminal defendants practice law at an informational disadvantage because the prosecution has access to a wealth of information that the defense does not, particularly at the plea stage.[9] This imbalance of information leaves criminal defendants exposed to the most significant risks the criminal justice system has to offer: erroneous or ill-considered convictions, disparate sentences and punishments, extreme terms of imprisonment, and even capital punishments. Representing clients at an informational deficit negatively affects criminal defense attorneys' ability to deliver well-informed legal representation which, in turn, increases their clients' risks to these harmful consequences. The imbalance of important information between the prosecution and criminal defense attorneys is caused by a combination of factors, including

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See also Joshua A.T. Fairfield & Erik Luna, *Digital Innocence,* 99 CORNELL L. REV. 981, 1043 (2014) (emphasis added).

8. *See* Ronan Farrow, *An Air Force Combat Veteran Breached the Senate,* THE NEW YORKER (Jan 8, 2021), https://www.newyorker.com/news/news-desk/an-air-force-combat-veteran-breached-the-senate (quoting John Scott-Railton, a senior researcher with the University of Toronto Munk School Citizen Lab, describing use of digital forensics to identify January 6th insurrectionists, including digital and interactive videos, digital photographs, and social media information).

9. *See* Russell M. Gold, Carissa Byrne Hessick & F. Andrew Hessick, *Civilizing Criminal Settlements,* 97 B.U. L. REV. 1607, 1616 (2017) (describing how the criminal justice system provides criminal defendants with limited access to information, impairing their ability to make well informed decisions during plea negotiations); *see also* Miriam H. Baer *supra* note 7, *Timing* Brady, 115 COLUM. L. REV. 1, 24–25 (2015) (explaining that criminal defendants have access to less information than the prosecution, resulting in an "information asymmetry" during the plea stage).

impotent constitutional rules, unfair procedural schemes, and poorly anticipated technological advancements.[10]

The pervading influence leading to the imbalance of information existing between the prosecution and criminal defense attorneys is inapplicability of the Supreme Court's landmark decision in *Brady v. Maryland*[11] to most criminal cases. It is well-known that *Brady* and its progeny provide that criminal defendants are constitutionally entitled to material, exculpatory information that law enforcement and other governmental agencies possess, without a request and without regard to whether the government is aware of its possession.[12] In deciding *Brady*, the Court emphasized the importance that the criminal justice process be fair to defendants.[13] However, *Brady* only applies to criminal cases that proceed to trial. Because most current criminal actions resolve at the plea stage, *Brady*'s protections do not extend to most criminal defendants.[14]

Our criminal justice system is currently one of pleas, not trials.[15] Unfortunately, plea systems are plagued by an imbalance of information, particularly when considering the information accessible to the prosecution as compared to the information accessible to the defense. Although *Brady* does not apply to the plea stage of criminal proceedings, its fairness considerations remain applicable to all

10. *See infra* Part III.B (discussing inapplicability of constitutional safeguards to plea phase of criminal proceedings, overly restrictive criminal discovery systems, and explosive emergence of electronically stored information).

11. Brady v. Maryland, 373 U.S. 83 (1963).

12. *See id.* at 87 (providing that prosecution violates defendant's constitutional right to due process when "the evidence is material either to guilt or to punishment, irrespective of the good faith or bad faith of the prosecution"). Materiality is defined as evidence that leads to a "reasonable probability that . . . the result of the proceeding would have been different." United States v. Bagley, 473 U.S. 667, 682 (1985); *see also* Pennsylvania v. Ritchie, 480 U.S. 39, 57–58 (1987) (extending prosecution's *Brady* due diligence to materials not even known to prosecution but within government's possession).

13. *See Brady*, 373 U.S. at 87 ("Society wins not only when the guilty are convicted but when criminal trials are fair . . . ."); *see also* Neely v. Pennsylvania, 411 U.S. 950, 957 (1973) (Douglas, J., dissenting in denial of certiorari) (explaining that "a guilty plea is itself a conviction [and as such] 'demands the utmost solicitude'" (quoting Boykin v. Alabama, 395 U.S. 238, 243 (1969)).

14. *See* Daniel S. McConkie, *supra* note 6, at 17, *Criminal Law: Structuring Pre-Plea Criminal Discovery*, 107 J. CRIM. L. & CRIMINOLOGY 1, 17 (2017) (explaining that currently "nearly all convictions result from plea bargains" and the "new baseline is not trial outcomes [but] [r]ather . . . bargained-for convictions"). According to recent figures, only 3% of criminal defendants' cases proceed to trial, which means that a criminal defendant's constitutional right to receive material, exculpatory information in the government's possession only applies in small percentage of cases. *See* Missouri v. Frye, 566 U.S. 134, 143 (2012) (explaining that 97% of federal convictions and 94% of state convictions are the result of guilty pleas); *see also* United States v. Brady, 397 U.S. 742, 752 (1969) (explaining that "well over three-fourths of criminal convictions in this country rest on pleas of guilty"); Sophia Waldstein, Comment, *Open-File Discovery: A Plea for Transparent Plea-Bargaining,* 92 TEMPLE L. REV. 517, 518 (2020) ("[Trial by jury] now occurs in less than 3% of state and federal criminal cases."); John G. Douglass, *Fatal Attraction? The Uneasy Courtship of* Brady *and Plea Bargaining,* 50 EMORY L.J. 437, 437–38, 437 n.4 (2001) (explaining that vast majority of criminal cases are resolved by plea bargaining).

15. *See* Lafler v. Cooper, 566 U.S. 156, 169–70 (2012) (explaining that criminal justice today is a system of pleas, not trials, as 97% of federal convictions and 94% of state convictions result from guilty pleas).

defendants.[16] Fairness must be ensured for *all* criminal cases, not just those rare ones proceeding to trial.[17] The plea stage is a critical stage of criminal proceedings.[18] Plea bargaining defendants make profound decisions impacting their lives and liberty.[19] It stands to reason that fairness should permeate the plea negotiation phase. However, currently fairness considerations at the plea stage are lacking.

Fairness dictates that when the prosecution brings an accused person to justice, the accused should expect fair dealings from the government.[20] The prosecution should not be a party to or the architect of injustice by failing to disclose important evidence to opposing counsel during any critical stage of the criminal proceedings.[21] Yet, positioning defense counsel to engage in the plea negotiation without knowledge of the prosecution's evidence against their clients is devoid of fairness.[22] Fairness demands that defense counsel be familiar with the character and quality of the prosecution's non-privileged evidence.[23] A fair criminal justice system promotes societal confidence in its outcomes.[24] Yet, confidence lags when the parties engaging in negotiations are placed on unequal footing.

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16. In *Brady,* the Court explained that a defendant is constitutionally entitled to a fair trial and that fairness considerations are important to the administration of justice. *See Brady*, 373 U.S. at 86-87. In *Lafler,* the Court explained that defendants enjoy constitutional rights without regard to whether they are guilty or innocent. *See* 566 U.S. 169-70. It stands to reason that constitutional fairness considerations should extend to the plea stage as well.

17. *See Neely*, 411 U.S. at 957 (Douglas, J., dissenting). In his dissent, Justice Douglas stated:

> The criminal process is not a contest where the government's success is necessarily measured by the number of convictions it obtains, regardless of the methods used. A conviction after trial accords with due process only if it is based upon a full and fair presentation of all relevant evidence which bears upon the guilt of the defendant. Similarly, a guilty plea should not be a trap for the unwary or unwilling. We should not countenance the 'easy way out' for the State merely because it has induced a guilty plea through a plea bargain.

Id. (citations omitted).

18. *See Frye*, 566 U.S. at 144 ("[P]lea bargaining . . . is not some adjunct to the criminal justice system; it *is* the criminal justice system." (emphasis in original)); *see also* Padilla v. Kentucky, 559 U.S. 356, 373–74 (2010) (recognizing plea bargaining stage as "critical phase" of criminal litigation for purpose of Sixth Amendment).

19. *See Lafler*, 566 U.S. at 165 (recognizing constitutional right to effective assistance of counsel applies to plea stage, "a proceeding in which defendants cannot be presumed to make critical decisions without counsel's advice."); *see also Neely*, 411 U.S. at 957 (Douglas, J., dissenting in denial of certiorari) ("[T]he mere interest of the government in avoiding a full-blown trial cannot outweigh the interests of the defendant.").

20. *See* Moore v. Illinois, 408 U.S. 786, 809–10 (1972) (Marshall, J., concurring in part, dissenting in part) (explaining accused citizens have right to expect fair dealing from government).

21. *See* Brady v. Maryland, 373 U.S. 83, 87–88 (1963) ("A prosecution that withholds evidence . . . which, if made available, would tend to exculpate him or reduce the penalty helps shape a trial that bears heavily on the defendant. That casts the prosecutor in the role of an architect of a proceeding that does not comport with standards of justice . . . .").

22. *See Frye,* 566 U.S. at 144–45 (noting that "'[t]he art of negotiation is at least as nuanced as the art of trial advocacy, and it presents questions further removed from immediate judicial supervision . . . .' Bargaining is, by its nature, defined to a substantial degree by personal style." (quoting Premo v. Moore, 562 U.S. 115, 125 (2011))).

23. *Cf.* Strickler v. Greene, 527 U.S. 263, 288 (1999) ("[U]nder *Brady* an inadvertent nondisclosure has the same impact on the fairness of the proceedings as deliberate concealment. 'If the suppression of evidence results in constitutional error, it is because of the character of the evidence . . . .'" (quoting United States v. Agurs, 427 U.S. 97, 110 (1976))).

24. *Cf. id*. at 289–90 (explaining that "a fair trial" is one "resulting in a verdict worthy of confidence").

The good news is that fairness considerations of *Brady* are still attainable and can be prioritized for that large majority of defendants negotiating pleas and for whom *Brady* does not apply. All parties involved in the criminal justice system benefit from the availability of the plea process.[25] Criminal defendants are subjected to shorter and less harsh sentences when sentences are the result of plea negotiations and they accept responsibility for their criminal conduct.[26] The government is less taxed in not having to try every criminal case in a courtroom. The judiciary is benefitted because trials are inordinately expensive, both in terms of money and time, and permitting pleas reduces the expenditure of finite judicial resources and promotes judicial economy.[27]

The plea stage is now central to the administration of justice.[28] The Court has recognized as much in acknowledging an accused's constitutional right to the effective assistance of counsel during the plea phase.[29] It stands to reason that defense attorneys must also be equipped (or at least not hindered in their efforts) to provide proper legal representation to their clients during this critical phase of criminal proceedings.[30] However, as long as the parties remain on unequal informational footing during the plea process, adequate representation of criminal defendants will be limited, and public confidence in the criminal justice system will continue to diminish.

Many discovery systems governing criminal matters contribute to the information imbalance existing between prosecutors and criminal defense attorneys. Discovery[31] in criminal matters often presents significant barriers to defense attorneys obtaining important information about their clients' cases, information to which the prosecution has access. Discovery systems are the procedural processes by which parties to litigation access important information that may be relevant to the litigation.[32] The purpose of any discovery system is to help promote the

25. *See Frye*, 566 U.S. at 144 (explaining how plea process benefits parties to criminal actions).

26. *See id.* (explaining defendants convicted at trial receive longer sentences because longer sentences exist largely for bargaining purposes and those accepting plea bargains receive shorter sentences and are able to admit to their crimes).

27. *See id.* (explaining plea process as critical for conserving valuable resources).

28. *See id.* at 143. ("The reality is that plea bargains have become so central to the administration of the criminal justice system that defense counsel have responsibilities in the plea bargain process, responsibilities that must be met to render the adequate assistance of counsel that the Sixth Amendment requires in the criminal process at critical stages.").

29. *See* Lafler v. Cooper, 566 U.S. 156, 162 (2012) ("Defendants have a Sixth Amendment right to counsel, a right that extends to the plea-bargaining process . . . . During plea negotiations defendants are 'entitled to the effective assistance of competent counsel.'" (citation omitted) (quoting McMann v. Richardson, 397 U.S. 759, 771 (1970))).

30. *See id.* at 165 (explaining how the Sixth Amendment's protections are not designed to protect the trial only, but also extend to plea process as it is critical stage of criminal proceedings).

31. Discovery is the pre-trial process by which parties to litigation disclose and receive information relating to the lawsuit. *See Discovery*, BLACK'S LAW DICTIONARY (9th ed. 2009). Discovery systems also govern whether and how a party to litigation may obtain information from those who, although not a party to the litigation, might possess information relevant to the case. *See id.*

32. *See, e.g.*, FED. R. CIV. P. 26–37; FED. R. CRIM. P. 16.

appearance of impartiality, truth, and transparency within the court system.[33] Civil discovery systems are robust, permitting all litigating parties access to a wide variety of information.[34] In comparison, many criminal discovery systems are not as generous or transparent, even though criminal defendants risk exposure to much more severe consequences than their civil counterparts.[35]

Criminal discovery is not constitutionally mandated.[36] The United States Supreme Court has made clear that neither the states nor the federal government are required to provide discovery for defendants in criminal cases.[37] This means that states are free to develop criminal discovery schemes, subject to few restrictions.[38] The following Section will explore various criminal discovery systems across the country, many of which unfairly block a criminal defendant's access to important information. The various discovery systems vary from jurisdiction to jurisdiction, especially with respect to the generosity afforded the prosecution compared to that afforded the defense.[39] Without a robust criminal discovery system,

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33. *See* Wardius v. Oregon, 412 U.S. 470, 473–74 (1973) (in which the Court describes the criminal discovery systems as increasing parties' access to evidence, thereby enhancing fairness in criminal justice system); *see also* Jenia I. Turner, *Managing Digital Discovery in Criminal Cases*, 109 J. CRIM. L. & CRIMINOLOGY 237, 243–44 (2019) (explaining discovery rules designed to ensure "fairness, accuracy, and transparency").

34. *See, e.g.,* FED. R. CIV. P. 26 (the general provision regarding discovery in civil matters). Civil discovery is broad in scope to permit access to information which may be only tangentially relevant to the litigation. *See* GEOFFREY C. HAZARD, JR. & MICHELE TARUFFO, AMERICAN CIVIL PROCEDURE: AN INTRODUCTION 115 (1993).

35. *See* Daniel B. Garrie, Maureen Duffy-Lewis & Daniel K. Gelb, *"Criminal Cases Gone Paperless": Hanging With the Wrong Crowd,* 47 SAN DIEGO L. REV. 521, 528 (2010) (explaining as "critical concern" the disparity between civil and criminal discovery, with criminal discovery rules placing criminal defendants at risk of due process violations); Abraham S. Goldstein, *The State and the Accused: Balance of Advantage in Criminal Procedure,* 69 YALE L.J. 1149, 1180 (1960) ("Civil procedure . . . has as its object the harnessing of the full creative potential of the adversary process, bringing each party to trial as aware of what he must meet as his finances and his lawyer's energy and intelligence permit. Yet virtually no such machinery exists for the defendant accused of a crime.").

36. *See* United States v. Ruiz, 536 U.S. 621, 629 (2002) (citing Weatherford v. Bursey, 429 U.S. 545, 559 (1977)) (declaring no constitutional right to discovery in criminal matters). In *Weatherford,* the prosecution's failure to disclose that an undercover agent would testify as a witness did not rise to the level of a due process violation. 429 U.S. at 560. Discovery in U.S. criminal matters was uncommon until 1957, when the Court in Jencks v. United States required the prosecution to disclose prior statements of one of its witnesses to the defense if the prosecution wanted to proceed with trial. *See* 353 U.S. 657, 668 (1957).

37. *See, e.g.*, *Weatherford*, 429 U.S. at 559 ("There is no general constitutional right to discovery in a criminal case . . . ."); *Wardius*, 412 U.S. at 474–75 (explaining that the Constitution does not require discovery in criminal matters). In line with *Weatherford,* states have similarly ruled that prosecutors are not required to furnish criminal defendants with certain information for pre-trial inspection. *See, e.g.*, Hackathorn v. State, 422 S.W.2d 920, 922 (Tex. Crim. App. 1964) (failure of prosecution to provide accused with statements of witness, copies of reports, or his written statements for pre-trial inspection was not error).

38. The only significant restriction on state criminal discovery schemes is the requirement that any state system be fair and reciprocal. Reciprocity requires that both the prosecution and the defendant be entitled to discovery of some information. However, the type, quantity, and quality the information disclosed does not have to be identical. *Cf. Wardius* 412 U.S. at 476 (describing a non-reciprocal system as being "fundamentally unfair").

39. Since the Court's ruling in *Brady,* many jurisdictions have adopted criminal discovery practices that are broader than that required by *Brady*. *See* Baer, *supra* note 7, at 9 (describing broad criminal discovery reforms nationwide post-*Brady*). Many states have adopted court orders or have enacted statutes adopting *Brady*. *Id*.

criminal defendants and their lawyers have little to no information regarding the government's case against the defendant, particularly in pre-trial proceedings and throughout the plea process.[40]

Enacting digitized, open-file criminal discovery systems will enable the 97% of criminal defendants to whom *Brady* does not currently apply to receive the inestimable fairness quotient with which the *Brady* Court was concerned.[41] Enacting digitized, open-file discovery systems nationwide will promote capable criminal defense lawyering within the plea system—a system that is removed from immediate judicial supervision while at the same time being at the heart of the criminal justice process.[42]

II. INSUFFICIENCIES OF CURRENT LITERATURE AND POLICIES

The literature has promoted the adaptation of open-file criminal discovery, and recent scholarship has separately considered how best to manage digitized information in the criminal law context.[43] Some states have wisely enacted open-file criminal discovery systems. Yet, neither the literature nor recently enacted open-file criminal discovery systems have sufficiently considered the importance of digitizing open-file criminal discovery overall as a means of remedying the imbalance of information currently separating the prosecution from defense counsel in plea negotiations.

A. Open-File Discovery Literature

Scholars have extolled the benefits of open-file criminal discovery—systems permitting the defense access to all non-privileged, non-work-product information in the government's possession.[44] Open-file criminal discovery systems have been

40. *Cf.* Waldstein, *supra* note 14, at 524 ("The ultimate power of plea-bargaining stems from fear of the trial penalty . . . [which] punishes defendants not based on the specifics of the crime charged but on the defendants' insistence that the government meet its burden of proof in a court of law. Conversely, [plea-bargaining] is also sometimes referred to as a 'plea discount' because it is perceived as a reward for honesty and taking responsibility for one's actions.").

41. *See* Missouri v. Frye, 132 S. Ct. 1399, 1407 (2012) (explaining that 97% of federal convictions and 94% of state convictions are a result of pleas); *see also* Thea Johnson, *What You Should Have Known Can Hurt You: Knowledge, Access, and* Brady *in the Balance,* 28 GEO. J. LEGAL ETHICS 1, 32 (2015) (describing that 97% of federal cases were resolved via plea in 2010); Daniel S. McConkie, *supra* note 6, at 17 *Criminal Law: Structuring Pre-Plea Criminal Discovery*, 107 J. CRIM. L. & CRIMINOLOGY 1, 17 (2017) (explaining that "nearly all convictions result from plea bargains").

42. *See* Missouri v. Frye, 566 U.S. 134, 144–45 (2012) (discussing how the criminal plea process is removed from immediate judicial supervision, yet requires defense counsel to carry out their duties and responsibilities effectively).

43. *See, e.g.*, Turner, *supra* note 33, at 237.

44. *See, e.g.*, Daniel S. Medwed, Brady*'s Bunch of Flaws,* 67 WASH. & LEE L. REV. 1533, 1558–59 (2010) (explaining how open-file criminal discovery would "level the playing field" by providing defendants with information regarding government's case); Janet Moore, *Democracy and Criminal Discovery Reform After* Connick *and* Garcetti, 77 BROOK. L. REV. 1329, 1372 (2012) (discussing leveling the "playing field" by providing defendants with information collected through superior investigative resources of government); Jenia I. Turner & Allison D. Redlich, *Two Models of Pre-Plea Discovery in Criminal Cases: An Empirical*

heralded as resulting in more informed results.[45] Open-file criminal discovery has been promoted in the literature as leading to better informed case outcomes and guilty pleas.[46] Scholars have argued for open-file criminal discovery as a critical element in the defense's pre-plea calculation.[47]

Nonetheless, the praise of the potential benefits of open-file criminal discovery has not been universal. Scholars have questioned whether enactment of open-file criminal discovery has been as beneficial as much of the literature suggested it can be and have warned against open-file discovery as a cure-all.[48]

The literature has yet to consider digitizing open-file discovery as a means of bridging the informational gap existing between the prosecution and the defense and improving the delivery of legal services to the defense. In a recent article, Professor Jenia I. Turner considered the management challenges that digital information presents in the criminal context.[49] Acknowledging the growth of digitized information, Professor Turner encouraged jurisdictions to model their criminal discovery systems on the successes enjoyed in the civil context.[50]

My proposal is distinct from Professor Turner's as the focus here is how the current explosion of digitized information is exacerbating the gulf of information separating the prosecution from the defense, thereby leading to a digital ecosystem of accountability that is heavily skewed in favor of the prosecution. The proposal here argues for digitized, open criminal discovery systems to close the informational gulf and foster an equitable digital ecosystem of accountability, resulting in improved criminal defense lawyering particularly during the critical plea negotiation stage.

B. Criminal Discovery Shortcomings

Although several jurisdictions have enacted open-file criminal discovery, none have yet to account fully for the effect of digitized information on the criminal justice system. Other jurisdictions have yet to adopt open-file discovery systems

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Comparison, 73 WASH. & LEE L. REV. 285, 380 (2016) ("[O]pen-file pre-plea discovery can promote better informed case outcomes, including better informed guilty pleas."); Mary Prosser, *Reforming Criminal Discovery: Why Old Objections Must Yield to New Realities*, 2006 WIS. L. REV. 541, 600–01 (2006) (arguing for mandatory open-file criminal discovery).

45. *See* Turner & Redlich, *supra* note 44, at 380 (arguing that open-file discovery will lead to more intelligent and informed decisions in pleading).

46. *See id.* (arguing in favor of open-file as a means of better informed case outcomes and guilty pleas).

47. *See* Waldstein, *supra* note 14, at 536 (describing access to discovery as critical in plea calculation).

48. *See, e.g.*, Ben Grunwald, *The Fragile Promise of Open-File Discovery*, 49 CONN. L. REV. 771, 777–78, 821–26 (2017) (explaining that there is little empirical evidence supporting the virtues of open-file discovery as a "standalone fix" in terms of defendants receiving more favorable charges, being able to negotiate more favorable settlements, or obtaining less severe sentences); Miriam H. Baer, *Timing* Baer *supra* note 7, 115 COLUM. L. REV. 1, 49-57 (2015) (describing how widespread open-file criminal discovery may not be universally feasible).

49. *See generally* Turner, *supra* note 33, at 237–38 (examining management challenges resulting from the proliferation of digital information in criminal proceedings).

50. *See id.* at 279–96 (arguing for courts and state legislators to build upon a civil procedure model when accommodating digitized information in criminal matters).

whatsoever. Both are shortcomings which are contributing to the inequitable digitized ecosystem of accountability which is currently skewed in favor of the prosecution.

For example, at the time of George Alvarez's guilty plea,[51] Texas had in place a restrictive criminal discovery system that limited a defendant's ability to access pertinent information in possession of the government.[52] Of course, the prosecution would have been required to produce *Brady* materials to the defense prior to any trial.[53] However, Alvarez's case was resolved at the plea stage, so the mandates of *Brady* were inapplicable to his case. At the time of his plea, there was no statutory or case law remedy available to Alvarez which would compel the prosecution to reveal important information to him such as the video recording of the incident at the heart of the criminal charges. Indeed, the prosecution did not provide the defense with access to the videotape of the incident supporting the state's charges.[54]

Texas's criminal discovery scheme in place at the time that Alvarez pleaded guilty required the defense to establish "good cause" for the court to order the prosecution to reveal information in possession of the state related to the charges pending against the defendant.[55] Triggered by the defense's showing of good cause, the statute required the court to order the prosecution to reveal written statements of the defendant, as well as other tangible material items in possession of the state, "before or during trial."[56] The state's criminal discovery statute permitted, but did not require, the court to order the prosecution to reveal the name and address of

51. *See supra* Part I (discussing Alvarez v. City of Brownsville, 904 F.3d 382 (5th Cir. 2018)). Alvarez pleaded guilty to criminal charges in Texas in 2006. *See Alvarez*, 904 F.3d at 388 (5th Cir. 2018).

52. *See* TEX. CODE CRIM. PROC. ANN. art. 39.14 (West 2005). Originally enacted in 1965, Texas's criminal discovery system left decisions regarding parties' access to information in criminal matters to the discretion of the trial courts. The criminal discovery system was amended in 1999, to allow for reciprocal discovery of expert witnesses, and again in 2005. *See id.* (enacted in Acts 1965, 59th Leg., vol. 2, p. 317, ch. 722, eff. Jan. 1, 1966. Amended by Acts 1999, 76th Leg., ch. 578, § 1, eff. Sept. 1, 1999; Acts 2005, 79th Leg., ch. 1019, § 1, eff. June 18, 2005; Acts 2009, 81st Leg., ch. 276, § 2, eff. Sept. 1, 2009; Acts 2013, 83rd Leg., ch. 49 (S.B. 1611), § 2, eff. Jan. 1, 2014; Acts 2015, 84th Leg., ch. 459 (H.B. 510), § 1, eff. Sept. 1, 2015; Acts 2015, 84th Leg., ch. 1236 (S.B. 1296), § 4.001, eff. Sept. 1, 2015; Acts 2017, 85th Leg., ch. 686 (H.B. 34), § 7, eff. Sept. 1, 2017). *See also* Jessica Caird, *Significant Changes to the Texas Criminal Discovery Statute*, 51 HOUS. LAW. 10, 10–11 (2014) (discussing historical characteristics of Texas' criminal discovery system).

53. *See supra* Part I (exploring requirements pursuant to Brady v. Maryland, 373 U.S. 83 (1963)).

54. *See Alvarez*, 904 F.3d at 387-88.

55. Although not mentioned in the Alvarez decision, the Texas criminal discovery statute in place in 2006 was in effect at the time of Alvarez's case. See TEX. CODE CRIM. PROC. ANN. art. 39.14(a) (West Supp. 2005) (providing that "[u]pon motion of the defendant showing good cause . . . the court . . . may order the State . . . to produce and permit the inspection and copying or photographing by or on behalf of the defendant of any designated documents, papers, written statement of the defendant, (. . . except the work product of counsel in the case . . .), books, accounts, letters, photographs, objects or tangible things not privileged, which constitute or contain evidence material to any matter involved in the action and which are in possession . . . of the State.").

56. *Id.*

any expert witnesses it intended to use at trial prior to 20 days before trial.[57] When ordering the prosecution to reveal expert witness information, the court was required to specify the time, place, and manner of the defendant's access to the information.[58] Even upon a showing of good cause, witness statements and any reports or notes created by the prosecution were expressly *exempt* from disclosure.[59] The statute was silent as to other potentially important information in possession of the state, including any offense reports, recorded statements of the defendant, and any statements by law enforcement officers.

"Open-file," or broad, criminal discovery systems are the most transparent criminal discovery systems available.[60] Such systems help to rebalance the asymmetry of information problem currently plaguing the criminal justice system. They also allow defendants to readily assess the prosecution's case so that when entering into plea agreements—which the large majority of criminal defendants currently do—they are fully informed regarding the information to which the prosecution is privy.

Open-file criminal discovery systems also protect and promote *Brady*'s fairness concerns by ensuring that the defense has broad access to all non-privileged materials in the government's possession.[61] The defense is thus able to ascertain what information is useful to its client in responding to the government's case. Defense lawyers with a more complete picture of the prosecution's case against their clients can better prepare their arguments, and provide more competent representation and counsel. By providing defense attorneys access to all available information concerning the charges being brought against their clients, open-file systems promote the delivery of quality criminal defense lawyering. Additionally, knowing that the defense is privy to the strength of the prosecution's case will force the prosecution to be more fair-minded when engaging in plea negotiations.

Open-file criminal discovery systems also assist prosecutors in fulfilling their constitutional obligations to provide *Brady* material to the defense in at least two

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57. *Id.* art. 39.14(b) (providing that "[o]n motion of a party . . . the court . . . *may* order one or more of the parties to disclose . . . the name and address of each [expert witness] the other party may use at trial" (emphasis added)).

58. *Id.* art. 39.14(a).

59. *Id.* (providing prosecution, despite motion and good cause established by the defendant, was exempted from revealing written statement of witnesses). The statute provided, in relevant part: "Upon motion of the defendant showing good cause . . . the court . . . may order the State . . . to produce and permit the inspection . . . by . . . the defendant of any designated [material information] . . . except written statements of witnesses." Pursuant to the statute, the defendant was required to inspect any evidence in the presence of a State representative, and the defense was prohibited from removing any evidence from the State's possession unless the court expressly authorized it to do so. *Id.*

60. *See* Turner, *supra* note 33, at 248 ("The trend toward broader discovery from the prosecution has been motivated by concerns that restrictive discovery can result in wrongful convictions, unjust sentences, and unnecessary litigation. The move toward broader discovery from the defense has been spurred by a desire to ensure more truthful outcomes.").

61. *See* Moore, *supra* note 44, at 1372–73 (describing items to be disclosed in open-file criminal discovery systems).

ways. First, the systems allow access to all non-privileged information in the prosecution's possession without inquiry. Second, the systems eliminate the unworkable *Brady* directive requiring the prosecution itself to determine whether information or evidence is exculpatory for the defense.[62] Without access to information provided by the accused, prosecuting attorneys are ill-equipped to determine what is or is not material or valuable to constructing a defense to the relevant charges.

Since Alvarez's 2006 guilty plea for assault,[63] Texas has eliminated its long-standing restrictive discovery system in criminal matters, replacing it with a broader criminal discovery system.[64] In response to several well-publicized instances of egregious prosecutorial misconduct, Texas also adopted the Michael Morton Act ("MMA"), which introduces an open-file criminal discovery system.[65] Texas's current system mandates that the prosecution, upon request of the defense, reveal all non-privileged, non-work-product information related to the criminal charges that is within the government's possession, custody, or control.[66] The purpose of its adoption was to prevent wrongful convictions and to ensure each criminal defendant is guaranteed a constitutionally appropriate defense.[67]

Unlike the state's formerly restrictive discovery scheme, the new system no longer requires criminal defendants to show "good cause" to receive information from

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62. *Id.* at 1341–43 (explaining "inherent flaws" in *Brady*'s mandate that prosecutors identify and disclose exculpable, material information to the defense and describing it as "a duty of divination" to require prosecutors to determine *ex ante* what can often only be answered *ex post*).

63. *See supra* Part I (describing the Texas criminal case Alvarez v. City of Brownsville, 904 F.3d 382, 387–88 (5th Cir. 2018)).

64. *See* TEX. CODE CRIM. PROC. ANN. art. 39.14(a) (West Supp. 2017).

65. Texas's open-file criminal discovery scheme was adopted at the passage of the Michael Morton Act, named after a man who was wrongfully convicted as a result of prosecutorial misconduct which occurred when the prosecutor failed to disclose critical information in the government's possession. Morton spent twenty-six years in prison for the murder of his wife, a crime he did not commit. *See* TEX. CRIM. DEF. LAWYERING ASS'N, THE COST OF COMPLIANCE: A LOOK AT THE FISCAL IMPACT AND PROCESS CHANGES OF THE MICHAEL MORTON ACT 1–2 (March 2015) (describing the unanimous adoption of the MMA).

66. The Michael Morton Act now provides in relevant part:

> [A]s soon as practicable after receiving a timely request from the defendant the state *shall* produce and permit the inspection and the electronic duplication, copying, and photographing . . . of any offense reports, any designated documents, papers, written or recorded statements of the defendant or a witness, including witness statements of law enforcement officers but not including the work product of counsel . . . or any designated books, accounts, letters, photographs, or objects or other tangible things not otherwise privileged that constitute or contain evidence material to any matter involved in the action and that are in the possession, custody, or control of the state or any person under contract with the state . . . .

TEX. CODE CRIM. PROC. ANN. art. 39.14(a) (West Supp. 2017) (emphasis added).

67. *See* S.B. 1611, 83rd Leg., Reg. Sess. (Tex. 2013) (Sponsor's Statement of Intent) ("A defendant who understands the extent of the evidence against him can make an informed decision to plead . . . . Every defendant should have access to all the evidence relevant to his guilt or innocence, with adequate time to examine it."); *see also* Hallman v. State, 603 S.W.3d 178, 189–90 (Tex. Ct. App. 2020) (noting that the purpose of the Act was to make criminal prosecutions more transparent and to reduce the risk of wrongful conviction).

the government pertaining to the pending criminal charges.[68] Because most criminal defendants enter into plea agreements, of particular note in the newly-enacted Texas system is the requirement that the prosecution share discovery information even absent a trial setting.[69] Thus, those accused of crimes in Texas have access to significantly more information than before, which has proved useful when negotiating plea agreements.

Texas's newly revised criminal discovery scheme expressly includes discovery of information regarding and statements of witnesses, law enforcement officers,[70] and jailhouse informants.[71] Particularly beneficial to Alvarez's situation would have been the MMA's express requirement that the prosecution disclose photographic or other tangible items related to the charges.[72] If Alvarez's situation had arisen after adoption of the MMA, the prosecution would have been required to reveal to Alvarez the videotape of the incident at the heart of the state's case because the video was in the possession of the government and therefore would fall within the requirements of the criminal discovery statute.[73]

Another state to have more recently enacted a broad criminal discovery system is New York.[74] New York previously had one of the most restrictive criminal dis

68. *Compare* TEX. CODE CRIM. PROC. ANN. art. 39.14(a) (West Supp. 2005) (requiring defendant to file a motion with the court "showing good cause" for information from the government and for the court to order prosecution to reveal information) *with* TEX. CODE CRIM. PROC. ANN. art. 39.14(a) (West Supp. 2017) (having no requirement of defense motion or court order).

69. *Cf.* TEX. CODE CRIM. PROC. ANN. art. 39.14(a) (West Supp. 2005) (permitting the court to order the State to reveal information to the defendant only "before or during trial of a criminal action therein pending or on trial . . . .").

70. TEX. CODE CRIM. PROC. ANN. art. 39.14(a) (West Supp. 2017) (providing discovery of "any offense reports, . . . written or recorded statements of . . . a witness, including witness statements of law enforcement officers . . . ."). The state's previous discovery scheme expressly *exempted* discovery of witness statements. *See* TEX. CODE CRIM. PROC. ANN. art. 39.14(a) (West Supp. 2005).

71. TEX. CODE CRIM. PROC. ANN. art. 39.14(b) (West Supp. 2017).

72. *Id.* art. 39.14(a) (providing production to defense of "photographs . . . or other tangible things . . . that constitute or contain evidence material to any matter involved in the action and that are in the possession, custody, or control of the state").

73. The MMA also details procedures and subjects left unaddressed by the previous statute. It expressly codifies *Brady*. *Id.* art. 39.14(h). It requires both parties to identify expert witnesses at least twenty days before trial. *Id.* art. 39.14(b). It prohibits the defense or its agents from disclosing information produced to third parties absent a court order or unless the information has previously been made public. *Id.* art. 39.14(e). Similarly, it provides for sensitive information to be redacted prior to the defense revealing it to the defendant or prospective witnesses. *Id.* art. 39.14(f). It provides for specific instructions for defendants representing themselves *pro se*, most notably that a *pro se* defendant may be limited only to inspection rather than the electronic duplication of information. *Id.* art. 39.14(d). Before any plea or trial, all parties must acknowledge in writing or on the record that the criminal discovery procedures have been satisfied. *Id.* art. 39.14(j). The statute expressly provides that the parties can alter the discovery scheme, but any such agreement must be equal to or greater than what is required under the statute. *Id.* art. 39.14(n). Moreover, the government has a continuing duty to produce information whether before, during, or after trial. *Id.* art. 39.14(k).

74. *See generally* N.Y. CRIM. PROC. §§ 245 (McKinney 2020) (effective Jan. 1, 2020).

covery systems in the nation,[75] earning the nickname the "blindfold laws" because criminal defendants were said to be blindfolded when defending themselves against criminal charges.[76] New York's formerly restrictive system prohibited discovery of items such as police reports, witness names, and witness statements, and the system required the accused to make a written request for any co-defendant statements.[77] Fortunately, the recent implementation of the new system removed the blindfold.

New York's new criminal discovery scheme became effective in January 2020 and now requires the prosecution to reveal information to the defense without a request by the defendant.[78] Even more generous than Texas's open-file criminal discovery scheme, New York's criminal discovery statute provides "automatic discovery" of a wide variety of information, including grand jury testimony, witness information, the names and positions of all law enforcement personnel who may have information about the defendant's case, and all statements by those having information related to the alleged offense or any potential defense, including all police reports, police notes, investigator notes, and law enforcement agency reports.[79] Prosecutors are also automatically required to disclose expert opinion evidence as well as tapes and other electronic recordings related to the charged offense.[80] New York's new criminal discovery rules also expressly require disclosure of such information pre-plea.[81]

New York's current open-file criminal discovery system is a model of how an effective open-file system could be designed. The system is mandatory and specific. It does not require a request from the defendant to the prosecution, but rather is an automatic system, compelling the prosecution to provide the defendant with information. It dictates that information be shared with the defense pre-plea so that the defense can make a well-informed plea, a significant feature given that most criminal cases are resolved at the plea stage. New York's new criminal discovery

75. *See, e.g.*, N.Y. CRIM. PROC. § 240.20 (McKinney 2019) (repealed by N.Y. CRIM. PROC. §§ 245 (McKinney 2020)) (requiring demand by defendant and not providing for discovery of police reports and witness statements).

76. *See* Beth Schwartzapfel, *"Blindfold" Off, New York State Overhauls Discovery Laws*, THE MARSHALL PROJECT (Apr. 3, 2019), https://www.themarshallproject.org/2019/04/01/blindfold-off-new-york-overhauls-pretrial-evidence-rules; *see also* Beth Schwartzapfel, *Undiscovered*, THE MARSHALL PROJECT (Aug. 8, 2017), https://www.themarshallproject.org/2017/08/07/undiscovered.

77. *See* N.Y. CRIM. PROC. § 240.20 (McKinney 2019) (repealed by N.Y. CRIM. PROC. §§ 245 (McKinney 2020)).

78. When New York's restrictive criminal discovery rules were in place, some prosecutors were willing to allow defendants more access to information than the law provided. *See Undiscovered*, *supra* note 76, (describing how some prosecutors, like those in Brooklyn's district attorney's office, go beyond what the law requires, having long-held practices of providing "open and early discovery" to defendants).

79. N.Y. CRIM. PROC. §§ 245.20(1)(a)–(1)(e) (McKinney 2020).

80. *Id.* §§ 245.20(1)(f)–(1)(g).

81. New York prosecutors must provide discovery information to the defendant at least three days before entry of any plea deal. However, prosecutors may be excused from having to disclose information about witnesses if there is a reason to believe that the defendant or others will intimidate or otherwise harass potential witnesses. *See Blindfold Off*, *supra* note 76.

system is comprehensive and detailed, specifying information and items in the possession, custody, or control of the prosecution. Its itemization of materials subject to discovery is non-exhaustive, as the statute expressly provides that discovery is not limited to the information enumerated in the statute. Moreover, it clearly provides that the parties to the criminal action have an ongoing obligation. It provides protection to vulnerable witnesses and parties where appropriate or necessary. It provides sanctions for non-compliance.[82] The New York system accounts for the wide range of information and evidence that may be exculpatory or inculpatory, the consideration of which may be necessary for a criminal defense attorney and client to construct a competent and appropriate defense.[83] The breadth of discoverable information allows all parties involved in a criminal matter to see a complete picture of the evidence.

Like New York, several other jurisdictions have in place broad or open-file criminal discovery schemes,[84] and the trend toward jurisdictions adopting more broad criminal discovery systems is a strong indicator of an increasing focus on pre-trial fairness for criminal defendants.[85] However, there are still too many jurisdictions that have in place procedures designed to prevent a defendant from

82. N.Y. CRIM. PROC. § 245.20(5); *see also* State v. Reed-Hansen, 207 A.3d 191, 196 (Me. 2019) (in prosecuting for operating motor vehicle without license, prosecution failed to disclose dash cam video in open-file jurisdiction and video was suppressed despite its suppression being "almost certainly fatal" to the State's case).

83. *See generally* Baer, *supra* note 7, at 53–54 (explaining how a criminal defendant's consideration of inculpatory evidence can expedite guilty pleas); Prosser, *supra* note 44, at 595 (explaining that the ideal criminal discovery system should include inculpatory and exculpatory evidence); McConkie, *supra* note 6, at 12–17 (arguing that pleading defendants need both inculpatory and exculpatory evidence to understand sentencing consequences of a plea).

84. *See, e.g.,* ARIZ. R. CRIM. P. 15.1 (West, Westlaw through 2021 Sess.); COLO. R. CRIM. PROC. 16 (West, Westlaw through Oct. 15, 2021); CONN. GEN. STAT. § 54-86a (2019); FLA. R. CRIM. P. 3.220 (2020); IDAHO CRIM. R. 16 (West, Westlaw through Oct. 15, 2021); ME. R. UNIFIED CRIM. P. 16 (West, Westlaw through Oct. 1, 2021); MD. R. 4-262, -263 (West, Westlaw through Nov. 1, 2021) MASS. R. CRIM. P. 14 (West, Westlaw through Nov. 1, 2021); MICH. CT. R. 6.201 (West, Westlaw through Nov. 1, 2021); MINN. R. CRIM. P. 9.01 (West, Westlaw through Aug. 15, 2021); N.H. R. CRIM. P. 12 (West, Westlaw through Nov. 15, 2021); N.J. Ct. R. 3:13-3 (West, Westlaw through Oct. 15, 2021); N.M. DIST. CT. R. CRIM. P. 5-501, 5-502 (West, Westlaw through Sept. 1, 2021.); N.C. GEN. STAT. § 15A-903 (LEXIS through 2020 Reg. Sess.); OHIO CRIM. R. 16 (West, Westlaw through Nov. 2021); OKLA. STAT. tit. 22, § 22-2002 (2019); TEX. CODE CRIM. PROC. ANN. art. 39.14 (West, Westlaw through 2021 Sess.).

85. North Carolina was the first state to enact a full open-file discovery system covering all non-privileged information in the prosecution's possession. *See* Mike Klinkoum, *Pursuing Discovery in Criminal Cases: Forcing Open the Prosecution's Files,* THE CHAMPION 26, 27 (May 2013). Currently North Carolina's pre-trial open-file discovery in all felony criminal cases requires prosecutors to make all law enforcement and prosecutorial agencies' files available to defendants, including all defendant and co-defendant statements, witness statements, investigators' notes, texts, examinations, testifying expert witness reports, and all other evidence or material obtained during the investigation. *See* N.C. GEN. STAT. ANN. § 15A-903(a)(1) (West, Westlaw through 2021 Sess.) ("Upon motion of the defendant, the court must order . . . [t]he State to make available to the defendant the complete files of all law enforcement agencies, investigatory agencies, and prosecutors' offices involved in the investigation of the crimes committed or the prosecution of the defendant.").

receiving information about the government's case[86] and unfairly forcing those accused of crimes to deal with the government blindfolded. Open-file systems help to remove the blindfold.

Open-file systems—discovery systems which allow the defendant to access all non-privileged, non-work-product information to the defense– should be adopted across all jurisdictions.[87] Several jurisdictions have resisted the trend toward open-file criminal discovery for reasons that have been proven to be unfounded.[88] For example, some have expressed concerns that enacting open-file criminal discovery would lead to witness intimidation or tampering.[89] However, concerns that open-file criminal discovery systems put witnesses at risk of intimidation or harassment are unfounded.[90] Indeed, a comprehensive study of prosecutors and defense attorneys practicing in jurisdictions with open-file criminal discovery systems concluded that the criminal justice system worked more efficiently under an open-file system than under a more restrictive criminal discovery system.[91]

In addition to adoption of open-file criminal discovery systems, vast technological advances occurring over the past several years require jurisdictions to go further and digitize open-file criminal discovery. Immense technological advances have significantly impacted the type of evidence and information relied upon in criminal cases. As a result, digitization of criminal discovery is necessary to correct the unfair information asymmetry exiting in the criminal justice system, as explained in the following section.

III. THE NEED FOR DIGITIZED OPEN-FILE CRIMINAL DISCOVERY

It is important that the criminal justice system correct the asymmetry of information currently separating the prosecution and the defense during the plea-bargaining stage, especially considering the current exponential growth of electronically-stored

86. *See*, *e.g.*, ALA. R. CRIM. P. 16; DEL. SUPER. CT. R. CRIM. PROC. 16; KAN. STAT. ANN. § 22-3212 (West); S.C. R. CRIM. PROC. 5; S.D. CODIFIED LAWS § 23A-13; TENN. R. CRIM. PROC. 16; R. SUP. CT. VA. 3A:11; WYO. R. CRIM. PROC. 16.

87. *Cf.* Moore, *supra* note 44, at 1372 (arguing for the adoption of open-file criminal discovery as a means of vindicating several problems with the criminal justice system).

88. *See* Douglas A. Ramseur, *A Call For Justice: Virginia's Need for Criminal Discovery Reform,* 19 RICH. J.L. & PUB. INT. 247, 251–52, 254 (2016) (explaining that concerns such as witness intimidation and witness tampering are unfounded when jurisdictions adopt open-file discovery systems).

89. *See* Turner & Redlich, *supra* note 44, at 358–60 (explaining that witness intimidation and witness safety have not increased in jurisdictions adopting open-file criminal discovery schemes).

90. *See* Ramseur, *supra* note 88, at 251–54 (explaining that concerns such as witness intimidation, witness tampering, and decreased conviction rates are unfounded when jurisdictions adopt open-file discovery systems); *see also* Darryl K. Brown, *Discovery*, in 3 REFORMING CRIMINAL JUSTICE: PRETRIAL AND TRIAL PROCESSES 147, 148–49 (Erik Luna ed., 2017) (explaining that jusrisdictions that have adopted broad criminal discovery schemes have found ways to manage risks of witness intimidation, victim privacy, and maintaining the secrecy of ongoing criminal investigations).

91. *See* Turner & Redlich, *supra* note 44, at 356–57 (describing both prosecutors and defense attorneys in jurisdictions with open-file criminal discovery as agreeing that parties enter into better informed, speedier guilty pleas lending to a more efficient criminal justice system).

information. Technological advances continue to increase the gulf of information separating the prosecution and the defense in criminal matters.[92] Moreover, unnecessarily restrictive discovery schemes negatively impact the reliability of convictions and the delivery of quality legal services. Criminal defendants who enter pleas should have digitized access to all non-privileged information in the government's possession prior to their entry of a plea.[93] Without question, the current plea negotiation system is an essential feature of our criminal justice system.[94] However, the plea process should not benefit the prosecution more so than it does the defense. The imbalance favoring the prosecution can be corrected by the implementation of digitized open-file criminal discovery systems. The benefits of their enactment far outweigh any potential disadvantages. The following section begins by detailing the digital ecosystem of accountability that has become instrumental in contributing to an imbalance of information currently existing between the prosecution and the defense in criminal matters.[95] It then explores the benefits of jurisdictions enacting digitized open-file criminal discovery systems to correct the informational imbalance.[96] In conclusion, it addresses likely concerns that may accompany enactment of open-file criminal discovery systems.[97]

A. A Digital Ecosystem of Accountability

Authorities credit an ubiquitous "digital ecosystem of accountability" with how quickly the government was able to identify and commence criminal proceedings against several individuals involved in the recent domestic terrorist attack on the U.S. Capitol.[98] On January 6, 2021, domestic terrorists stormed the Capitol,

92. *See* Garrie, *supra* note 35 at 530–32 (explaining how the justice system must adjust to the twenty-first century and the impact of electronically-stored information on criminal discovery).

93. *See* Bennett L. Gershman, *The Prosecutor's Duty To Truth,* 14 GEO. J. LEGAL ETHICS 209, 334 (2001) (explaining that the reciprocal discovery rule should allow the defendant the same opportunity that the prosecution has to determine the probative value of the government's case).

94. *Cf.* Missouri v. Frye, 566 U.S. 134, 144 (2012) (describing how the plea negotiation system can be beneficial to both parties to criminal litigation by conserving valuable prosecutorial resources and providing defendants more favorable sentencing terms); Padilla v. Kentucky, 559 U.S. 356, 373–74 (2010) (spelling out how the plea process can benefit both the government and the noncitizen criminal defendant); Neely v. Pennsylvania, 411 U.S. 950, 958 (1973) (Douglas, J., dissenting in denial of certiorari) ("It is true, of course, that the guilty plea plays an important role in the administration of the criminal law.") (citing Santobellow v. N.Y., 404 U.S. 257, 260 (1971)).

95. *See infra* Section III.A.

96. *See infra* Section III.B.

97. *See infra* Section III.C.

98. *See* Farrow, *supra* note 8 (quoting John Scott-Railton, a senior researcher in the University of Toronto Munk School of Global Affairs and Public Policy's Citizen Lab, about the "digital ecosystem of accountability" involving experts' and citizens' use of digital forensics to identify insurrectionists, including digital and interactive videos, digital photographs, and social media). "Digital ecosystems" have been described variously, including as robust, self-organized digital systems that can solve complex, dynamic problems. *See, e.g.*, Gerard Briscoe & Philippe De Wilde, *Digital Ecosystems: Evolving Service-Oriented Architectures*, BIONETICS (2006). This newly-coined term "digital ecosystem of accountability" refers to the vast amount and ever-growing universe of widely available digital information. *See* International Digital Accountability Council, *Rebuilding Trust in the Ditigal Ecosystem: New Mechanisms for Accountability*, DIGITAL INNOVATION AND DEMOCRACY

causing the deaths of at least seven people and leaving a path of destruction and domestic upheaval.[99] The tragic events of that day were broadcast live across the world. During and after the turmoil, forensics experts and concerned citizens with no forensic or law enforcement training scoured countless digitized photographic and video images, searched innumerable social media postings, and sifted through an untold number of crowd-sourced digital images in an effort to identify the insurgents.[100] As a result, mere days following the insurrection, individuals accused of storming the Capitol were apprehended, arrested, and charged with federal crimes.[101] One forensic researcher described the electronically-stored totality of information compiled during and immediately following the Capitol insurrection as a veritable "'digital ecosystem of accountability,'" a rich collection of electronically-stored information which ultimately led to the prompt arrest and conviction of several responsible individuals.[102]

The recent domestic terrorist attack on the U.S. Capitol illustrates well the impact of electronically-stored information on the criminal justice system. Investigators and prosecutors were quickly able to identify suspects, compile a timeline, and assess the appropriateness of pursuing arrests and criminal charges.[103] Much of the evidence collected and relied upon is a direct result of our rapidly growing digitized society.[104] Recent technological advances and ESI permeate all facets of American life, including the criminal justice system.[105] Accordingly, both prosecutors and criminal defense attorneys must have equal access to and the ability to use such information and evidence to benefit their clients.

Currently, digitized and electronically-stored information has proliferated exponentially,[106] with the use of paper-based systems falling to the wayside.[107] Nearly

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Initiative (GMF Digital) (March 10, 2021), https://www.gmfus.org/news/rebuilding-trust-digital-ecosystem-new-mechanisms-accountability (describing how the open nature of the internet provides billions of people access to digital information and technologies).

99. *See* Chris Cameron, *These Are the People Who Died in Connection With the Capitol Riot*, N.Y. TIMES (Jan. 5, 2022), https://www.nytimes.com/2022/01/05/us/politics/jan-6-capitol-deaths.html.

100. *See* Farrow, *supra* note 8, (describing means by which experts and novices scoured large amount of digital information compiled immediately following Capitol insurrection).

101. *See id.*

102. *See id.* (quoting John Scott-Railton, a senior researcher in the Citizen Lab at the University of Toronto's Munk School).

103. *See* Farrow, *supra* note 8.

104. *Cf.* Farrow, *supra* note 8 (discussing how the FBI used digitized information gathered from a crowd-source online movement to identify and charge the Capitol insurrectionists).

105. *Cf.* International Digital Accountability Council, *Rebuilding Trust in the Ditigal Ecosystem: New Mechanisms for Accountability*, DIGITAL INNOVATION AND DEMOCRACY INITIATIVE (GMF DIGITAL) (March 10, 2021), https://www.gmfus.org/news/rebuilding-trust-digital-ecosystem-new-mechanisms-accountability (explaining that digital technologies have dramatically affected worldwide economies and societies).

106. *See* Andrew Guthrie Ferguson, *Big Data Prosecution and* Brady, 67 UCLA L. REV. 180, 209 (2020) (describing developing law enforcement technologies as producing "an almost overwhelming amount of unstructured data"); *see also* Lucas Mearian, *As Police Move to Adopt Body Cams, Storage Costs Set to Skyrocket*, COMPUTERWORLD (Sept. 3, 2015, 2:45 AM), https://www.computerworld.com/article/2979627/as-

every aspect of one's life is currently being digitally tracked.[108] In the criminal justice context, this ever-expanding universe of electronic information can be helpful to both the prosecution and the defense.[109] However, courts have not done enough to keep up with the continual growth of ESI and its effects on the justice system.[110]

Law enforcement agencies have increased their use of technology in police vehicles, during interrogations, while engaging in surveillance, and while using body cams, thereby creating large volumes of digital information.[111] Electronically-stored information comes from a wide variety of sources, including cell phones, dash cam videos,[112] police body cams,[113] cell towers,[114] social media accounts, activity trackers, and pacemakers.[115] It has become instrumental in resolving criminal matters.[116]

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police-move-to-adopt-body-cams-storage-costs-set-to-skyrocket.html (describing law enforcement's increased use of body cams, dashboard cams, and cameras creating petabytes of information, making it more difficult for agencies to manage locally).

107. *See* Ferguson, *supra* note 106, at 195 (explaining criminal justice system's paper-based storage methods being replaced by digitized information, not intentionally as big data innovation, but rather as result of technological growth).

108. *See* Fairfield & Luna, *supra* note 7, at 1024 (explaining that government has ability to track and record every aspect of one's life online and offline); Tom O'Connor, *The Changing Standard of Discovery in Criminal Cases*, DIGITAL WAR ROOM (Feb. 3, 2020), https://www.digitalwarroom.com/blog/ediscovery-criminal-cases (explaining more than 90% of information currently created is generated in electronic format).

109. *See* Brandon L. Garrett, *Big Data and Due Process*, 99 CORNELL L. REV. ONLINE 207, 208 (2013-2015) (describing electronic information as "so ubiquitous that it will both inculpate and clear defendants far more often in the future").

110. *See* Turner, *supra* note at 33, 248–49 (explaining how criminal procedure rules have not kept up with growth of electronically-stored information).

111. *See* Ferguson, *supra* note 106 at 182–83, *Big Data Prosecution and* Brady, 67 UCLA L. REV. 180, 182-83, 217, 223 (2020) (explaining that law enforcement's increased utilization of technology is producing a large volume of digitized information that is expanding daily).

112. *See, e.g.*, State v. Reed-Hansen, 207 A.3d 191, 192 (Me. 2019) (illustrating use of dash cam video as state's primary evidence in prosecution regarding operation of motor vehicle).

113. *See, e.g.*, State v. Kolstad, 942 N.W.2d 865, 868–72 (N.D. 2020) (reversing dismissal of driving under the influence prosecution in which state failed to disclose dash cam and body cam video footage); State v. Draper-Roberts, 378 P.3d 1261, 1264 (Utah App. 2016) (holding that state's failure to disclose body cam video evidence warranted new trial in case in which defendant was convicted by jury for theft,); Noe v. Commonwealth, 2018 WL 5732312, *7, *7–*8 (Ky. 2018) (holding that without a showing of bad faith of police in failure to preserve potentially useful body cam evidence, it did not constitute a denial of due process in first-degree robbery prosecution).

114. *See, e.g.*, State v. Jennings, 942 N.W.2d 753, 766 (Neb. 2020) (holding cell phone and cell site location information properly admitted in conviction of defendant for first-degree murder); Holder v. State, 505 S.W.3d 691, 704 (Tex. Crim. App. 2020) (holding prosecution's acquisition of defendant's cell tower location information without probable cause constituted violation of Fourth Amendment right to be free from unreasonable search and seizure).

115. *See* O'Connor, *supra* note 108 (describing the use of Fitbit devices and pacemakers to contradict defendants' averments regarding their location at time of the alleged offense).

116. *See, e.g.*, United States v. Ramirez, 471 F. Supp. 3d 354, 364 (D. Mass. 2020) (holding although defendant had reasonable expectation of privacy in historical cell site location information ("CSLI"), the Government established probable cause for warrant to obtain CSLI from cell service provider pursuant to SCA); O'Connor, *supra* note 108, (describing social media information, content from mobile devices, and cloud storage as routinely being more relevant as electronically-stored information in criminal matters). Even DNA evidence is

Some prosecuting offices have adopted data-driven strategies, not only to prosecute past crimes, but also to identify potential criminal offenders by using technological advances even more aggressively to predict future crime patterns.[117] Law enforcement agencies nationwide currently use predictive law enforcement technology to interfere with criminal conduct preemptively.[118] Digitized information is capable of being organized, stored, and shared in various forms useful to prosecuting authorities.[119] Law enforcement offices are now able to search through vast amounts of digitized information very efficiently, some able to cut what was previously hours of search time down to mere minutes.[120]

Nonetheless, these programs are currently designed primarily for use on the prosecutorial side, with little if any focus identifying exculpatory information, which would be useful to the defense.[121] However, the failure of these law enforcement programs to identify information potentially useful to the defense is detrimental to prosecutors as well because they run the risk of overlooking and violating *Brady* obligations.[122] This potential for oversight is even more reason that a digitized open-file system is preferable.

Unfortunately, the increase of ESI continues to exacerbate the disparity of information between criminal defendants and the prosecution, particularly in

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digitized and stored electronically. *See* Garrett, *supra* note 109, at 210 (describing how DNA is often electronic evidence because searches are conducted through Combined DNA Index System ("CODIS") databases, which search against strings of numbers based on DNA results); *see also* O'Connor, *supra* note 108, (discussing how genomic material and cancer-fighting viruses are now capable of being defined precisely to allow printing of data maps possibly relevant in the investigation of criminal cases).

117. *See generally* Andrew Guthrie Ferguson, *Predictive Prosecution*, 51 WAKE FOREST L. REV. 705, 705–06 (2016) (explaining several prosecutorial offices' use of "predictive policing" to identify and target suspects at risk to commit future serious crimes). This practice is alarming to me, especially considering the well-established practice of over-policing of minority communities in this country. *See* Kimberly J. Cullen, *State-Sponsored Surveillance and Punishment: How Municipal Crime-Free Ordinances Exacerbate the Carceral Continuum,* 31 B.U. PUB. INT. L.J. 47, 49 (2022) (explaining that communities of color are often targeted by over-policing); Monica C. Bell, *Police Reform and the Dismantling of Legal Estrangement,* 126 YALE L.J. 2054, 2117 (2017) (describing as a current problem overpolicing in minorities of color).

118. *See* Ferguson, *supra* note 106, at 186 n.26, 187, 189–90 (describing recent law enforcement practice of "intelligence-driven prosecution" which is described as manipulating technological information to target human crime drivers proactively in communities and describing current use of predictive law enforcement programs in cities such as New York, Los Angeles, Chicago, Philadelphia, Miami, Seattle, Kansas City, and Memphis).

119. *See, e.g.*, Samuel Greengard, *What To Know About Body-Worn Camera Video Data Storage and Management*, STATETECH MAGAZINE (July 31, 2018), https://statetechmagazine.com/article/2018/07/what-know-about-body-worn-camera-video-data-storage-and-management-perfcon (describing Seattle Police Department's current use of cloud-based storage platform where digitized videos can be viewed in highly redacted form and also can be provided pursuant to Freedom of Information Act request in lightly redacted form).

120. *See id.* (describing how the Seattle Police Department's adoption of cloud services approach to storing digitized information has enabled it to "cut hours of search time [looking through video] down to minutes").

121. *See* Ferguson, *supra* note 106, at 183 (describing how prosecutors' offices are using digitized information systems, but those systems are not engineered to identify information that may be useful for criminal defendants).

122. *See id.* (describing prosecutors' access to wealth of digital information, all searchable, while failing to engineer their big data systems to identify exculpatory and impeaching *Brady* material).

jurisdictions employing restrictive approaches to criminal discovery.[123] Consider *In re Hunter*, in which state prosecutors alleged that Derrick Hunter and Lee Sullivan killed Jacquan Rice, Jr. in a drive-by shooting.[124] Prosecutors indicted both Hunter and Sullivan for the homicide of Rice, contending the defendants were fellow gang members riding in the backseat of the car from which the lethal shots were fired.[125] In addition to Hunter and Sullivan, the police also arrested Sullivan's girlfriend, Rasheda Lee, the driver of the car.[126] Lee was the only witness who implicated Sullivan in Rice's killing. Sullivan maintained that Lee was unreliable because she was involved in the crime and was acting out of jealousy due to his infidelity in their relationship.[127] Sullivan also maintained that Hunter's younger brother had killed Rice in response to repeated threats between him and Rice that taken place on social media and in other places prior to the killing.[128]

During the investigation of the case, the prosecution and the defense sought information regarding communications made on both Rice's and Lee's social media accounts.[129] The prosecution served search warrants on multiple social media providers to acquire the information.[130] In response, the government received information about the victim Rice's private social media communications.[131] As California is a jurisdiction with a fairly restrictive criminal discovery system, the prosecution was not required to disclose to the defense in discovery all the information it had acquired from the social media providers.[132] In fact, the court reported that the prosecution shared with the defense information from "some (but possibly not all) of Rice's social media accounts."[133]

Before trial, the defendants served subpoenas on the social media providers requesting information, including private communications, from Lee's and Rice's social media accounts.[134] The providers successfully moved to quash the

123. *See, e.g.*, U.S. v. Wenk, 319 F. Supp. 3d 828, 829 (E.D. Va. 2017) (acknowledging, in a case where the defendant sought and was denied information about his own email account from provider, that the Stored Communications Act provided one-sided access to evidence in favor of the Government, not the defendant); *see generally* Turner, *supra* note 33 at 243 (explaining that courts need to "recognize the vastly unequal bargaining powers of the prosecution and the defense" in criminal matters).

124. Facebook, Inc. v. Super. Ct. of S.F. ("*In re Hunter*"), 259 Cal. Rptr. 3d 331, 333–34 (Cal. Ct. App. 2020).

125. *See id.* at 334. Hunter and Sullivan were indicted for other criminal offenses as well. *See id.*

126. *See id.* at 333. A prosecution witness identified Lee as driving the car during the alleged offense. *See id.*

127. *See id.* at 336.

128. *See id.* at 333–34.

129. *See id.*

130. The Government sought information from social media providers Facebook and Instagram. *See id.* at 334.

131. *See id.* at 339 (indicating that the Government obtained information about Rice's private communications via its warrant).

132. *See* CAL. PENAL CODE §§ 1054.1–1054.7 (requiring disclosure of witness names, statements of defendant, and other enumerated information within 30 days of trial, but not requiring disclosure of social media information).

133. *See In re Hunter* at 333.

134. *See id.* at 334.

subpoenas,[135] relying on the federal Stored Communications Act ("SCA"), which prohibits social media outlets from revealing its subscribers' private communications to anyone other than the Government, absent certain exceptions.[136] Pursuant to the SCA, social media outlets may be required to provide the Government with social media subscriber's private communications,[137] but cannot be compelled to provide a non-government entity, such as a criminal defendant, access to the very same information absent limited exceptions.[138]

Hunter illustrates an asymmetry of information problem where the prosecution may have access to important and relevant information related to the criminal charges yet is not required to disclose to the defense the information in discovery, while the defense is denied access to or must expend considerable resources attempting to acquire the very same information. Other cases have presented similar situations where the prosecution has one-sided access to relevant information.[139] The effect may be devastating to criminal defendants.

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135. *See id.* at 334, 340. This case has run through several appeals, with the defendants asserting that denial of access to the sought-after social media information constituted a violation of their Fifth and Sixth Amendment rights under the U.S. Constitution. The California Supreme Court has recently remanded *Hunter* to the lower court, indicating that the defendants in *Hunter* may be able to establish the good cause required to overcome the motion to quash. *See* Facebook, Inc. v. Super. Ct. of San Diego Cnty., 471 P.3d 383, 398–99 (2020); *see also* Facebook v. S.C. (Hunter), 474 P.3d 635 (Oct. 21, 2020) (dismissing and remanding).

136. Stored Wire and Electronic Communications and Transactional Records Access ("Stored Communications Act"), 18 U.S.C. §§ 2701–2703 (2019); *see also* Facebook, Inc. v. Super. Ct. of S.F. ("*In re* Hunter"), 259 Cal. Rptr. 3d 331, 332-33 (Cal. Ct. App. 2020).

137. *See* 18 U.S.C. § 2703(a) (providing that a "governmental entity may require the disclosure by a provider of electronic communication service of the contents of a wire or electronic communication").

138. *See* 18. U.S.C. §§ 2702 (a)-(b). Courts in other criminal cases have made similar rulings interpreting the SCA. *See, e.g.*, Facebook, Inc. v. Wint, 199 A.3d 625, 629 (D.C. 2019) (ruling pursuant to the SCA that the social media provider could not be compelled to disclose social media information in response to criminal defendant subpoena); U.S. v. Wenk, 319 F. Supp. 3d 828, 829 (E.D. Va. 2017) (interpreting the SCA as compelling "one-sided" access in favor of the government). A similarly illustrative case is State v. Johnson, 538 S.W.3d 32 (Tenn. Crim. App. 2017). In *Johnson*, the state charged two defendants with multiple counts of rape. *See id.* at 37. Although the victim and the witnesses had spoken with the police about their social media usage before and after the alleged rape, the prosecution refused to disclose pursuant to the state's restrictive criminal discovery rules. *See id.* at 38–39. The defendants subpoenaed the social media and cell phone providers, but pursuant to the Stored Communications Act ("SCA"), the social media providers could only be compelled to reveal the information in response to a *warrant,* not a *subpoena*. *See id.* at 43. The court ruled that the defendants only recourse was to acquire the information from the witnesses themselves. *See id.* at 70 ("The SCA places limitations only on the service providers and not on the users of social media websites."). Unfortunately, the witnesses and victim by then had deleted their social media accounts and cell phone information. *See id.* at 46. Because the SCA permitted disclosure of cell phone and social media information only to the government and not the defendants, the defendants were forced to defend themselves against the rape charges without this vital information. *See id.* at 38.

139. *See, e.g.*, U.S. v. Wenk, 319 F. Supp. 3d 828, 829 (E.D. Va. 2017) (ruling that pursuant to SCA, Google was not permitted to disclose information to defense regarding defendant's own email accounts). The court explained that the SCA "does not contain a provision detailing the methods with which criminal defendants can *require* disclosure despite containing such a provision for governmental entities. This one-sided access to . . . obtaining evidence is not unique to the SCA." *Id.* (emphasis in original). *But see* Facebook, Inc. v. Pepe, 241 A.3d 248, 263–64 (D.C. App. 2020) (denying social media provider Facebook's motion to quash a subpoena and holding it in contempt for not complying with defense's subpoena seeking defendant's own email communications, needed to support defendant's claim of self-defense).

Recent advancements in technology currently produce vast amounts of ESI that are and will continue to be important to the resolution of criminal cases.[140] Some of the causes for the imbalance of access to ESI between the prosecution and the defense is a result of now-outdated technology.[141] Failing to keep up with technological advances and changes, the SCA now produces a number of hurdles or detrimental consequences for criminal defendants seeking to access important information.[142] Advances in digital resolution capabilities, live streaming, and artificial intelligence all contribute to the creation of large volumes of ESI, giving rise to storage and access issues. Moreover, law enforcement's increased use of digitized technology, such as license plate surveillance,[143] dashboard cameras,[144] body cameras,[145] and interview recordings,[146] creates potential for an even greater asymmetry of information between the defense and the prosecution.[147]

Much like criminal discovery systems nationwide,[148] jurisdictions take varying approaches to managing ESI.[149] ESI may be treated differently depending upon the state or the court in which an ESI discovery issue arises.[150] In open-file criminal discovery jurisdictions, prosecutors may disclose massive amounts of digitized

140. *See* Turner, *supra* note 33, at 244–45 (noting that digital information that is often relevant in criminal cases includes: databases of criminal users' daily activities, actual criminal activity and investigations of said activity, and law enforcement surveillance).

141. *See* Fairfield, *supra* note 7, at 1055-56 (2014) (describing how Silicon Valley firms successfully resist criminal defense subpoenas pursuant to the SCA, which now twenty-five years later is based on now-outdated technology and incorrect assumptions).

142. *Id.* at 1056 (explaining how SCA now produces a variety of unintended consequences, including preventing criminal defendants from accessing information); *see, e.g.*, State v. Bray, 422 P.3d 250, 255–57 (Or. 2018) (describing difficulties defendant encountered seeking to employ SCA to compel Google to disclose "important and exculpatory" information).

143. *See, e.g.*, Kyles v. Whitley, 514 U.S. 419, 423–24 (1995) (law enforcement used license plate surveillance to prosecute criminal case).

144. *See, e.g.*, State v. Reed-Hansen, 207 A.3d 191, 192 (Me. 2019) (illustrating use of dash cam video as state's primary evidence in prosecution regarding operation of motor vehicle).

145. *See* Lucas Mearian, *As Police Move to Adopt body Cams, Storage Costs Set to Skyrocket*, COMPUTERWORLD (Sept. 3, 2015, 2:45 AM), https://www.computerworld.com/article/2979627/as-police-move-to-adopt-body-cams-storage-costs-set-to-skyrocket.html (describing law enforcement's increased use of body cams, dashboard cams, and cameras).

146. *See* The Justice Project, *Electronic Recofrding of Custodial Interrogations: A Policy Review* at 2 (June 17, 2020), https://bit.ly/3I4BIPa (describing how electronic recordation of custodial interrogations has emerged as a powerful tool within the criminal justice system).

147. *See* Fairfield, *supra* note 7, at 984 (identifying "gross hypocrisy" of government using digital information to build its case, while refusing to provide defense with access to same information).

148. *See supra* Part II.B (describing various criminal discovery systems nationwide).

149. *See* Turner, supra note 33, at 248–49 ("Digital discovery is therefore handled differently from state to state, from court to court, and from judge to judge.").

150. *Id.* at 249 (explaining how ESI discovery treatment varies from "state to state, from court to court, and from judge to judge").

discovery information without indicating the precise location of relevant – perhaps even exculpatory and material – information.[151]

Even prior to the onslaught of ESI, prosecutors have notoriously had difficulty complying with their constitutional obligations pursuant to *Brady*, and the continuing increase of ESI risks exacerbating this problem.[152] The increase of ESI makes determining the presence of *Brady* material all the more difficult, especially considering the prosecution's obligation to disclose information about which it is unaware.[153] The increased amount of electronically-stored material risks prosecutors violating their constitutional obligations.[154] Of course, the prosecution failing to comply with constitutional mandates will have a snowball effect with the defense not being provided with the information needed to deliver well-informed legal assistance. Consequently, the growth of ESI will negatively impact the quality of the criminal justice system overall. The current digital ecosystem of accountability, which currently favors the prosecution to the detriment of criminal defendants, can be balanced out with adoption of digitized open-file criminal discovery systems.

B. Benefits of Digitized Open-File Criminal Discovery

Enacting digitized open-file criminal discovery systems will require jurisdictions to be deliberate in developing strategies and procedures to address the challenges presented by the proliferation of ESI. Open-file criminal discovery will allow the defense access to all non-privileged evidence in the possession or control

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151. *See, e.g.*, United States v. Skilling, 554 F.3d 529, 576–77 (5th Cir. 2009) (holding no *Brady* violation where prosecution provided voluminous electronic file in discovery without identifying location of material and exculpatory information).

152. *See* Ferguson, *supra* note 106, at 238–39 (describing how "traditional drivers of *Brady* failures are exacerbated by the move to big data prosecution").

153. Compare the prosecution's constitutional obligation under *Brady* to disclose material exculpatory information about which it may be unaware with the prosecution's ethical obligations, which require only that the prosecution reveal information about which it is actually aware. *See, e.g.*, ABA MODEL RULES OF PRO. CONDUCT r. 3.8 (2017). Various academics have explored the tension between a prosecutor's constitutional mandate pursuant to *Brady* and a prosecutor's ethical obligations. *See generally* Michael D. Ricciuti, Caroline E. Conti & Paolo G. Corso, *Criminal Discovery: The Clash Between* Brady *and Ethical Obligations*, 51 SUFFOLK U. L. REV. 399, 406–07 (2018); Robert P. Mosteller, *Exculpatory Evidence, Ethics, and the Road to the Disbarment of Mike Nifong: The Critical Importance of Full Open-File Discovery*, 15 GEO. MASON L. REV. 257, 259–60, 61 (2008). Although the focus of this Article is the prosecution's constitutional obligations, not the prosecution's ethical obligations, the prosecution's constitutional and ethical obligations may overlap, and the prosecution is required to fulfill both responsibilities. For instance, prosecutors are *constitutionally* obligated to provide the defense with all material, exculpatory information in the government's possession, even if the prosecution is unaware of the information's existence. The prosecution's *ethical* obligation requires it to disclose any information about which the prosecution is aware that is related to the criminal matter and tends to negate guilt or mitigate the offense. Unlike the constitutional mandates imposed by *Brady* and its progeny, the ethics requirements do not have a materiality requirement.

154. Prosecutors will be best served by either a relaxation of their obligation to provide *Brady*-responsive material or a way to easily review all information in the government's possession to see if it is *Brady* material, a solution posited herein. *See infra* Part II (proposing adoption of digitized open-file criminal discovery schemes nationwide).

of the prosecution. Because digital evidence or ESI in any criminal matter can be quite voluminous, it is important for jurisdictions to have in place procedures to facilitate the production of ESI that is discovery material. The U.S. Department of Justice ("DOJ") has developed protocols and best practices for ESI discovery management, which can serve as useful blueprints for jurisdictions as they develop their own digitized open-file criminal discovery systems.[155] Engaging technicians that are familiar with ESI and ongoing technological advances to anticipate, detect, and solve issues early on is of the utmost importance to facilitate parties' access to and exchange of digital discovery.[156]

Another important feature of digitized open-file criminal discovery will be for the prosecution and defense to meet to discuss, determine, and work out any potential ESI discovery issues. Ideally, such a meeting would occur shortly after arraignment, which allows both parties to be well-informed prior to entering into plea negotiations.[157] The DOJ's protocols also encourage the creation of a table of contents generally describing the categories of information available for ESI discovery to help expedite the opposing party's review of the materials.[158] The protocols also make it necessary for the receiving party to be proactive about accessing the produced ESI so that any problems in accessing the digitized materials can be detected and resolved early on.[159] Additional features, such as enhanced security measures to protect ESI materials and employing a coordinating discovery attorney, will adapt open-file criminal discovery systems for the challenges presented by the explosion of ESI materials in criminal matters.[160]

Enactment of digitized open-file criminal discovery systems in all jurisdictions will provide a number of benefits. These systems will replace the missing component of fairness that results from *Brady* not extending to the plea negotiation stage,[161] address the problem of criminal discovery systems being overly restrictive,[162] and will account for the exponentially growing universe of electronically-stored information.[163] Enactment of digitized open-file criminal discovery systems will increase societal confidence in the fairness, accuracy, and transparency of the

155. *See* DEP'T OF JUST. & ADMIN. OFFICE OF THE U.S. COURTS, RECCOMENDATIONS FOR ELECTRONICALLY STORED INFORMATION (ESI) DISCOVERY PRODUCTION IN FEDERAL CRIMINAL CASES (Feb. 2012), https://www.justice.gov/archives/dag/page/file/913236/download.

156. *See* Andrew D. Goldsmith & John Haried, *The New Criminal ESI Discovery Protocol: What Prosecutors Need to Know,* UNITED STATES ATTORNEYS' BULLETIN (Sept. 2012), https://www.justice.gov/sites/default/files/usao/legacy/2012/09/24/usab6005.pdf, 7 (highlighting DOJ's ESI criminal discovery protocols).

157. *See id.* at 8 (describing "meet-and-confer" sessions).

158. *See id.* at 9 (describing table of contents as critical in helping to promoting early settlement and avoiding undue expense and delay).

159. *See id.* at 10 (describing receiving party's obligation to access ESI materials as soon as they are received).

160. *See id.* at 11 (encouraging putting in place safeguards to protect sensitive ESI and staffing full time coordinating attorneys to coordinate criminal discovery matters).

161. *See supra* Part I (explaining *Brady*'s inapplicability to plea stage).

162. *See supra* Part II.B.

163. *See supra* Part III.A (explaining impact of electronically-stored information on criminal justice system).

criminal justice process overall and will also provide criminal defense attorneys with the vital information needed to deliver quality criminal defense legal representation. Additionally, prosecutors will likely decrease *Brady* violations and increase compliance with prosecutorial ethical mandates.

1. Redresses Brady's Inapplicability to Plea Stage

Brady's inapplicability up to and including the plea stage leads to defendants having to make crucial decisions at the plea stage without the benefit of material, exculpatory information that may be in the government's possession. Currently, 95% of criminal cases nationwide are resolved at the plea stage, yet many criminal defense attorneys representing their clients through the plea process do so without materially relevant information primarily because *Brady* does not apply pretrial.[164] Having defendants consider plea offers with little to no information is unfair to the defense.[165]

Adoption of digitized open-file criminal discovery systems could remedy the unfairness of *Brady*'s inapplicability to the plea stage. Those accused of crimes and their counsel will receive the contents of the government's file pertaining to the pending charges. The defense will have access to all non-privileged information in the government's possession, and any updates to that information will also be shared with the defense, without needing a request, providing defendants with a more complete picture of the information in the government's possession. This will equip defendants and their attorneys to engage in plea negotiations more competently and intelligently.[166]

When the government is convinced of a defendant's guilt, but possesses non-privileged material that could be useful to the defense, the default should always be to disclose that information to the defense.[167] Instead of requiring the

164. *See* Emily Bazelon, *She Was Convicted of Killing Her Mother. Prosecutors Withheld the Evidence That Would Have Freed Her*, N.Y. TIMES (Aug. 1, 2017), https://nyti.ms/3odGi5Y ("To be meaningful, broad disclosure must take place long before trial, because plea bargains account for about 95 percent of all convictions."); *see also* Lafler v. Cooper, 566 U.S. 156, 170 (2012) (explaining that U.S. criminal justice system is a system of pleas with 97% of federal cases and 94% of state cases resulting from guilty pleas); Missouri v. Frye, 566 U.S. 134, 143 (2012) (explaining, like *Lafler*, that U.S. criminal justice system is a system of pleas with 97% of federal cases and 94% of state cases resulting from guilty pleas); *cf.* ABA Comm. on Ethics & Pro. Resp., Formal Op. 486, at 3 (2019) (explaining that vast majority of misdemeanor defendants plead guilty at initial appearance).

165. *See Blindfold Off*, *supra* note 76 (arguing that New York's "blindfold laws" required defendants to plea bargain without knowledge of important information relevant to the pleas).

166. *See* McConkie, *supra* note 6, at 12 ("In the same way that a trial jury needs expansive information to properly adjudicate guilt and a trial judge needs even more information to pronounce a reasonable sentence, defendants need expansive information to intelligently plead guilty and agree to a sentence, or at least the contours of a sentence.").

167. *See* William M. Hoeverler, *Ethics and the Prosecutor*, 29 STETSON L. REV. 195, 197 (1999) ("[P]rosecutors and their investigators may be totally and sincerely convinced that an accused is guilty of serious crimes, yet be concerned that full discovery may compromise the prosecution. There can be only one answer in such a situation—full discovery.").

prosecution to make the determination regarding whether information will benefit the defense, the defense should automatically receive all non-privileged information in the government's possession. Implementing digitized open-file criminal discovery systems would make the information available to the defendant without requiring the prosecution to decide whether to disclose the information.[168]

The adoption of digitized criminal discovery systems will enable prosecutors to comply more readily with constitutional and ethical obligations.[169] *Brady* and its progeny clarify a prosecutor's constitutional obligation to a criminal defendant, while a jurisdiction's code of legal ethics defines a prosecutor's ethical obligations within that jurisdiction. A prosecutor's constitutional and ethical obligations may (and often do) overlap but are not necessarily identical. Nonetheless, a prosecutor is bound by both. Unfortunately, ethical violations occur, and the criminal discovery process is not excepted from attorney errors.[170] A jurisdiction's adoption of a digitized open-file criminal discovery system will assist the prosecution to more readily discharge both sets of obligations. Criminal defense attorneys have an obligation to provide zealous representation of their clients, particularly where the due process protections afforded to those accused of crimes are not fully entrenched.[171]

The Supreme Court has explained that one of the obvious advantages of facilitating plea negotiations in the criminal justice system is that in cases of "substantial evidence of the defendant's guilt," there is a "mutuality of advantage."[172] However, it is difficult to have confidence that there is a mutuality of advantage

168. *See infra* Part B (discussing how adoption of digitized open-file systems will help the prosecution fulfill its constitutional and ethical obligations); *cf.* Baer, *supra* note 7, at 53 ("Inculpatory discovery can persuade recalcitrant defendants to concede their guilt quickly, thereby freeing up everyone's time for more-contested cases . . . . [G]enerous disclosure can sometimes expedite guilty pleas.").

169. *See* McConkie, *supra* note 6, at 19 (explaining that the safest way to avoid *Brady* violations is to establish broad criminal discovery).

170. *See generally* Therese M. Myers, *Reciprocal Discovery Violations: Visiting the Sins of the Defense Lawyer on the Innocent Client*, 33 AM. CRIM. L. REV. 1277, 1287–91 (1996) (exploring criminal discovery violations and present lack of adequate sanction for lack of compliance).

171. *See* Garrie, *supra* note 35, at 523 (explaining that because one enjoys no right of due process to criminal discovery, defense attorneys must remain on alert).

172. *Brady* states as follows:

> For a defendant who sees slight possibility of acquittal, the advantages of pleading guilty and limiting the probable penalty are obvious—his exposure is reduced, the correctional processes can begin immediately, and the practical burdens of a trial are eliminated. For the State there are also advantages—the more promptly imposed punishment after an admission of guilt may more effectively attain the objectives of punishment; and with the avoidance of trial, scarce judicial and prosecutorial resources are conserved for those cases in which there is a substantial issue of the defendant's guilt or in which there is substantial doubt that the State can sustain its burden of proof. It is this mutuality of advantage that perhaps explains the fact that at present well over three-fourths of the criminal convictions in this country rest on pleas of guilty, a great many of them no doubt motivated at least in part by the hope or assurance of a lesser penalty than might be imposed if there were a guilty verdict after a trial to judge or jury.

See Brady v. United States, 397 U.S. 742, 752 (1970).

when the defendant is working at a distinct disadvantage in not having access to materially relevant information at the plea stage.[173]

Any system of pleas should be based on the prosecution's and defense's common awareness of the government's case.[174] Even where prosecutors reveal material and exculpatory information to the defense pre-plea, there still may be information valuable to the defense (*e.g.,* information that may help inform the plea) in the prosecution's file that is not privileged. History has proven that the mandates of *Brady* and its progeny are insufficient in encouraging the prosecution to disclose useful evidence to the defense pre-plea.[175] Moreover, molding *Brady* to fit the plea stage will not be useful toward ensuring justice by resulting in more fully informed pleas because *Brady* does not apply to all information in the prosecution's possession, but only to material and exculpating evidence.[176] In the words of one scholar, "[J]ustice is better served by fully informed pleas and . . . prosecutors should put fairness ahead of the thrill of victory."[177]

2. Replaces Overly-Restrictive Criminal Discovery Systems

Current restrictions on discovery in criminal cases undermine the purported purpose of discovery: to promote the appearance of impartiality, truth, and transparency of the criminal justice system.[178] The proliferation of electronically-stored information intensifies the lopsidedness of information available to prosecution versus criminal defense attorneys and can lead to problems for defense counsel, whether in a restrictive criminal discovery jurisdiction or an open-file

173. *See* Douglass, *supra* note 14, at 446 ("We would do better to look for . . . approaches [other than *Brady*] that do not pit the defendant's interest in disclosure against the finality of a guilty plea. If we are serious about informing defendants during plea bargaining, then we should address the problem of disclosure when it matters most: before the plea.").

174. *See* Darryl K. Brown, *Discovery*, in 3 REFORMING CRIMINAL JUSTICE: PRETRIAL AND TRIAL PROCESSES 149 (Erik Luna ed., 2017) (suggesting that plea bargaining should be based on "parties' mutual knowledge of the evidence"); *see also supra* Section I.B (explaining benefit of defense and prosecution having same knowledge of the government case, but for privileged materials).

175. *See* Turner v. United States, 137 S. Ct. 1885, 1897 (2017) (Kagan, J., dissenting) ("Constitutional requirements aside, turning over exculpatory materials is a core responsibility of all prosecutors—whose professional interest and obligation is not to win cases but to ensure justice is done."); Baer, *supra* note 7, at 5 n.17 (describing prosecutorial violations of *Brady* as "epidemic") (citing United States v. Olsen, 737 F.3d 625, 626 (9th Cir. 2013) (Kozinski, C.J., dissenting)); Bazelon, *supra* note 164 (describing *Brady* as an "honor system" and explaining that one has to find out that the prosecution is hiding something in order to have a claim pursuant to *Brady*).

176. *See* Douglass, *supra* note 14, at 442 (explaining that justice is better served by pleas resulting from full information between prosecution and defense, but that "judicial efforts to mold *Brady* into a rule of pre-plea disclosure" will not lead to more accurate and just pleas).

177. *Id.*

178. *See* Wardius v. Oregon, 412 U.S. 470, 473–74 (1973) (describing that the purpose of criminal discovery systems is to increase parties' access to evidence, enhancing fairness in the criminal justice system); *see also* Prosser, *supra* note 44, at 549 (explaining how defendants' limited access to discovery "can have a substantial impact on the reliability of outcomes").

jurisdiction.[179] Despite the current lack of access for criminal defendants, law enforcement's collection of digital data has the potential to be a wealth of valuable information for the defense.[180]

Digitized open-file criminal discovery will replace criminal discovery systems that are currently overly restrictive, such as those with restrictive or intermediate schemes. With enactment of digitized open-file criminal discovery systems, the defense will automatically have access to all non-privileged information within the government's possession related to charges pending against the accused.

The quest for justice within the criminal system must include entry of appropriate pleas made after the defense has considered all non-privileged information in the government's possession. Adoption of digitized open-file discovery systems will promote fairness across the criminal justice system, produce more reliable results, and enhance transparency of the criminal justice system.[181] Fairness, reliability, and transparency are all essential elements of a justice system in which citizens' confidence are placed. The adoption of open-file systems will make practices within and across jurisdictions consistent.[182]

Society cannot have confidence in a criminal justice system in which the accused and the government are unequally and unfairly matched. Criminal litigation should not be about winning or losing but should rather be about the fairness and justice. The prosecution should not position itself to a win at the expense of the accused.

Digitized open-file discovery systems will reduce the conviction of innocent people. They will also reduce unsuitable pleas that result from the defense's lack of information rather than from the strength of the prosecution's case.[183]

Similar to civil systems, discovery in criminal matters must become more transparent.[184] As on the civil side, criminal discovery should operate automatically, and the defense should not be required to request discovery materials.[185] Police

179. *See* Turner, *supra* note 33, at 243 (explaining that courts "need to take into account . . . the hurdles that criminal defense attorneys experience in gathering digital evidence from third parties"); Tina O. Miller, *Electronic Discovery in Criminal Cases: The Need for Rules*, 14 LAW. J. 3 (2012) ("[B]est practices and recommendations do not take the place of local rules and importantly, the Federal Rules of Criminal Procedure. Unenforceable guidelines are meaningless if law enforcement agents are not required to preserve ESI [electronically-stored information].").

180. *See* Fairfield, *supra* note 7 at 1057 (describing that law enforcement's tracking of "Big Data" can be "treasure trove" of information for the defense).

181. *See id.* at 1030 ("The refusal to disclose potentially exonerating evidence undercuts the aims of the criminal justice system—most obviously, an accurate fact-finding process in pursuit of the truth.").

182. *See* Ramseur, *supra* note 88, at 253 (describing Virginia's restrictive criminal discovery systems as inequitable and fundamentally unfair, as those accused of same crimes are receive different treatment in terms of information revealed by the prosecution).

183. *See* Turner & Reidlich, *supra* note 44, at 380 (explaining how open-file systems promote better informed cases, outcomes, and plea deals).

184. *See* Gold, *supra* note 9, at 1659 (proposing criminal discovery system adopt features of civil discovery, which lends itself to more transparency).

185. *See id.*; *see, e.g.*, Fed. R. Civ. P. 26(a)(1)(A) (providing general provisions governing civil discovery that "a party must, *without awaiting a discovery request*, provide [discovery materials] to the other parties" (emphasis

reports should be automatically accessible to the defense, including any updates made to those reports subsequent to the initial disclosure.[186] Criminal discovery systems can model existing civil discovery systems, which are quite robust. Broad discovery will enhance the plea process by equipping defendants with a better understanding of the government's case, which in turn may lead to earlier pleas. Having defendants enter earlier pleas increases efficiency.[187] Following the approach of making all non-privileged evidence available to the defense will reduce disputes regarding what evidence is subject to discovery. The result will be a shift to a more collaborative system that will produce more transparent and reliable pleas.[188]

Open-file systems will prove useful and efficient.[189] Failing to adopt open-file systems continues to shackle the defense, placing them against the prosecution at an informational disadvantage, one from which it becomes unfeasible for defense counsel to deliver appropriate legal representation to their clients. Equipping the defense to defend their clients with all potentially relevant information will further the principles upon which the justice system is based. Because over 95% of criminal cases are resolved at the plea stage, it is imperative to provide the defense with the information to which the prosecution is in possession *prior* to engaging in negotiations entering a plea.[190] Replacing the current restrictive and intermediate systems with an open-file system is necessary and the most efficient way to make this happen.

3. Stabilizes Inequitable Access to Electronically-Stored Information

Digitizing open-file criminal discovery systems will alleviate the imbalances criminal defense attorneys encounter caused by the proliferation of electronically-stored information.[191] The increased volume of electronically-stored information—that may not be shared with the defense at all or that may be shared in an impractical form—carries with it the risk of criminal defendants agreeing to unsuitable plea deals because they lack the information necessary to plea appropriately.[192]

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added)); *see also supra* Part II.B (explaining New York's recent enactment of open-file criminal discovery, which require disclosure of discovery request even absent request).

186. *Cf.* Prosser, *supra* note 44, at 598-99 (arguing that "[p]olice reports should be made available to defense counsel at the defendant's first court appearance" and "[s]upplemental police reports should be provided . . . as they are created").

187. *See* McConkie, *supra* note 6, at 18 (discussing multiple benefits of broad pre-plea criminal discovery as including earlier guilty pleas, lessening discovery disputes, less expenses, and decreasing likelihood of wrongful convictions).

188. *See* Managing Digital Discovery, *supra* note 33.

189. *See* Ramseur, *supra* note 88, at 252 (describing that empirical evidence regarding open-file criminal discovery systems demonstrates them as useful and efficient).

190. *See supra* note166.

191. *See supra* Section I (discussing impact of digitized open file criminal discovery system on electronically-stored information).

192. *See* Garrie, *supra* note 35, at 522 (explaining need for criminal defendants' access to electronically-stored information to build defenses to modern-day criminal prosecutions).

Prosecutorial offices are now in possession of large volumes of structured and unstructured digital data.[193] For example, many prosecutors currently have access to artificial intelligence allowing them to search for information relevant to their positions more readily.[194] For example, the federal government has technologically advanced means of searching through, cataloging, and using ESI, capabilities not privy to most criminal defense attorneys.[195] Another example is the Seattle Police Department's use of a cloud-based storage platform beginning in 2017 where digitized video can be viewed in highly redacted form through a portal, eliminating the hours of search time to mere minutes.[196] In most situations, the defense in criminal matters has far fewer resources than the prosecution.[197] This is certainly true in terms of the management, storage, and use of digitized information.[198] It is essential for jurisdictions to assist in providing resources for the criminal defense bar to manage, search, and use electronically-stored information to best deliver quality legal representation to their clients.

The costs associated with the management, storage, and use of electronically-stored information should be primarily borne by the government. The government has a vested interest in ensuring the adequate representation of criminal defendants.[199] Competent representation of criminal defendants leads to reliable results and increases confidence in the justice system. Providing training and resources—particularly as it relates to the use, management, and storage of electronically-stored information—may stave off due process concerns that may arise, whereas the continued failure to account for ever-increasing technological advancements creates the potential for increased due process violations.[200]

It should not be necessary for—and is impracticable to expect—criminal defense attorneys to match the resources of the government, particularly with respect to electronically-stored information. The government presently has the ability to search through large amounts of digitized information, locate specific

193. *See generally* Ferguson, *supra* note 106, at 182-84 (describing wealth of ESI big data materials to which prosecution has access).

194. *See generally id.* (discussing current state of law enforcement use of digital information and intelligence-driven prosecution).

195. *See* Turner, *supra* note 33, at 251–52.

196. *See* Greengard, *supra* note 119 (describing Seattle Police Department's use of robust video cloud-based storage platform for digitized video evidence).

197. *See* Turner, *supra* note 33, at 243 (explaining that lack of defense resources in criminal matters necessitates reallocation of criminal justice budgets).

198. *Id.* at 254–55.

199. *See* Garrie, *supra* note 35, at 524 n.8 ("A defendant's rights must be expanded to accommodate contemporary applications." (citing Olmstead v. United States, 277 U.S. 438, 472 (1928) (Brandeis, J., dissenting))).

200. *See* Ferguson, *supra* note 106, at 183 ("[T]he resulting design gap [created by employing 'intelligence-driven prosecution'] threatens the legitimacy of the criminal justice system because it risks creating systemic and structural due process violations."); *see, e.g.*, McConkie, *supra* note 6, at 7 (averring due process concerns should require broader pre-plea criminal discovery); Garrett, *supra* note 109, at 210–11 (describing "thin" criminal discovery rules which may necessitate that due process rules be more important "as a backstop to safeguard the fairness of criminal trials").

materials relevant to its quest, and manipulate digitized data in a fraction of the time in which others without resources may be able to do so.[201] Because one of the prosecution's goals is to ensure that justice is accomplished, the prosecution bears some responsibility to ensure that defense counsel is placed in a position to be able to search efficiently for exculpatory information within the wealth of digitized information created by law enforcement.[202] Without adding its assistance to level the playing field, the government is complicit in furthering shoddy criminal defense representation and due process violations. The government has the means by which to search and use the large volumes of electronically-stored information which it gathers to the benefit of the prosecution.[203] Criminal defense attorneys should benefit from these government resources as well. The government should provide criminal defense attorneys not only with access to electronically-stored information that the prosecution has, but it should also provide the resources equipping the criminal defense bar with the ability to use, manage, and manipulate the information to best represent their clients.[204]

Some current criminal procedure and criminal discovery rules, seeking to guide defense attorneys and prosecutors in properly navigating ESI, have failed to keep up with the growth of ESI.[205] Criminal defense attorneys and prosecutors must work with various types of ESI, including but not limited to social media posts, dashcam video recordings, body cam recordings, geolocations embedded in photos, and cell-site location data. However, the wealth of digitized information currently being collected by law enforcement can be searched and organized in a form useful to the defense.[206] Identifying exculpatory or impeaching evidence can be facilitated by recent advances in technology.[207]

Because defense attorneys have an obligation to be familiar with and obtain electronically-stored information, and neglecting to do so can have disastrous consequences,[208] defense-minded programs expediting searches of digitized

201. *See generally* Ferguson, *supra* note 106, at 209.

202. *See* Fairfield, *supra* note 7, at 1031 ("The government is not compelled to use Big Data or to engage in mass surveillance, and it certainly is under no obligation to prosecute cases as a result of the information it finds. But when it does, the government must provide a basic level of evidentiary access and ability to challenge the prosecution as required by the Constitution.").

203. *See generally* Turner, *supra* note 33, at 250–251; Ferguson, *supra* note 106 at 209.

204. *Cf.* Garrie, *supra* note 35, at 525 (discussing how in civil cases, courts have ordered cost-shifting due to the expense of e-discovery on less well resourced parties).

205. *See* Turner, *supra* note 33, at 248–49 ("Rules of criminal procedure have not kept pace with the growth of ESI . . . . Digital discovery is therefore handled differently from state to state, from court to court, and from judge to judge.").

206. *See* Ferguson, *supra* note 106, at 215 (explaining how with new digital technology and artificial intelligence, unstructured data can be structured into identifiable and searchable forms and that digital information about "[c]ars, faces, colors, clothes, movements, speeds, and almost everything else" can be efficiently searched).

207. *Id.* at 248 ("Introducing technology to flag inputs for various criteria would allow the system to better identify exculpatory or impeaching evidence.").

208. *See* Garrie, *supra* note 35, at 530–32 (explaining that in criminal proceedings the defense's failure to obtain ESI may result in client's loss of liberty).

information can and must be developed, allowing for efficient searches of the large amounts of digitized information that will be disclosed under an open-file system.[209] It is inevitable that soon the amount of digitized information will reach the point that the prosecution's failure to identify precisely where the *Brady* material is located might amount to a *Brady* violation.[210] Equipping defense counsel to search the vast digitized information to identify exculpatory information will prevent constitutional violations and streamline the criminal justice system. This technology is available today.[211] Jurisdictions need to prioritize its implementation.

It is a responsibility of the criminal justice system to correct the imbalance of information between the prosecution and the defense.[212] For example, in many jurisdictions, the government has crafted systems that allow for the identification and location of digitized information that is useful to the prosecution, without the development of the same technology that would be useful to the defense in searching for exculpatory or other material information.[213] Criminal defense attorneys will likely never be able to meet the resources of the government. However, the deficiency of resources and training should not handicap the defense in representing their clients. Rather, the implementation of digitized, open-file criminal discovery systems will help stabilize the current inequity in access to information that exists between prosecution and defense.

4. Promotes Competent and Ethical Defense Lawyering

Adopting digitized open-file criminal discovery systems nationwide will enable criminal defense attorneys to provide more competent representation to their clients. Criminal defense attorneys need to be able to provide competent advice to their clients throughout the entire criminal justice process, including the stages leading up to plea negotiations and throughout trial. Without being privy to all non-privileged information in possession of prosecuting authorities, criminal defense attorneys are unable to counsel their clients competently.[214] Putting into

209. *Id.* at 530 (describing electronically-stored information as potentially containing "golden nuggets" of information which defense must diligently pursue on level playing field with prosecution); *see also supra* Section III.A (describing currently exisiting technology employed primarily for prosecutorial use).

210. *Id.* at 256 ("Building a digital investigation system that collects but cannot identify material evidence jeopardizes the legitimately [sic] of individual criminal prosecutions and the criminal justice system more broadly.").

211. *See generally* Fairfield, *supra* note 7, passim (addressing government's use of technology to search large caches of digital information); Ferguson, *supra* note 106, *passim* (describing government's use of sophisticated technology to examine vast amounts of digital information for predictive prosecution purposes).

212. *See* Garrie, *supra* note 35, at 524 (explaining how electronically-stored information gives rise to financial concerns, particularly for indigent defendants without the funds needed to pay for e-discovery, which can be costly).

213. *See* Ferguson, *supra* note 106, at 183 (discussing these "intelligence-driven prosecution systems," which give prosecutors a wealth of digital information valuable for criminal prosecutions without identifying information that may be useful to the defense).

214. *See* ABA Comm. on Ethics & Pro. Resp., Formal Op. 09-454, at 7 (2009) (explaining how "fairness and reliability of the criminal justice system . . . requires that defendants be able to make informed decisions").

place digitized open-file discovery systems will provide the defense with information it needs to assert a well-informed and competent defense.[215]

Criminal defense attorneys commit ethical violations, and the criminal discovery process is not excepted from attorney error. However, the consequences of a criminal defense attorney's failure to request discovery information from the prosecution properly may come at a greater cost to the client than in the civil context.[216] The adoption of digitized open-file criminal discovery will decrease the number of defense attorney errors, especially as they currently occur in the discovery context. Allowing digitized open-files will provide the defense with discovery material previously in the hands of third parties that the prosecution previously acquired.[217]

In criminal matters, criminal defense attorneys need access to as much information as possible and in enough time to be able to use the information effectively. Enacting digital open-file criminal discovery systems will permit the defense to determine the usefulness of the information the prosecution possesses to its case.[218] Allowing the defense to determine the usefulness of information is more practical than *Brady*'s edict requiring the prosecution to determine its materiality and exculpatory value. Defense counsel is in a superior position to the prosecution to determine whether particular information is of value or favorable to the defense.

5. Reduces *Brady* Violations

Brady and its progeny provide that a prosecutor is constitutionally required to provide criminal defendants with all material, exculpatory information in the government's possession related to the defendant's criminal matter.[219] Violations of *Brady* result in a remedy to the defendant, such as a new trial or acquittal. However, as discussed *supra,*[220] *Brady* only applies to a small percentage of cases within the criminal justice system, primarily because its mandates are inapplicable pre-trial. The defendant's right to material exculpatory evidence is dependent upon the defendant's case being tried, which is uncommon.[221] Nonetheless, even in

215. *See* Brown, *supra* note 174, at 149 (explaining that without broad criminal discovery, "judgments resulting from guilty pleas are too likely to turn on something other than evidence and adversarial process.").

216. *See* Myers, *supra* note 170, at 1288–89 (explaining how criminal defense attorney errors in requesting discovery from the prosecution may place a high cost on the criminal defendant, such as when the defendant is prohibited from presenting witnesses or evidence of choice at trial, while also failing to deter future attorney misconduct); Williams v. Florida, 399 U.S. 78, 83 n.14 (1970) (explaining that the issue of whether and to what extent a defendant's evidence can be excluded at trial as a result of the defendant's failure to comply with discovery requirements raises Sixth Amendment concerns, but remains an undecided issue).

217. *See, e.g.*, *supra* Section III (discussing the Stored Communications Act).

218. *Cf.* Brady v. Maryland, 372 U.S. 83, 87–88 (1962) (placing decision to disclose information to defense on the prosecution, not the defense).

219. *See supra* Section II.A.

220. *See supra* Section I.

221. *Brady* and its progeny require only that the defendant receives the material exculpatory information before trial. Under the Constitution, providing the information to the defense any time before trial—right up to the moment that the trial begins—satisfies this requirement. Some jurisdictions have in place rules of procedure or local rules defining a specific period of time by which *Brady* material must be disclosed. Still other

those few cases where *Brady* is applicable, it is not uncommon for prosecutors to run afoul of its mandates. Scholars have long debated the reasons for such prevalent violations, positing various theories ranging from prosecutorial carelessness, to intentionally unethical conduct, and every variation in between.[222] To criminal defendants and the lawyers that represent them, *why* these violations happen is of less significance than the practical effect of untimely disclosure or nondisclosure. Enacting digitized open-file criminal discovery systems will help where prosecutors fail (whether innocently or not) to provide *Brady* material to the defense.

Additionally, prosecutors are ill-equipped to determine whether information may be useful to the defendant's case.[223] The prosecutor is not privy to the defendant's perspective or explanation of events. The prosecution may not be aware of alternative theories of defense, who the defendant thinks might have committed the alleged offense, or who may have framed the defendant. The decision regarding what is valuable—material and exculpatory—should be made by the party who would use that information as material and exculpatory—the defendant. The digitization of open-file discovery systems will equip defendants with the ability to make such decisions.

There may be a temptation to alleviate the prosecution from its constitutional responsibility to identify material, exculpatory evidence because implementing digitized open-file systems will mean that criminal defense attorneys will have access to all information in the prosecution's file, including material, exculpatory information. This could mean that the burden of identifying exculpatory, material evidence would be shifted from the prosecution to the defense.

Brady has long been criticized for its requirement that the prosecution identify material, exculpatory information. Without being privy to the defense strategy—or even what the defendant may say in response to the charges—the prosecution is not well-equipped to determine what information may be material or exculpatory from the defendant's point of view. Digitizing open-file criminal discovery will make all information accessible to the defense, and the constitutional mandate of *Brady* would still require the prosecution to identify material, exculpatory evidence.

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jurisdictions rely merely on the constitutional mandate, meaning that as long as the defendant receives the information by the time of trial, the prosecution has not violated the defendant's constitutional right. Moreover, even if the prosecution provides the information to the defense after the trial begins but in enough time for the defense to consider the information, in most instances, jurisdictions conclude that not providing the information before trial is a harmless mistake and, therefore, not a constitutional wrong.

222. *See, e.g.*, Baer, *supra* note 7, at 15–21 (describing three models of prosecutorial misconduct: (1) the "bad agent," (2) the "boundedly rational prosecutor," and (3) the "dysfunctional bureaucrat").

223. *See* Moore, *supra* note 44, at 1342–43 (explaining how defense attorneys are better equipped than prosecutors to recognize the exculpatory or impeachment value of evidence).

6. Fosters Compliance with Prosecutorial Ethical Mandates

Enactment of digitized open-file discovery systems will increase prosecutorial compliance with ethical obligations. In contrast to the prosecution's constitutional obligation to comply with *Brady* are the ethical mandates with which prosecutors must comply. Prosecutorial ethical obligations may derive from a variety of sources. Most jurisdictions have adopted ethical obligations based upon the ABA's Model Rules of Professional Conduct.[224] Lawyers who violate their ethical mandates, including prosecutors, may be subject to a wide range of discipline, from private reprimand to disbarment.[225]Unlike constitutional misconduct, such as *Brady* violations, when a prosecutor violates an ethical mandate the state imposes the sanction against the lawyer and the offense does not affect the defendant's case.

Most states have enacted additional standards of legal ethics that apply specifically to prosecutors.[226] Unlike the constitutional mandate, which focuses on the fairness of the trial, the goal of the professional ethics rules is to ensure that defendants' convictions and sentences result from the defendants' access to all unprivileged, sufficient evidence known to the prosecution.[227] The legal ethics rules directed exclusively to prosecutors originate from the principle that a criminal proceeding is to be a search for truth, and the truth is best ascertained when both sides to a criminal action are in a position to evaluate evidence favorable to their positions.[228]

Prosecutors are unique within the legal profession, as they have obligations to advocate on behalf of the government by seeking a conviction while at the same

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224. Model Rule 3.8 (Special Responsibilities of a Prosecutor) provides, in relevant part:

> The prosecutor in a criminal case shall . . . make timely disclosure to the defense of all evidence or information known to the prosecutor that tends to negate the guilt of the accused or mitigates the offense, and, in connection with sentencing, disclose to the defense and to the tribunal all unprivileged mitigating information known to the prosecutor, except when the prosecutor is relieved of this responsibility by a protective order of the tribunal . . . .

MODEL RULES OF PRO. CONDUCT r. 3.8 (AM. BAR ASS'N 1983). *See also generally* Ricciuti et al., *supra* note 153, at 409–11 (2018).

225. *See* Ellen Yaroshefsky, *Prosecutorial Disclosure Obligations*, 62 HASTINGS L.J. 1321, 1326–27 (2011) (describing the ethical obligations of prosecutors).

226. *See* ABA Comm. on Ethics & Pro. Resp., Formal Op. 486, at 4 (2019) ("Observance of the special obligations of prosecutors under the Rules of Professional Conduct is critical to achieving fair guilty pleas."). Although the ethical responsibility of prosecutors varies from state to state, ABA Model Rule 3.8 generally reflects the ethical requirements of prosecutors. *See* Ricciuti et al., *supra* note 153, at 406–08 (explaining the ethical obligations of prosecutors).

227. Schultz v. Comm'n for Law. Discipline, No. 55649, 2015 WL 9855916, at *6 (Tex. Bd. Disp. App. Dec. 17, 2015) ("The goal of Rule 3.09(d) is to impose on a prosecutor a professional obligation to 'see that the defendant is accorded procedural justice, that the defendant's guilt is decided upon the basis of sufficient evidence, and that any sentence imposed is based on all unprivileged information known to the prosecutor.'" (quoting TEX. DISCIPLINARY RULES OF PRO. CONDUCT r. 3.09(d) cmt. 1 (2021))).

228. *See* ABA Comm. on Ethics & Pro. Resp., Formal Op. 09-454, at 4 (2009) ("[T]he prosecutor's disclosure of evidence and information favorable to the defense promotes the proper functioning of the adversarial process, thereby reducing the risk of false convictions.").

time ensuring that justice is done.[229] Because prosecutors have an obligation to seek justice, prosecutorial ethics rules obligate prosecutors to take special precautions to ensure that innocent people are not convicted.[230] A prosecutor's ethical mandates are in line with a prosecutor's principal responsibility to seek truth and justice in securing appropriate convictions.[231]

The legal ethics rules differ from *Brady* in a few significant respects.[232] In most jurisdictions, the language of the ethics rules obligates prosecutors to disclose in a timely fashion *all* evidence or information known to the prosecutor that might be favorable to the defense[233]—without regard to the evidence's materiality or exculpatory nature—that is constitutionally relevant.[234] Unlike *Brady*, the ethics rules do not require disclosure of evidence when the prosecutor is unaware of the information.[235]

The ethics rules governing the conduct of prosecutors are broader than that which is required by constitutional law.[236] The ethical standards seem to assume that the prosecution will engage in discovery, and, when doing so, requires the

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229. *See* Bruce A. Green, *Why Should Prosecutors "Seek Justice"?*, 26 FORDHAM URB. L.J. 607, 614–16 (1999) (describing prosecutors as occupying a space somewhere between judges and lawyers who advocate for private clients).

230. ABA Comm. on Ethics & Pro. Resp., Formal Op. 09-454, at 3 (2009).

231. *See supra* Section II.A (explaining prosecutors' overarching obligation to seek truth and justice).

232. *See* Ricciuti et al., *supra* note 153, at 410 (explaining that the ethics rules diverge from *Brady* obligations in three ways: (1) ethics rules are not limited to admissible evidence, (2) they are not limited to material information, and (3) when information is known to prosecutor, they require disclosure "as soon as reasonably practicable").

233. See MODEL RULES OF PRO. CONDUCT r. 3.8 (AM. BAR ASS'N 1983), which provides, in relevant part:

> The prosecutor in a criminal case shall . . . make timely disclosure to the defense of all evidence or information known to the prosecutor that tends to negate the guilt of the accused or mitigates the offense, and, in connection with sentencing, disclose to the defense and to the tribunal all unprivileged mitigating information known to the prosecutor, except when the prosecutor is relieved of this responsibility by a protective order of the tribunal . . . .

Most states' legal ethics rules are influenced in large part by the Model Rules. A lawyer's violation of ethical mandates may subject the offending lawyer to a wide variety of sanctions, ranging from a private reprimand to disbarment.

234. *Cf.* Brady v. Maryland, 373 U.S. 83, 87 (1962) (requiring pre-trial disclosure of only material and exculpatory information).

235. *See* Ricciuti et al., *supra* note 153, at 406–09 & n.44 (contrasting *Brady*'s "strict liability" requirement to disclose material exculpatory evidence regardless of knowledge with the Rule 3.8 ethical obligations, which require disclosure only of *known* evidence).

236. The broad nature of prosecutorial ethical mandates to disclose information to the defense existed even before the adoption of current Model Rules of Professional Conduct. *See* ABA Comm. on Ethics & Pro. Resp., Formal Op. 09-454, at 3 (2009) (explaining that prior to Court's ruling in *Brady*, precursors to Model Rules of Professional Conduct such as the Canons of Professional Ethics and the Model Code of Professional Responsibility recognized a broad obligation to disclose information to the defense, which exceeded what was later constitutionally required pursuant to *Brady*); ABA Comm. on Ethics & Pro. Resp., Formal Op. 486, at 7 (2019) ("[S]pecial responsibilities of a prosecutor under the Model Rules demands sensitivity to the higher calling of the role. In some respects a prosecutor's duties exceed the requirements of statutory and constitutional law."). *See also* Green, *supra* note 229, at 616 (describing prosecutorial ethical obligations as "independent" from constitutional obligations); Ricciuti et al., *supra* note 153 (discussing the differences between what is required of prosecutors pursuant to Constitution and what is required pursuant to ethical mandates).

prosecution to reveal information to the defense in enough time for the defense to determine whether the evidence is useful.[237]

In contrast, as previously explained, constitutional mandates do not obligate the prosecution to engage in discovery in criminal matters at all.[238] When the prosecution chooses to engage in discovery, it is constitutionally required to disclose information per *Brady* only if the evidence is both material and exculpatory.[239] Moreover, *Brady* requires only that the prosecution make any required disclosure as soon as reasonably practicable, which means that disclosure is deemed timely as long as the defendant has the evidence from the prosecution in time for its effective use during trial.[240] Some courts have found the prosecution's disclosure compliant when the information was disclosed on the eve of trial, ruling that the prosecution commits a *Brady* violation only upon a complete failure to disclose information that causes prejudice to the defendant.[241]

This conflict between constitutional and ethical mandates is particularly crucial when a case resolves at the plea stage. The prosecution is at no time constitutionally required to disclose *Brady* material to the defense before engaging in plea negotiations or a defendant enters a plea.[242] The prosecution disclosing material and exculpatory evidence to the defense on the eve of trial may comply with *Brady*'s mandates, but such late disclosure does not fulfill the prosecution's ethical responsibilities.[243] However, the ethics rules seem to require such disclosure prior to entry of a plea. The prosecution failing to disclose such information before and during plea negotiations is unethical, although not a violation of constitutional directives.[244]

The legal ethics rules appear to require more of prosecutors than their constitutional counterpart. Some state courts have ruled that the language of the ethics

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237. *See* MODEL RULES OF PRO. CONDUCT r. 3.8 (AM. BAR ASS'N 1983) ("The prosecutor in a criminal case shall . . . make *timely* disclosure to the defense of all evidence or information known to the prosecutor that tends to negate the guilt of the accused or mitigates the offense . . . ." (emphasis added)); Ricciuti et al., *supra* note 153, at 409–11.

238. *See* Weatherford v. Bursey, 429 U.S. 545, 559 (1977) ("There is no constitutional right to discovery in a criminal case . . . .").

239. *See* Brady v. Maryland, 373 U.S. 83, 87 (1962).

240. *See* United States v. Coppa, 267 F.3d 132, 144 (2d Cir. 2001).

241. *See, e.g.*, United States v. Blood, 435 F.3d 612, 627 (6th Cir. 2006).

242. *See* Baer, *supra* note, at 7 (explaining how *Brady* is not designed to make the plea process more fair, but instead applies only to the trial, a point to which most defendants' cases never get).

243. *See* United States v. Ruiz, 536 U.S. 622, 631–32 (2002) (finding no constitutional violation when a prosecutor did not reveal evidence prior to accepting the defendant's plea, even though that evidence might have reduced the defendant's sentence); ABA Comm. on Ethics & Pro. Resp., Formal Op. 09-454, at 5–6 (2009) (explaining the requirement that information be disclosed to the defense "as soon as reasonably practical," which means in enough time for the defense to determine the information's usefulness).

244. *See* ABA Comm. on Ethics & Pro. Resp., Formal Op. 09-454, at 7 (2009) ("[M]ay the prosecutor and defendant agree that, as a condition of receiving leniency, the defendant will forgo evidence and information that would otherwise be provided? The answer is 'no.' A defendant's consent does not absolve a prosecutor of the duty imposed by [Model] Rule 3.8(d), and therefore a prosecutor may not solicit, accept or rely on the defendant's consent.").

rules obligates prosecutors to disclose in a timely fashion *all* evidence or information known to the prosecutor that might be favorable to the defense, without regard to the evidence's materiality or exculpatory nature.[245] Others have ruled that their state's ethics rule and *Brady* are coextensive.[246]

Federal prosecutors have questioned appropriate conduct as they practice law across the nation and in states with ethical rules differing from federal norms. At the federal level, the McDade Amendment to the Citizens Protection Act provides that a state's legal ethics rules apply to prosecutors practicing in that state.[247] However, the Department of Justice has taken the stance that where constitutional law and the state's ethics rules conflict, *Brady* and its progeny govern prosecutorial conduct rather than the state's ethics rules.[248]

When faced with the question of how prosecutors should resolve the apparent conflict between the mandates of *Brady* and its progeny and the language of Rule 3.8, states have reached differing conclusions.[249] Enacting digitized open-file criminal discovery systems will eliminate this quandary for prosecutors. Some states have decided that, where satisfying *Brady* seems to conflict with the text of the state's ethics rule, the ethical mandates do not require more than what *Brady*

245. *See, e.g.*, *In re* Larsen, 379 P.3d 1209, 1215–16 (Utah 2016) (explaining that Utah's ethics rule differs from *Brady* by requiring disclosure to the defense before the defendant pleads); *In re* Kline, 113 A.3d 202, 210 (D.C. 2015) (holding that D.C.'s version of Rule 3.8 does not include a materiality test); Schultz v. Comm'n for Law. Discipline, No. 55649, 2015 WL 9855916, at *12 (Tex. Bd. Disp. App. Dec. 17, 2015) (concluding that Texas's ethics rule "imposes a duty to disclose any information that tends to negate the guilt of the accused without regard to whether the information is material under the standard imposed by *Brady v. Maryland* and subsequent cases"); *In re* Disciplinary Action Against Feland, 820 N.W.2d 672, 678 (N.D. 2012) (holding that a prosecutor's ethical disclosure obligation under Rule 3.8 is broader than the duties imposed by *Brady*); N.Y.C. Bar Ass'n Pro. Ethics Comm., Formal Op. 2016-3 (2016) (concluding that New York's ethics rule requires prosecutors to disclose evidence at an earlier time than constitutionally required); Va. State Bar Comm. on Legal Ethics, Op. 1862, at 2 (2012) (concluding that Virginia's version of Rule 3.8 is not coextensive with *Brady* and therefore requires the prosecution to disclose more information in order to be fully compliant).

246. *See, e.g.*, *In re* Petition to Stay the Effectiveness of Formal Ethics Op. 2017-F-163, 582 S.W.3d 200, 202 (Tenn. 2019) (defining the prosecution's ethical responsibility as coextensive with *Brady* and its progeny); *In re* Seastrunk, 236 So.3d 509, 518–19 (La. 2017) (reading the state's rule 3.8 as coextensive with *Brady*); Disciplinary Counsel v. Kellogg-Martin, 923 N.E.2d 125, 130 (Ohio 2010) (holding that Ohio's legal ethics rules do not impose a duty on prosecutors to disclose information to criminal defendants that is not required by *Brady* and its progeny); Off. of Law. Regul. v. Riek (*In re* Riek), 834 N.W.2d 384, 390–91 (Wis. 2013) (declining to interpret Wisconsin's ethical rule as requiring prosecutors to disclose more than *Brady*); *In re* Att'y C, 47 P.3d 1167, 1171 (Colo. 2002) (declining to impose inconsistent obligations upon prosecutors and adopting a materiality standard for Colorado's ethics rule); State *ex rel.* Okla. Bar Ass'n v. Ward, 353 P.3d 509, 520–22 (Okla. 2015) (interpreting Oklahoma's version of Rule 3.8 as consistent with the scope of disclosure required by *Brady*).

247. 28 U.S.C. § 530B; *see also* Ricciuti et al., *supra* note 153, at 400 (discussing the McDade Amendment).

248. *See* Ricciuti et al., *supra* note 153, at 414 ("DOJ prioritizes defending the *Brady* Obligation in federal courts as the sole standard for federal prosecutors' discovery obligations.").

249. *See id.* at 437 ("[I]t is shocking that the rules governing the discovery prosecutors much disclose, and when they must disclose it, are still in flux two generations after *Brady*. A single set of standards should be developed so that prosecutors know . . . what they owe a defendant . . . . Leaving such a fundamental issue unclear serves neither party and certainly undermines the ability of the judicial system to consistently ensure it delivers just results.").

requires.[250] Courts in such jurisdictions have noted that interpreting the ethics rule to require a broader disclosure of information to defendants than what *Brady* requires creates a weapon for the defense by providing a vehicle by which the defense can threaten prosecutors with ethical violations.[251]

Other states with language in their ethics rule seemingly in conflict with *Brady* take the position that where the constitutional mandates and the text of the state ethics rule require different disclosure to defendants, prosecutors are bound by both. The result in those states is that prosecutors must disclose the broader amount of information pursuant to the ethics rules, even if that means disclosing more than *Brady* requires.[252] The adoption of digitized open-file criminal discovery systems will eliminate the confusion that prosecutors may have in fulfilling their constitutional and ethical mandates because defense counsel would receive all non-privileged information about the criminal matter. As a result, the prosecution will not need to determine the contours of their constitutional and ethical obligations.

The best practice is for prosecutors to disclose all evidence favorable to the defense, even if neither *Brady* nor the Constitution require the prosecution to do so.[253] Just because one can constitutionally withhold evidence does not mean that one should. If necessary, the prosecution can object or file a motion of protection for information that should not be revealed to the defendant, such as privileged information or information about witnesses in need of protection.[254]

C. Potential Drawbacks to Digitized Open-File Criminal Discovery

Despite the many benefits that will result from enacting digitized open-file criminal discovery systems, there are potential drawbacks, including increased costs

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250. *See supra* note 245 and authorities cited therein.

251. *See, e.g.*, *In re Riek*, 834 N.W.2d at 391 ("A broader interpretation [of Rule 3.8 than what *Brady* requires] also invites the use of the ethics rule as a tactical weapon in litigation . . . . What better way to interfere with law enforcement efforts than to threaten a prosecutor with a bar complaint? Prosecutors should not be subjected to disciplinary proceedings for complying with legal disclosure obligations." (citations omitted)); *In re Seastrunk*, 236 So.3d at 519 ("A broader interpretation of [Model] Rule 3.8(d) also invites the use of an ethical rule as a tactical weapon in criminal litigation.").

252. *See supra* note 244 and authorities cited therein.

253. *See* Cone v. Bell, 556 U.S. 449, 470 n.15 (2009) ("[T]he prudent prosecutor will err on the side of transparency, resolving doubtful questions in favor of disclosure."); Kyles v. Whitley, 514 U.S. 419, 439 (1995) ("[A] prosecutor anxious about tacking too close to the wind will disclose a favorable piece of evidence"); *Schultz*, 2015 WL 9855916, at *6 ("The clarity of Rule 3.09(d) is a safeguard for prosecutors and citizens alike: if there is any way a piece of information could be viewed as exculpatory, impeaching, or mitigating—err on the side of disclosure."); ABA Comm. On Ethics & Pro. Resp., Formal Op. 09-454, at 4 (2009) (explaining that prosecutors should "steer clear of the constitutional line, erring on the side of caution"); *see also* Ricciuti et al., *supra* note 153, at 409 (describing how legal ethics rules require more of prosecutors).

254. *See* Prosser, *supra* note 44, at 595 ("[T]he prosecution should have the burden of showing why certain information should not be disclosed—for example, because of statutory privilege, the work product doctrine, or articulable evidence that disclosure at that time could place a witness at risk of harm."); *see also* Goldstein, *supra* note 35, at 1195 ("[T]here will arise cases in which free discovery by the defendant may be too dangerous. In such cases, it may be desirable to borrow from the Federal Rules of Civil Procedure the concept of the 'protective order' . . . to seal off information or identity of witnesses.").

associated with their implementation, a growth in privacy concerns, challenges to criminal defense teams being able to manipulate the increased volume of electronically-stored information effectively and efficiently, and a negative impact on successful criminal malpractice actions and ineffective assistance of counsel claims.

1. Increased Monetary Expenses

One downside to implementing digitized open-file criminal discovery systems is the anticipated costs associated with their enactment. Providing storage for, access to, and the means by which to search electronically-stored information quickly and efficiently can be costly.[255] Significant problems can result from a system designed to identify *Brady* information, especially when there may be errors in inputs and analyses.[256] Nevertheless, the benefits outweigh any costs.[257] Access to the Internet and digitized technological advances have affected and transformed almost every aspect of daily life worldwide.[258] The digitization of our society has transformed the criminal justice system, yet it has done so to the distinct advantage of the prosection. The entirety of the criminal justice system, particularly the criminal defense bar, must benefit from technological progress. Although it may initially prove costly, incurring such cost will be beneficial in the long run, especially considering the undesirable consequences associated with a continually increasing information gap separating the prosecution and the defense in criminal matters. The costs associated with *not* digitizing open-file criminal discovery systems in this informational age will be ruinous to the principles and ideals upon which we base our criminal justice system.

2. Increased Privacy Concerns

Privacy-related concerns may also arise with the increased use of technology.[259] Concerns similar to the ethical, privacy, and confidentiality concerns implicated by

255. *See* Mearian, *supra* note 145 (explaining that not enough attention has been paid to the costs of making body cams useful, including file management, which can reach or exceed one million dollars).

256. *See* Ferguson, *supra* note 106, at 256 (discussing problems that may result from designing system to identify *Brady* information).

257. *See id.* at 253 ("If designed correctly, prosecutors will see more potential *Brady* information in their growing data systems . . . . [T]hese changes might reduce *Brady* challenges and litigation.").

258. *See* Int'l Digit. Accountability Council, *Rebuilding Trust in the Digital Ecosystem: New Mechanisms for Accountability*, GERMAN MARHSALL FUND (March 10, 2021), https://www.gmfus.org/news/rebuilding-trust-digital-ecosystem-new-mechanisms-accountability (describing how digital technologies and innovations have dramatically affected every aspect of peoples' lives worldwide).

259. *See, e.g.*, State v. Bray, 422 P.3d 250, 255 (Or. 2018) (reversing rape conviction and remanding, where defendant sought victim's Internet search activity immediately following alleged assault, state supreme court required lower court to "impose conditions on [examination of the victim's computer] necessary to protect [the victim's] privacy interests in digital contents of [her] computer").

the digitization of health records[260] may arise in the context of increased access to electronically-stored information within the criminal justice system. However, overall, the benefits of digitizing medical records outweigh the privacy concerns.[261] Concerns about digitized information pertaining to those accused of crimes being erroneously disclosed due to human error or theft are valid. Likewise, concerns about sensitive information being inappropriately misused may be well-founded. Nonetheless, the benefits afforded to criminal defendants—including the ability to enter into better-informed plea agreements and the ability to more adequately defend against criminal charges—outweigh the concerns associated with digitally preserving evidence and information collected in criminal matters. Moreover, the reality is that information is *already* being preserved digitally and will continue to be with or without the digitization of criminal discovery.[262] What is alarming is that prosecutors utilize digitally-preserved and electronically-stored information without disclosing or making accessible such information to the defense.[263] Implementing digitized open-file criminal discovery systems will ensure that digitally-stored information is provided to the defense, to the benefit of the person whose life is most affected by its current accessibility to the prosecution. The concern that digitized information may remain in circulation permanently is not unique to the criminal justice context. The permanency of digitized information is a reality of technological culture and, for better or worse, is likely inevitable.

3. Challenges to the Defense Efficiently Manipulating ESI

Another concern is that criminal defense attorneys may not have the resources to manipulate and search a vast quantity of digitized information. This concern is easily addressed. Prosecutorial offices already have technology capable of accessing ESI in a useful way. The prosecution should be obligated to share that technology with the defense bar. Although defense attorneys will be responsible for accessing the large cache of ESI, the constitutional burden would not shift to defense counsel to identify the exculpatory evidence. Courts have recognized a potential *Brady* violation where the prosecution responds to a discovery request or obligation with a volume of information too large for the defense to sift through without identifying precisely where the material, exculpatory information is located.[264] Further, courts have made clear that the existence of an open-file system

260. *See* Fouzia F. Ozair, Nayer Jamshed, Amit Sharma & Praveen Aggarwal, *Ethical Issues in Electronic Health Records: A General Overview*, 6 PERSP.'S IN CLINICAL RSCH. 73, 73 (2015), https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4394583/ (describing ethical and privacy concerns accompanying digitization of health records as including risk of revelation of health data through theft or human error).

261. *See id.* at 73, 76 (explaining that digitization of health records improves the quality of health care and is cost effective).

262. *See supra* Section III.A

263. *See id.*

264. *See* U.S. v. Skilling, 554 F.3d 529, 577 (5th Cir. 2009) ("[T]he government may not hide *Brady* material of which it is actually aware in a huge open file in the hope that the defendant will never find it.").

does not relieve the prosecution of its obligation to fulfill *Brady*. With enactment of digitized open-file criminal discovery systems, the prosecution would still be obligated to pinpoint or identify the location of any material, exculpatory information, even when the discovery materials are voluminous. It would be improper for the government to hide *Brady* material of which it is aware in a huge open-file in the hopes that it will never be discovered by the defendant.[265]

It is well documented that prosecutors enjoy resources that far exceed those of the typical criminal defense attorney. Fairness considerations dictate that readily available resources associated with the collection, storage, and manipulation of ESI should be provided to defense bars, especially considering the goal of the criminal justice system to ensure fair and accurate outcomes. Although an open-file criminal discovery system is preferable, providing vast amounts of ESI places the defense in the untenable position of having to search through copious amounts of ESI, a task at which many criminal defense attorneys are ill-equipped. This may provide the prosecution with the perverse incentive to drown the defense in ESI.[266] Criminal defense attorneys may spend an extraordinary amount of time examining large volumes of ESI to locate items of value to their clients' cases.[267] The failure to view every item related to their clients' cases can leave defense attorneys unable to develop fully a suitable defense. Because criminal defense attorneys are typically technologically disadvantaged—both in terms of resources and training—their ability to provide well-informed legal counsel to their clients in this ever-evolving, ESI-dependent-world is significantly impaired.[268] For criminal defense attorneys, the explosion of ESI in criminal matters makes providing competent legal representation even more difficult.[269]

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265. *See id.*

266. *See* Garrett, *supra* note 109, at 209 (describing concern of government engaging in a "data dump" in response to discovery requests without identifying location of *Brady* material within vast amount of produced digitized information).

267. Consider the following real-life scenario. A soon-to-be criminal suspect is hanging out in the park when a passerby thinks he is committing a crime and reports her suspicions activity to the police. Police officers reporting to the scene turn on their body cameras when they turn on their sirens as they respond to the call, as required pursuant to department policy. Once at the scene, the five officers present are required to keep their body cameras on until the matter is resolved. If the criminal defendant is arrested and subsequently challenges the arrest or any charges from it, the wise defense attorney will need to review all body cam footage. With each of the five officers on the scene for at least two hours each, the criminal defense attorney has more than ten hours of film to review pertaining to her client's arrest alone. Most criminal defense attorneys do not have the luxury of time or other resources to conduct a thoroughly search the videos. However, many prosecutors or municipalities do. *See, e.g.*, *The BriefCam Comprehensive Video Analytics Platform: Transforming Video Into Actionable Intelligence*, BRIEFCAM, https://www.briefcam.com/solutions/platform-overview/ (last visited Nov. 22, 2021) (providing example of video content analytics platform available to law enforcement to facilitate reviewing hours of video in just minutes and pinpoint objects of interest).

268. *See* Turner, *supra* note 33, at 256 ("When prosecutors turn over voluminous digital evidence without any guidance on where documents material to the case might be located, defense attorneys find it difficult to review the evidence and provide adequate assistance to clients in plea negotiations or at trial.").

269. *See id.* at 254 (finding "the staggering volume and complexity of digital evidence requires significant technological expertise and resources to store and process," which leaves the defense especially, "unable to cope").

4. Continued Non-Liability of Criminal Defense Counsel

A potential concern may be that the adoption of digitized open-file criminal discovery systems will impact a defendant's ability to bring a successful criminal malpractice or ineffective assistance of counsel action. Because defense counsel would receive all non-privileged information available to the prosecution, potential *Brady* violations might appear to vanish, thus reducing a defendant's chance for relief due to legal malpractice or ineffective assistance of counsel. These concerns are specious. First, a digitized open-file criminal discovery system will not relieve the prosecution of its constitutional obligation to identify and provide the defense with *Brady* material. Moreover, the sad reality is that it is already extraordinarily difficult to prevail on criminal malpractice actions and ineffective assistance of counsel claims.[270] Implementing digitized open-file criminal discovery systems will not change this reality. However, it will provide criminal defense attorneys greater access to potentially relevant information that will enable them potentially to better represent their clients. With increased access to pertinent information, criminal defense lawyering, particularly at the plea stage, should improve.

CONCLUSION

Our criminal justice system is based in large part upon the principle widely attributed to William Blackstone (and Ben Franklin): it is better for a guilty person to go free than it is for one innocent person to go to jail.[271] Many of the criminal justice system's decrees and protections of criminal defendants derive from a desire for a fair and just system. The accused's presumption of innocence, the

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270. The right to the effective assistance of counsel extends to the plea-bargaining stage. *See* Padilla v. Kentucky, 559 U.S. 356, 373 (2010). However, the constitutional right to the effective assistance of counsel is unfortunately of little value as "it is often quite difficult for petitioners to establish ineffectiveness claims. *Padilla,* 559 U.S. *id.* at 371 n.12. Even if successful, the remedy for an ineffective assistance of counsel claim based on deficient performance at the plea stage is that the plea be withdrawn. *See id*., 559 U.S. at 373 ("Those who collaterally attack their guilty pleas lose the benefit of the bargain obtained as a result of the plea . . . because, ultimately, the challenge may result in a *less favorable* outcome for the defendant, whereas a collateral challenge to a conviction obtained after a jury trial has no similar downside potential." (emphasis in original)). The petitioning defendants thereby lose the benefit of their bargains. Instead, they are afforded the opportunity to proceed to trial, a venture that is almost always less favorable than any initial, well-informed bargain with the prosecution would have been. *See id*. Ineffective assistance of counsel claims based on an attorney's conduct during the plea stage are atypical, accounting for only 30% of all petitions filed, despite 95% of all convictions result from pleas. *See id*. at 372–73.

271. *See In re* Winship, 397 U.S. 358, 372 (1970) (Harlan, J., concurring) (describing the proof requirement in a criminal case as "bottomed on a fundamental value determination of our society that it is far worse to convict an innocent man than to let a guilty man go free"); *see also* Vidar Halvorsen, *Is It Better That Ten Guilty Persons Go Free Than That One Innocent Person Be Convicted?*, 23 CRIM. JUST. ETHICS 3, 3 (2004) (citing WILLIAM BLACKSTONE, COMMENTARIES ON THE LAWS OF ENGLAND 420 (1769)) (evaluating William Blackstone's declaration that it is better for ten guilty persons to escape than for one innocent to suffer); Goldstein, *supra* note 35, at 1149 (describing social utilitarianism as the underlying premise of the American justice system). The proposition that it is "better that ten guilty persons escape, than that one innocent suffer" is most often attributed to William Blackstone and has come to be known as the "Blackstone ratio." *See* Alexander Volokh, n *Guilty Men,* 146 U. PA. L. REV. 173, 174 (1997).

defendant's right to be tried before a jury of her peers, and the government's burden to prove all material elements of the offense beyond a reasonable doubt are safeguards that find their genesis in the quest for fairness.[272] By design, the system employs these safeguards to ensure that it convicts the right person.[273] Any reasonable doubt is credited as innocence because it is better for a guilty person to go free than for one innocent person be convicted.[274] Such safeguards reflect the social morality of the United States.[275] The blueprint for the U.S. criminal justice system could have risked imprisoning innocents over the risk of imprisoning guilty people, but it did not.[276] And because it did not, the system today should continue to reflect its foundational premise in the manner in which it operates, as well as in the results it achieves.[277] As the system now functions, it has sadly departed from its original design.

Some current rules and procedures of the criminal justice system, such as criminal discovery systems in many jurisdictions, do not currently reflect the criminal

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272. *See In re Winship*, 397 U.S. at 372 (explaining that rules in criminal trials "are historically grounded rights of our system, developed to safeguard men from dubious and unjust convictions").

273. *See* Coffin v. U.S., 156 U.S. 432, 454 (1895) (declaring it "better to let the crime of a guilty person go unpunished than to condemn the innocent"); *cf.* Mosteller, *supra* note 153, at 273 (describing how Judge Learned Hand's statement in *United States v. Garsson,* 291 F. 646, 649 (S.D.N.Y. 1923), has become a "relic of the past" and could not survive recent scandals involving conviction of innocent defendants). In *Garsson,* Judge Learned Hand stated:

> Why . . . [the defendant] should in advance have the whole evidence against him to pick over at his leisure, and make his defense, fairly or foully, I have never been able to see. . . . Our procedure has been always haunted by the ghost of the innocent man convicted. It is an unreal dream.

291 F. 646 at 649. *But cf.* Goldstein, *supra* note 35, at 1172–73 ("Judge Hand . . . is quite wrong in his assessment of where the advantage lies. It has probably always been with the state, and is becoming even more so.").

274. *See In re Winship*, 397 U.S. at 372 (Harlan, J., concurring) (explaining that the social disutility of convicting an innocent person is not equivalent to the disutility of acquitting an innocent person).

275. *See* Halvorsen, *supra* note 271, at 3–4 (describing Blackstone's doctrine, declaring it worse to convict innocent people than to acquit the guilty, as the "strong intuition of everyday morality" and explaining that most take this doctrine as sound); *see also* Henry J. Friendly, *The Fifth Amendment Tomorrow: The Case for Constitutional Change,* 37 U. CINN. L. REV. 671, 694 (1986) (opining that "most Americans would agree it is better to allow a considerable number of guilty persons to go free than to convict any appreciable number of innocent men"). As the Court indicated in *Patterson v. New York*, however, the risk to society in protecting the innocent cannot be without limits. *See* Patterson v. New York, 432 U.S. 197, 208 (1977). For a comprehensive exploration of exactly how many guilty persons should go free before one innocent person be imprisoned, see Volokh, *supra* note 271. *But cf.* Halvorsen, *supra* note 271, at 3 (asserting that "no reasonable person could possibly endorse [the argument that] '[i]t is better that *all* guilty persons go free than one innocent person be convicted'").

276. *See* Williams v. Florida, 399 U.S. 78, 113 (1970) (Black, J., concurring in part and dissenting in part) (explaining that the American criminal justice system is "designed to protect 'freedom' by insuring that no one is criminally punished unless the State has first succeeded in the admitted difficult task of convincing a jury that the defendant is guilty").

277. *See* Prosser *supra* note 44, at 595 (arguing criminal justice rules should reflect presumption of innocence); *see also* ABA, STANDARDS FOR CRIMINAL JUSTICE: DISCOVERY AND TRIAL BY JURY § 11-11 (3rd ed. 1996) (providing need for procedures prior to trial being "consistent with constitutional rights of the defendant" and including "full and free exchange of appropriate discovery"). Sadly, wrongful convictions in the United States are rampant. If the United States no longer embraces Blackstone's proclamation, it would more adequately explain why there are innocent people in prison and it is not invested in correcting the situation.

justice system's fundamental precepts. The assertion espoused herein is not that *Brady* should be extended to apply to the pre-trial context. If a goal of the criminal justice system is fairness, there is no legitimate justification for relevant information being withheld from defendants prior to entry of a plea agreement, especially considering that more than nine out of ten criminal cases are currently resolved by plea.[278]

Without adaptation of digitized open-file criminal discovery, the ever-growing digital ecosystem of accountability will remain heavily skewed in favor of the prosecution, to the detriment of criminal defendants. Digitizing open-file systems will help correct the imbalance of information to which parties in criminal matters have access, especially pre-plea. Proactively accounting for electronically-stored information will not only bridge the informational gap currently existing between the prosecution and the defense, but it will also improve the delivery of legal services pre-plea, provide more reliable results, and increase public confidence in the criminal justice system.

278. *See* Lafler v. Cooper, 566 U.S. 156, 169–70 (2012) (explaining that criminal justice today is a system of pleas, not trials, as 97% of federal convictions and 94% of state convictions result from guilty pleas).