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Automating Fairness? Artificial Intelligence in the Chinese Court

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Articles

Automating Fairness? Artificial Intelligence in the Chinese Courts

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How will surging global interest in data analytics and artificial intelligence transform the day-to-day operations of courts, and what are the implications for judicial power? In the last five years, Chinese courts have come to lead the world in their efforts to deploy automated pattern analysis to monitor judges, standardize decision-making, and observe trends in society. This Article chronicles how and why Chinese courts came to embrace artificial intelligence, making public tens of millions of court judgments in the process. Although technology is certainly being used to strengthen social control and boost the legitimacy of the Chinese Communist Party, examining recent developments in the Chinese courts complicates common portrayals of China as a rising exemplar of digital authoritarianism. Data are incomplete, and algorithms are often untested.

The rise of algorithmic analytics also risks negative consequences for the Chinese legal system itself, including increased inequality among court users, new blind spots in the state's ability to see and track its own

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officials and citizens, and diminished judicial authority. Other jurisdictions grappling with how to integrate artificial intelligence into the legal system are likely to confront similar dynamics. Framed broadly, our goal is to push the nascent literature on courts, data analytics, and artificial intelligence to consider the political implications of technological change. In particular, recent developments in China's courts offer a caution that two powerful trends—ascendant interest in algorithmic governance and worldwide assaults on judicial authority—could be intertwined.

INTRODUCTION

The recent torrent of English-language scholarly attention to the impact of artificial intelligence ("AI") on legal systems has largely taken place on two tracks. On one track, there has been an outpouring of concern about whether computer code may come to replace written and case law, with normative implications for everything from equity in sentencing to freedom of speech.[1] On the other track, scholars have

1. *See generally* Tim Wu, *Will Artificial Intelligence Eat the Law? The Rise of Hybrid Social-Ordering Systems*, 119 COLUM. L. REV. 2001 (2019) (examining AI-displacement of courts through a case study of hate-speech control on major tech platforms); Dan L. Burk, *Algorithmic Legal Metrics*, 96 NOTRE DAME L. REV. 1148 (2021) (arguing that the use of algorithmic systems in legal determinations will erode liberal-democratic values); *see also*

begun to examine the wide range of new doctrinal questions arising from the prevalence of AI, defined here as automated pattern analysis and decision-making, in all aspects of contemporary life.[2]

Yet despite a growing body of scholarship that sits at the intersection of technology, AI, and law, few have examined how courts themselves are using algorithmic analytics. The paucity of such work reflects the reality on the ground in most jurisdictions, including the United States: private companies, rather than court systems, have been at the forefront of efforts to exploit AI. Although many courts are trying to digitize court documents to boost efficiency and accessibility,[3] the use of algorithms to adjudicate cases remains largely theoretical.[4] In the United States, long-standing emphasis on procedural due process and the right to a fair trial suggests that algorithms are unlikely to replace judges in any but the simplest cases, at least not anytime soon. Other countries have taken an even more conservative approach to limit the influence of AI on the legal system. Notably, in 2019, France banned the use of data analytics to reveal patterns of judicial behavior in past court decisions.[5]

Kate Beioley, *Robots and AI Threaten to Mediate Disputes Better Than Lawyers*, FIN. TIMES (Aug. 13, 2019) [https://perma.cc/WY4Y-LRMJ] (discussing whether robots may come to replace lawyers). Related questions concern the explainability and accuracy of algorithms increasingly deployed in risk assessments in the criminal justice system. *See generally* Ashley Deeks, *The Judicial Demand for Explainable Artificial Intelligence*, 119 COLUM. L. REV. 1830 (2019).

2. *See generally, e.g.*, RYAN ABBOTT, THE REASONABLE ROBOT: ARTIFICIAL INTELLIGENCE AND THE LAW (2020); Kate Crawford & Jason Schultz, *Big Data and Due Process: Toward a Framework to Redress Predictive Privacy Harms*, 55 B.C. L. REV. 93 (2014); S. M. Solaiman, *Legal Personality of Robots, Corporations, Idols and Chimpanzees: A Quest for Legitimacy*, 25 A.I.L. 155 (2017); Matthew U. Scherer, *Regulating Artificial Intelligence Systems: Risks, Challenges, Competencies, and Strategies*, 29 HARV. J.L. & TECH. 355 (2015); Emad Abdel Rahim Dahiyat, *Law and Software Agents: Are They "Agents" by the Way?*, 29 A.I.L. 59 (2020); Daniel Gervais, *Is Intellectual Property Law Ready for Artificial Intelligence?*, 69 GRUR INT'L 117 (2020); Robert H. Sloan & Richard Warner, *Beyond Bias: Artificial Intelligence and Social Justice*, 24 VA. J.L. & TECH. 1 (2020); Weston Kowert, Note, *The Foreseeability of Human–Artificial Intelligence Interactions*, 96 TEX. L. REV. 181 (2017).

3. *See, e.g.*, Marcus W. Reinkensmeyer, *Artificial Intelligence: Automated Court Document Processing in Palm Beach County*, ABA JUD. DIV. REC., Summer 2019, at 4, 4–5.

4. *See* Cary Coglianese & Lavi M. Ben Dor, *AI in Adjudication and Administration: A Status Report on Governmental Use of Algorithmic Tools in the United States* 32 (Univ. of Pa. L. Sch., Pub. L. Rsch. Paper No 19-41, 2020) [https://perma.cc/WB3V-N44H]. There are a few exceptions. For example, Estonia plans to use AI to adjudicate small claim decisions, with decisions appealable to a human judge. *See* Eric Niiler, *Can AI Be a Fair Judge in Court? Estonia Thinks So*, WIRED (Mar. 25, 2019) [https://perma.cc/9BBK-R9QH].

5. In June 2019, France passed new legislation banning companies (and individuals) from revealing patterns of judicial behavior in court decisions. The penalty for breaking the law is up to five years in prison, which some observers called "the harshest example of legal

In contrast, the rise of automated pattern analysis is already transforming how courts function in China. Since 2014, Chinese courts have made unprecedented numbers of court decisions publicly available, uploading more than 120 million documents to a centralized website called "China Judgments Online."[6] More recently, courts across the country have initiated experiments to integrate AI into adjudication by introducing software that reviews evidence, suggests outcomes, checks the consistency of judgments, and makes recommendations on how to decide cases.[7]

This embrace of algorithmic analytics offers Chinese courts—long perceived as passive and weak[8]—the opportunity to lead both in China and globally. Within China, recent reforms place the courts at the forefront of state efforts to integrate technology into governance. The courts' explicit goal is to deploy AI across the full range of their activities in order to monitor judges, standardize decision-making, uncover trends in society, and provide public services.[9] Globally, Chinese courts already claim to be world leaders in making cases publicly available online.[10] Although no one has fact-checked this claim,

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tech regulation on the planet right now." *See France Bans Judge Analytics, Five Years in Prison for Rule Breakers*, ARTIFICIAL LAW. (June 4, 2019) [https://perma.cc/ZK46-WW3S]. The ban does not appear to apply to courts, although there is little evidence of French courts engaging in data analytics. *Id.*

6. The China Judgments Online website includes a real-time count of the number of documents available. 120 million documents were available as of June 2021. *See Homepage*, ZHONGGUO CAIPAN WENSHU WANG (中国裁判文书网) [CHINA JUDGMENTS ONLINE] [https://perma.cc/W6L8-UHUV].

7. *See infra* notes 33–34, and text accompanying notes 77–90.

8. *See, e.g.*, Benjamin L. Liebman, *Authoritarian Justice in China: Is There a 'Chinese Model?'*, *in* THE BEIJING CONSENSUS? HOW CHINA HAS CHANGED WESTERN IDEAS OF LAW AND ECONOMIC DEVELOPMENT 225, 248 (Weitseng Chen ed., 2017) ("Chinese courts are both weak political actors and are extremely political."); RACHEL E. STERN, ENVIRONMENTAL LITIGATION IN CHINA: A STUDY IN POLITICAL AMBIVALENCE 8 (2013) (mentioning that China is known for "weak, closely monitored courts"); Ji Li, *The Power Logic of Justice in China*, 65 AM. J. COMPAR. L. 95, 111 (2017) ("Chinese courts are widely known to be weak . . . ."). *See generally* Benjamin L. Liebman, *China's Courts: Restricted Reform*, 191 CHINA Q. 620 (2007).

9. *See infra* notes 33–34, and text accompanying notes 77–90.

10. Luo Shuzhen (罗书臻), *Shen Deyong: Zhongguo Sifa Gaige Jiangwei Renmin Qunzhong Tigong Genghao de Sifa Baozhang* (沈德咏: 中国司法改革将为人民群众提供更好的司法保障) [*Sheng Deyong: Chinese Judicial Reform Will Provide the People with Better Judicial Protections*], ZUIGAO RENMIN FAYUAN WANG (最高人民法院网) [SUP. PEOPLE'S CT. ONLINE] (Dec. 9, 2015) [https://perma.cc/MD58-AD5C] (relating an address by Shen Deyong, Executive Vice-President of the Supreme People's Court, highlighting that judicial transparency in China is "leading the world in its breadth, depth and level of modernization"); Zhou Shangjun (周尚君) & Wu Qian (伍茜), *Rengong Zhineng Sifa Juece de Keneng yu Xiandu* (人工智能司法决策的可能与限度) [*The Possibility and Limits of*

Chinese courts are plainly leapfrogging efforts elsewhere when it comes to AI, moving rapidly to a world where computers suggest legal outcomes to judges, either by analyzing millions of past cases or through a decision-tree designed to match the fact pattern in the case with the correct legal solution.[11]

In this article, we chronicle how China's courts came to embrace artificial intelligence. We focus on two key features of the courts' drive toward AI: the public release of tens of millions of court decisions and subsequent attempts to use algorithmic analytics. We discuss why Chinese courts decided to put more than 100 million cases online, particularly the appeal of positioning themselves at the vanguard of both the Party-state's embrace of technology in governance and its efforts to strengthen centralized control and tighten the oversight of judges. Of course, Chinese courts' embrace of AI is just one example of how Chinese government agencies are partnering with technology companies to strengthen social control and re-invigorate the legitimacy of the Chinese Communist Party, while also maintaining control over how official data are used. Yet a closer look at the courts' experience complicates the dystopic media images of China as a rising exemplar of "knowledge-fueled totalitarianism"[12] or "techno-tatorship."[13] Our account highlights the difficulties of making a "techno-tatorship" real when local officials are more incentivized to show action than to produce useful software, and when poor quality data are pervasive. Nevertheless, data quality may also be beside the point if the main goal of reforms is to remind judges that they are being

Judicial Decision-making by Artificial Intelligence] HUADONG ZHENGFA DAXUE XUEBAO (华东政法大学学报) [J. E. CHINA U. POL. SCI. & L.], no. 1, 2019, at 53, 55. (asserting that as of 2018 the SPC's database is "already the largest database of judgments in the world"); Liu Zheng (刘峥) & Deng Yu (邓宇), *Quanqiu Shiye Xia Zhongguo Hulianwang Fayuan Gaige de Qishi yu Zhanwang* (全球视野下中国互联网法院改革的启示与展望) [*Lessons and Outlook of Chinese Internet Court Reforms from a Global Perspective*] ZHONGHUA QUANGUO ZONG GONGHUI (中华全国总工会) [ALL-CHINA FED'N OF TRADE UNIONS] (Apr. 10, 2020) [https://perma.cc/ALA8-WYK4] (describing a German judge as having asserted that China is "leading the world" in informatization); Wang Shaohua (王韶华), *Sifa Gongkai, Shenpan Mimi yu Faguan Duli* (司法公开、审判秘密与法官独立) [*Judicial Transparency, Trial Secrecy, and the Independence of Judges*], ZHONGGUO FAYUAN WANG (July 15, 2015, 4:30 PM) [https://perma.cc/4WVW-7DG5] (arguing that Chinese courts are "already leading many countries").

11. *See infra* notes 33–34, and text accompanying notes 77–90.

12. Andrew Browne, *China Uses 'Digital Leninism' to Manage Economy and Monitor Citizens*, WALL ST. J. (Oct. 17, 2017) [https://perma.cc/7WN2-BT47].

13. James Kynge, *China Harnesses Big Data to Buttress the Power of the State*, FIN. TIMES (Oct. 27, 2017) [https://perma.cc/VWT4-58P2].

watched by algorithms. As long as judges believe they are being monitored, their behavior is likely to change.

Although China's courts are moving unusually fast to deploy technology, many of the issues surfacing in the Chinese legal system are likely to arise elsewhere as well. We focus on how the rise of algorithmic analytics inside the courts might affect access to justice, the state's ability to see and track its own officials and citizens, and perhaps even the power and authority of the judiciary itself. Our goal is to push the nascent literature on courts, data analytics, and artificial intelligence to consider the political implications of technological change. Although AI may help boost the efficiency of Chinese courts and ensure more consistent decision-making, we argue that more attention needs to be focused—in China and elsewhere—on how AI might affect the balance of power among court users, between state and society, and between the judiciary and other state agencies. Specifically, we argue that Chinese courts' turn toward AI may exacerbate inequalities in access to justice. We also question the conventional wisdom that AI will automatically super-charge a state's capacity to learn about ground-level trends either inside its own bureaucracy or in society. Although many state agencies are now swimming in data, decision-makers will continue to have blind spots—some created by poor quality data and others by pressure to aggregate data into indicators—and much more research is needed on both where those blind spots lie and how they matter. Finally, we call for greater attention to how algorithmic analytics could undermine judicial authority. Courts worldwide will eventually need to reckon with AI and what it means for judging. As other court systems consider whether algorithms could speed decision-making or make outcomes fairer, we ask: What will the implications be for judicial authority worldwide? Recent developments in China's courts offer a caution that two powerful trends—ascendant interest in algorithmic governance and worldwide assaults on judicial authority—could be intertwined.

I. THE ORIGINS AND PURPOSE OF JUDICIAL DISCLOSURE, DATA ANALYTICS AND ALGORITHMIC ADJUDICATION IN CHINESE COURTS

How did an authoritarian court system generally regarded as politically weak find itself at the vanguard of global trends toward both increased judicial disclosure and the use of algorithms to assist or replace human adjudication? This section offers a short history, focused on two primary themes. First, this new policy direction was top-down.

It was championed by the Supreme People's Court ("SPC") and gained traction primarily because centralizing oversight and control of the courts was a political priority that resonated with major themes emphasized by Communist Party General Secretary Xi Jinping, including global technology primacy. The SPC is not unusual among Chinese Party-state institutions in seeking to harness data to better do its job or to assert greater oversight over lower-level institutions. But the SPC does appear somewhat unusual, both in using data to assert oversight, and in seeking to grow its legitimacy through a genuine commitment to improve public access to information. Second, the shift toward embracing technology also held appeal across multiple levels of the judicial hierarchy. Court leaders and rank-and-file judges saw the ways in which technology could boost the power and legitimacy of the courts and also ease their workload.

A. Judicial Disclosure as a New Norm

In China, judicial disclosure began with experiments by local courts, which preceded the 2014 adoption of a change in national policy. Under pressure from widespread media coverage of wrongly-decided cases, the SPC endorsed judicial transparency as a goal in 2009 and started encouraging lower court efforts to publish judicial decisions.[14] These cues from China's highest court

14. *See* Zuigao Renmin Fayuan Yinfa ‹Guanyu Sifa Gongkai de Liuxiang Guiding› he ‹Guanyu Renmin Fayuan Jieshou Xinwen Meiti Yulun Jiandu de Ruogan Guiding› de Tongzhi (最高人民法院印发《关于司法公开的六项规定》和《关于人民法院接受新闻媒体舆论监督的若干规定》的通知) [Supreme People's Court Notice on the Publication of "Six Measures on Judicial Openness" and "Several Provisions on People's Courts Accepting Supervision by News Media and Public Opinion"] (promulgated by the Sup. People's Ct., Dec. 8, 2009), ZUIGAO RENMIN FAYUAN WANG, Feb. 24, 2010 [https://perma.cc/56VX-R9D5]. Even earlier in the reform era, Party leaders publicly acknowledged the benefits of information disclosure. In 1989, then-General Secretary Zhao Ziyang talked about how China

> should make our institutions and outcomes transparent, and . . . transparency itself is a method of supervision . . . . Therefore, I think it is a wise approach to promote transparency, rely on mass supervision, and build mechanisms both within the party and in society to curb corruption.

Joel Andreas & Yige Dong, *"Mass Supervision" and the Bureaucratization of Governance in China*, *in* TO GOVERN CHINA: EVOLVING PRACTICES OF POWER 123, 143 (Vivienne Shue & Patricia M. Thornton eds., 2017).

One of the SPC's first statements regarding placing cases online was in its 2000 Work Report, which stated that the SPC would gradually place its own cases online. *See* Xiao Yang (肖扬) (President of the Sup. People's Ct.), Zuigao Renmin Fayuan Gongzuo Baogao (2000) (最高人民法院工作报告[2000]) [Annual Work Report of the Supreme People's Court (2000)], ZHONGGUO ZHENGFU WANG (中国政府网) [CHINESE GOV'T ONLINE] (June 11, 2015) [https://perma.cc/67WV-NJ49] (delivered at the third plenary session of the ninth National People's Congress on Mar. 10, 2000). Greater judicial disclosure also followed other efforts

prompted a flurry of local initiatives, some of which went well beyond what the SPC required at the time.[15] Then, under SPC President Zhou Qiang, new rules called on all courts to begin posting most cases online on January 1, 2014, and the SPC created a centralized website called "China Judgments Online" (中国裁判文书网) to host them.[16] Concerns about radical openness were managed by creating categories of cases exempt from disclosure requirements, including a vague category of "other cases not suitable for being posted online."[17] Although carve-outs exist to protect certain types of cases from public view, the release of millions of court

to embrace transparency in governance, including the 2008 Open Government Information Regulations and real-time disclosure of pollution data.

15. In Henan province, for example, the Henan High Court mandated that all courts in the province place the vast majority of decisions online beginning in mid-2009. Han Junjie (韩俊杰) & Duan Yanchao (段艳超), *Henan Fayuan Yinian 25,167 Jian Caipan Wenshu Shangwang, Qing Waijie Tiaoci* (河南法院 年 25,167 件裁判文书 网 请外界挑刺) [*Henan Courts Published 25,167 Opinions Online in One Year, Open to Outside Critique*], CHINANEWS (Sept. 16, 2009, 4:11 AM) [https://perma.cc/A3VS-HZC6]; Henan Sheng Gaoji Renmin Fayuan Guanyu Yinfa ‹Caipan Wenshu Shangwang Gongbu Guanli Banfa› de Tongzhi (河南省高级人民法院关于印发《裁判文书 网公布管理办法》的通知) [Notice of the Henan Provincial High Court's on Issuing the "Administrative Measures for Online Publication of Court Judgments"] (promulgated by the Henan High People's Ct. Oct. 9, 2009), PEKING UNIV. L. SCH., Oct. 9, 2009 [https://perma.cc/UD4A-CJS3].

16. Zuigao Renmin Fayuan Guanyu Renmin Fayuan Zai Hulianwang Gongbu Caipan Wenshu de Guiding, Fashi [2013] 26 Hao (最高人民法院关于人民法院在互联网公布裁判文书的规定, 法释【2013】26 号) [Supreme People's Court Regulations Regarding Publication of Judicial Decisions on the Internet, Judicial Interpretation No. 26 (2013)] (promulgated by the Sup. People's Ct., Nov. 13, 2013, effective Jan. 1, 2014), ZUIGAO RENMIN FAYUAN WANG, Nov. 29, 2013 [https://perma.cc/N52P-7L54]. Other exceptions to disclosure requirements include mediated outcomes, juvenile crime, divorce suits, and cases related to state security. For a fuller discussion of how disclosure rules have changed over time, see Benjamin Liebman et al., *Mass Digitization of Chinese Court Decisions: How to Use Text as Data in the Field of Chinese Law*, 8 J.L. & CTS. 177 (2020).

17. Zuigao Renmin Fayuan Guanyu Renmin Fayuan Zai Hulianwang Gongbu Caipan Wenshu de Guiding, Fashi [2016] 19 Hao (最高人民法院关于人民法院在互联网公布裁判文书的规定, 法释【2016】19 号) [Supreme People's Court Regulations Regarding Publication of Judicial Decisions on the Internet, Judicial Interpretation No. 19 (2016)] (promulgated by the Sup. People's Ct., July 25, 2016, effective Oct. 1, 2016), ZUIGAO RENMIN FAYUAN WANG, Aug. 31, 2016 [https://perma.cc/3RCC-ZVHU] [hereinafter SPC Regulations on Online Judgments (2016)]. Although the overall trend is toward greater disclosure, with the SPC asking courts in 2018 to release work reports, budgets, judicial statistics, and assorted other information, carve-outs still exist to protect politically sensitive cases from public view. Zuigao Renmin Fayuan Guanyu Jinyibu Shenhua Sifa Gongkai de Yijian, Fafa [2018] 20 Hao (最高人民法院关于进 步深化司法公开的意见, 法发【2018】20 号) [Supreme People's Court Opinion on Further Deepening Judicial Openness, Judicial Opinion No. 20 (2018)] (promulgated by the Sup. People's Ct., Nov. 20, 2018), ZUIGAO RENMIN FAYUAN, Nov. 27, 2018 [https://perma.cc/GB4B-G8QB]. For a fuller discussion of how disclosure rules have changed over time, see Liebman et al., *supra* note 16, at 179–83.

decisions is a sea change for a legal system that previously had seldom made cases public. The creation of China Judgments Online also marked a victory for reformers inside the court system who saw disclosure as a way to strengthen public trust, combat corruption, and help courts resist external pressure.[18]

The decision to publicly release court decisions is part of a broader push to disclose a broader range of information related to court operations. In 2017, the SPC issued rules calling on courts to video record all trials.[19] The SPC also now requires courts to live stream public hearings.[20] As of December 4, 2020, the SPC reported that more than two million cases had been live-streamed.[21] The SPC has also taken steps to make other types of court information public, including judges' names, educational background,

18. Other Chinese institutions, notably the Ministry of Environmental Protection and the stock exchanges, have also used the threat of public exposure to curb wrongdoing and boost their own standing. The difference is that these authorities have sought to use transparency to control the behavior of third parties, while courts are using transparency to control misconduct within their own institution. *See* Peter Lorentzen et al., *Undermining Authoritarian Innovation: The Power of China's Industrial Giants*, 76 J. POL. 182, 182 (2014) (arguing that environmental transparency was "largely motivated by the desire to rein in local government officials"); *see generally* Benjamin L. Liebman & Curtis J. Milhaupt, *Reputational Sanctions in China's Securities Market*, 108 COLUM. L. REV. 929 (2008) (examining the Shanghai and Shenzhen stock exchanges' public criticisms of listed companies in the context of securities regulation in China). A 2017 SPC white paper also discusses how placing cases online fits with President Xi Jinping's calls for judicial transparency and increased public supervision. *Judicial Transparency by People's Courts*, ZUIGAO RENMIN FAYUAN WANG (Mar. 14, 2017) [https://perma.cc/8HJG-D6CU]. Empirically, it is not yet clear whether judicial disclosure has improved Chinese courts' standing with the public. A first piece of evidence comes from an online survey conducted in early 2020, in which 90.8 percent of respondents expressed the belief that publicizing judicial decisions would increase public confidence in the justice system. Like many online surveys, however, the respondents were disproportionately male, urban and young. *See* Benjamin Minhao Chen & Zhiyu Li, *How Will Technology Change the Face of Chinese Justice?*, COLUM. J. ASIAN L. (forthcoming 2021).

19. Zuigao Renmin Fayuan Guanyu Renmin Fayuan Tingshen Luyin Luxiang de Ruogan Guiding, Fashi [2017] 5 Hao (最高人民法院关于人民法院庭审录音录像的若干规定, 法释【2017】5 号) [Supreme People's Court Regulations Regarding Audio-Video Recordings of Court Hearings by the People's Courts, Judicial Interpretation No. 5 (2017)] (promulgated by the Sup. People's Ct., Jan. 25, 2017, effective Mar. 1, 2017) ZUIGAO RENMIN FAYUAN WANG, Feb. 22, 2017 [https://perma.cc/CAY6-5YE7].

20. Li Wanxiang (李万祥), *Tingshen Zhibo Gei Zhongguo Sifa Dailai Le Shenme* (庭审直播给中国司法带来了什么) [*What Have Live Court Hearings Brought to China's Judiciary*], OFF. CENT. CYBERSPACE AFF. COMM'N (Feb. 20, 2019, 6:42 PM) [https://perma.cc/VMJ6-F97M].

21. Supreme People's Court Regulations Regarding Audio-Video Recordings of Court Hearings by the People's Courts, *supra* note 19; *see also* Li, *supra* note 20.

and work experience.[22] Rules issued in 2018 also require courts to make public their annual court work reports, which generally include information on numbers and types of cases heard each year, although progress on releasing such reports appears to be mixed.[23]

B. Toward Data Analytics and Algorithmic Adjudication

As judicial disclosure took root as a new norm, Chinese courts found themselves in possession of a huge reservoir of past cases. The existence of this data made it possible for courts to make the jump from releasing data to analyzing it, using it as the raw fuel for algorithmically-assisted decision-making. Many technology-related projects have been framed as concrete manifestations of Zhou Qiang's signature initiative of creating "smart courts" (智慧法院).[24] "Smart courts" is a capacious slogan that also sometimes encompasses basic technological efforts to make it easier for lawyers and plaintiffs to file paperwork and follow the progress of a case online. Certainly, Chinese courts have come a long way from the 1980s, when the priority was simply to get computers into courtrooms.[25] Many courts have now rolled out websites and mobile apps to allow "the masses to do fewer errands,"[26] as the 2018 SPC Work Report puts it, by letting them

22. Susan Finder, *China's Translucent Judicial Transparency*, *in* TRANSPARENCY CHALLENGES FACING CHINA 141, 148, 150 (Fu Hualing et al. eds., 2019).

23. In a December 2020 search of the websites and WeChat platforms of twenty trial courts in Henan Province, we found that only three courts published the full text of their most recent work reports on their websites. Nine courts published summaries of their most recent work reports in graphic form via their WeChat accounts.

24. The phrase "smart courts" started to surface in SPC policy documents around 2015 and, by the following year, Zhou had christened smart courts the next step of judicial modernization. *Zhou Qiang: Jixu Shenhua Sifa Gongkai, Jiakuai Jianshe Zhihui Fayuan* (周强: 继续深化司法公开加快建设 "智慧法院") [*Zhou Qiang: Continue To Deepen Open Trial, Expedite Establishing "Smart Courts"*], XINHUA (新华) [XINHUA NEWS] (Mar. 13, 2016) [https://perma.cc/92TP-XRYE].

25. The 1986 SPC Work Report, for example, discusses the importance of "modernizing court management" and increasing computer use. *See* Zheng Tianxiang (郑天翔) (President of the Sup. People's Ct.), Zuigao Renmin Fayuan Gongzuo Baogao (1986) (最高人民法院工作报告[1986]) [Annual Work Report of the Supreme People's Court (1986)], ZHONGGUO ZHENGFU WANG (Mar. 27, 2008) [https://perma.cc/W7MC-6WG8] (delivered at the fourth plenary session of the sixth National People's Congress on Apr. 8, 1986) [hereinafter SPC Work Report (1986)].

26. Zhou Qiang (周强) (President of the Sup. People's Ct.), Zuigao Renmin Fayuan Gongzuo Baogao (2018) (最高人民法院工作报告[2018]) [Annual Work Report of the Supreme People's Court (2018)], ZUIGAO RENMIN FAYUAN WANG (Mar. 23, 2018) [https://perma.cc/MN4C-Q59U] (delivered at the first plenary session of the thirteenth National People's Congress on Mar. 9, 2018).

electronically file cases, submit and receive court documents online, and get updates about ongoing litigation.[27]

However, the ambition of "smart courts" goes beyond digitizing the litigation process. Moving toward the more technologically sophisticated end of the spectrum, a secondary goal is to better monitor both judges and society. A 2017 SPC Opinion explicitly spells out an aspiration to better inform policy-makers by using big data to "deeply analyze the behavior of court users," "monitor social contradictions," and "predict trends in economic and social development."[28] Resolving social conflict has long been part of how Chinese courts see their role in society,[29] but the existence of big data allows courts to do this in a new way. Local courts have highlighted their role in assisting local

27. For example, Guangzhou courts recently rolled out a WeChat app that allows court users to follow the progress of their cases online, and permits attorneys to join proceedings via mobile Internet for the first time. *China Focus: Mobile Internet Enhances Judicial Efficiency, Transparency*, XINHUA (Mar. 13, 2018) [https://perma.cc/JU6Y-LR7D]. In part, such efforts reflect a desire to make the legal process easier to navigate for ordinary people. In addition, online filings mean that fewer angry litigants come to the court in person, which could, in turn, help mitigate unrest.

28. Zuigao Renmin Fayuan Guanyu Jiakuai Jianshe Zhihui Fayuan de Yijian, Fafa [2017] 12 Hao (最高人民法院关于加快建设智慧法院的意见, 法发【2017】12 号) [Supreme People's Court Opinion on Accelerating the Construction of Smart Courts, Judicial Opinion No. 12 (2017)] (promulgated by the Sup. People's Ct., Apr. 12, 2017) SUP. PEOPLE'S CT. GAZ., Apr. 12, 2017 [https://perma.cc/582Y-VZEX]. For example, Shandong courts used big data to try to understand the causes of serious violent crime, while courts in Yunnan analyzed trends in drug cases. Luo Shuzhen (罗书臻), *Caipan Wenshu Dashuju Yunyong Qudon Sifa Shenpan Gexiang Gongzuo Xianghao Fazhan* (裁判文书大数据运用驱动司法审判各项工作向好发展) [*Using Judicial Big Data* to *Drive Trial Hearing Work in a Positive Direction*], ZHENGYI WANG (正义网) [JUSTICE WEB] (Aug. 28, 2017) [https://perma.cc/C9PZ-SQED]; *see also* Luo Shuzhen (罗书臻), *Yunyong Caipan Wenshu Dashuju Cujin Sifa Gongzheng de Difang Jingyan* (运用裁判文书大数据促进司法公正的地方经验) [*Local Experience of Using Court Opinion Data to Strengthen Judicial Fairness*], ZUIGAO RENMIN FAYUAN WANG (Sept. 1, 2017) [https://perma.cc/5YZQ-7BZG] (reporting on Shandong court's use of big data to analyze violent crimes and "social contradictions" behind them); *Zhejia Fayuan Shuaixian Yunyong Sifa Dashuju Zhuli Shiyu Shehui Zhili Xiandaihua* (这家法院率先运用司法大数据 助力市域社会治理现代化) [*This Court was the First in Using Judicial Big Data to Facilitate the Modernization of Municipal Governance*], PENGPAI XINWEN (澎湃新闻) [THE PAPER] (May 30, 2020) [https://perma.cc/TS34-SARK] (highlighting role of the Court of Xishan District, Kunming, in using court data to analyze social contradictions so as to assist municipal policymaking).

29. *See* Benjamin L. Liebman, *A Return to Populist Legality? Historical Legacies and Legal Reform*, *in* MAO'S INVISIBLE HAND: THE POLITICAL FOUNDATIONS OF ADAPTIVE GOVERNANCE IN CHINA, 165, 178–79 (Sebastian Heilmann & Elizabeth J. Perry eds., 2011) (discussing how judges are responsible for resolving social conflicts before they spread). Before the advent of the Digital Age, China's judiciary had already recognized the importance of accumulating data to adequately perform in this role. The 1986 SPC Work Report, for example, bemoans "information failure" (信息不灵) and cites a need for better information-gathering. SPC Work Report (1986), *supra* note 25.

governments in monitoring social problems. In Yibin, for example, a report detailed the local intermediate court's role in helping the municipal government detect "risks and hidden troubles in social functioning and economic development."[30] Monitoring, however, is not limited to society. Some higher courts are also drawing on repositories of past decisions to quantify the daily activities of courts and judges and better evaluate them.[31] It is now possible to track metrics such as the number of cases each judge resolves, the time taken to decide cases, the percentage of cases resolved within time limits, and the volume of cases handled by court leaders. Efficiency and volume, particularly the number of cases decided per judge and the case clearance rate over a given time frame, are easier to measure than the quality of decisions, although some courts have tried to evaluate quality as well.[32]

At the most technologically sophisticated end of the spectrum, high-profile projects in places as diverse as Shanghai, Hainan, and Guangzhou are introducing software capable of analyzing past cases with similar fact patterns to recommend sentences to judges.[33] In a drunk-driving case, for example, a judge would select a list of

30. *"Shuzhu Juece" Gongzuo Shouci Jinru Difang Fayuan Gongzuo Baogao* ("数助决策" 工作首次进入地方两会法院工作报告) [*"Data-Driven Decision-Making" Mentioned in Local Two Sessions Work Report on Courts*], YIBIN XINWEN WANG (宜宾新闻网) [YIBIN NEWS] (May 26, 2002) [https://perma.cc/5DUX-JYCB].

31. A Changchun district court in Jilin province, for example, worked with a technology company to analyze the quality (质量分析) of 2,298 cases decided in 2014 and 2015. *See* Zhang Yuzhuo (张玉卓), *Dang Caipan Wenshu Xiehou Dashuju Pinggu* (当裁判文书邂逅大数据评估) [When Court Judgments Meet Big Data Analysis], RENMIN FAYUAN BAO (人民法院报) [PEOPLE'S CT. DAILY] (July 28, 2016) [https://perma.cc/DJ5E-KM5R]. For further discussion on improving judicial personnel through monitoring, see Zhang Fuli (张富利) & Zheng Haishan (郑海山), *Da Shuju Shidai Rengong Zhineng Fuzhu Liangxing de Dingwei, Qianjng Ji Fengxian Fangkong* (大数据时代人工智能辅助量刑的定位、前景及风险防控) [*AI-Assisted Sentencing in the Era of Big Data—Function, Perspective and Risk Control*], GUANGXI SHEHUI KEXUE (广西社会科学) [GUANGXI J. SOC. SCI.], no. 1, 2019, at 92, 99.

32. Zhang & Zheng, *supra* note 31, at 98.

33. *Jiemi "206": Fayuan Weilai de Rengong Zhineng Tujing* (揭秘 "206"：法院未来的人工智能图景) [*Uncovering "206": The Future Vision of Artificial Intelligence in Courts*], RENMIN FAYUAN BAO (July 10, 2017) [https://perma.cc/7LXP-WTPL] [hereinafter *Uncovering "206"*]; *see also Bimian Tong'an Butong Pan, Hainan Laile Wei AI "Faguan"* (避免同案不同判，海南来了位 AI "法官") [*Avoid Different Judgments in Similar Cases, an AI Judge Came to Hainan*], ZHONGGUO KEJI WANG SHOUYE (科技日报) [CHINA SCI. & TECH. DAILY] (Apr. 15, 2019) [https://perma.cc/AD6F-PWMA]; *see also* Li Zhe (李 哲) *Rengong Zhineng Zoujin Fayuan "Pan Anzi"* (人工智能走进法院 "判案子") [*Artificial Intelligence Coming into Courts and "Adjudicating Cases"*], JINGJI RIBAO (经济日报) [CHINA ECON. DAILY] (July 14, 2017) [https://perma.cc/7AX3-BM8V].

factors (such as blood alcohol level or amount of damages caused), and the software would display the average sentence in past "similar" cases.[34] This type of algorithmic analysis is seen as a way to speed up judicial decision-making and help judges decide "like cases alike" (同案同判). Although the judge would retain discretion to disregard the recommended sentence, research at the intersection of law and psychology suggests that reference points "anchor" judges' decisions.[35] Numeric anchors such as a damage cap, a damage award in an unrelated case, or a sentence recommended by a prosecutor all influence judicial decision-making.[36] If anything, anchoring effects would be even stronger in China, where judges are typically pressed for time and reluctant to take responsibility for a decision that strays from the norm.[37] In practice, what is billed as computer-assisted judging is likely to edge the Chinese courts toward a world in which judges seek to align their decisions with an outcome recommended by an algorithm. Overall, then, Chinese courts have tried to use technology in three ways: to improve the courts' ability to monitor society and defuse social conflict, to improve oversight of judges and reduce malfeasance, and to move toward a world in which judges rely on algorithms to boost efficiency and consistency.[38]

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34. This example is based on a software demo seen by one of the authors during a trip to Beijing in May 2017.

35. For an overview of the anchoring literature, see Jeffrey J. Rachlinkski & Andrew J. Wistrich, *Judging the Judiciary by the Numbers: Empirical Research on Judges*, 13 ANN. REV. L. SOC. SCI. 203, 215 (2017) (noting that anchoring "can generate ridiculous outcomes").

36. *Id.*

37. *See generally* Benjamin Liebman et al., Dodging Decisions: Avoiding Responsibility in Chinese Courts (Sept. 16, 2019) (unpublished manuscript) (on file with author); Xin He, *Pressures on Chinese Judge under Xi*, CHINA J., Jan. 2021, at 49, 56–59.

38. An August 2019 report from the Cyberspace Administration of China described four primary components of the use of AI in Chinese courts: assisting in document management; automating the creation of transcripts of hearings; assisting in the trial of cases; and assisting in the provision of judicial services. The report cited the example of courts in Beijing, where software now helps to automatically create judicial documents and hearing transcripts and assists judges in identifying "similar cases" to guide outcomes. The report noted that AI can be useful in standardizing the time it takes to decide cases and reducing the workload of judicial personnel. The report also emphasized that the role of AI in the courts is to assist, rather than to replace, the human judicial process. Kong Xiangfeng (孔祥凤), *Sifa Shijian Zhong de Rengong Zhineng* (司法实践中的人工智能) [*Artificial Intelligence in Judicial Practice*], OFF. CENT. CYBERSPACE AFF. COMM'N (Aug. 8, 2019) [https://perma.cc/U4QV-SLD2]; *see also Quanmian Tisheng Zhihui Fayuan Jianshe Shuiping Jiakuai Shenpan Tixi he Shenpan Nengli Xiandaihua* (全面提升智慧法院建设水平 加快审判体系和审判能力现代化) [*Comprehensively Enhance the Level of Construction of Smart Courts, Accelerate Modernization of the Judicial System and Judicial Capability*], RENMIN FAYUAN BAO (Apr. 30, 2020) [https://perma.cc/D9BU-87DQ] (reporting on an April 2020 SPC meeting that

One important reason why "smart courts" has taken hold as a policy direction is because two key constituencies inside the judiciary—provincial court leaders and frontline judges—see how different applications of technology could make their jobs easier and lives better. For the judicial officials responsible for court supervision, a dashboard that sums up the daily activities of courts and judges is an appealing source of information and control.[39] For rank-and-file judges, in contrast, the unpleasantness of intensified monitoring is at least partly mitigated by the prospect of a lighter workload and decreased responsibility for decision-making.[40] Judicial overwork is such a pressing problem, due to soaring caseloads and a reduction in the number of court personnel classified as judges, that saving time is a priority for many judges.[41] The hope is that introducing software capable of drafting parts of opinions, or even deciding easy cases, could ease the crush of daily work and free up time for complex cases.[42] In addition, computer-assisted decision-making could allow judges to sidestep responsibility for their decisions, long a source of stress in a

emphasized the role of technology in providing a "one-stop" online platform for litigants and providing an overview of court use of technology); *see also* Zheng Ge (郑戈), *Sifa Keji de Xietiao Yu Zhenghe* (司法科技的协调与整合) [*The Coordination* and *Integration* of *Law* and *Technology*], FALÜ SHIYONG (法律适用) [APPLICATION L.], no. 1, 2020, at 3, 4–7 (discussing purposes of AI in Chinese courts); Zhang Chen (张晨), *Woguo Zhihui Fayuan Jianshe Qude Jingyan Jiexi* (我国智慧法院建设取得经验解析) [*An Analysis on the Experience from the Establishment of China's Smart Courts*], FAZHI RIBAO (法制日报) [LEGAL DAILY] (Sept. 12, 2019) [https://perma.cc/QZ34-ZDL4]; *‹Zhongguo Fayuan de Hulianwang Sifa› Baipishu Fabu* (《中国法院的互联网司法》白皮书发布) [*Release of White Paper "Application of Internet Technology in Judicial Practice in China"*], ZHONGGUO FAYUAN WANG (Dec. 4, 2019) [https://perma.cc/WQU9-LBZ3].

39. Zhao Ying (赵颖), *Dang Fayuan "Yushang" Hulianwang Shenpan Jiandu Yinglai Xin Xingtai* (当法院 "遇 "互联网 审判监督迎来新形态) [*When Courts "Meet" the Internet: Trial Supervision Welcomes a New Form*], FAZHI RIBAO (Aug. 28, 2020) [https://perma.cc/CU3Y-AYU3]; Wang Jialiang (王家梁), *"Zhihui Fayuan" Cujin Shenpan Zhixing Tixi Xiandai Hua* ("智慧法院" 促进审判执行体系现代化) [*"Smart Courts" Help Modernize the Judicial Trial and Enforcement System*], FAZHI RIBAO (May 25, 2020) [https://perma.cc/2FDG-X8YX].

40. Frontline judges might well be expected to bristle at intensified scrutiny, and there is some evidence this might be true in China even though Chinese judges rarely express public criticism of government initiatives. One of the district court judges involved in implementing a trial evaluation based on a large-scale analysis of past judicial decision-making in Jilin Province admitted he was initially "shocked" (震惊) by an approach to monitoring that evinced so little trust in the judiciary (对我们不信任). Zhang, *supra* note 31.

41. *See* He, *supra* note 37, at 56–59.

42. Chen Huijuan (陈慧娟), *Zhihui Sifa Shifang Chuangxin "Hongli"* (智慧司法释放创新 "红利") [*Smart Judicatory Impulses the "Benefit" of Innovation*], GUANGMING RIBAO (光明日报) [GUANGMING DAILY] (Nov. 16, 2020) [https://perma.cc/E5NM-LTQ7].

system where judges can be penalized for decisions overturned on appeal, deemed wrongly-decided by higher-ups, or that result in petitions or protests.[43] Although Chinese judges are still ultimately responsible for their decisions, it is hard to imagine a judge getting into trouble for recommending an outcome suggested by court-approved software that falls within the zone of how similar cases have been handled in the past. Even monitoring could have advantages when it comes to shielding judges from responsibility. A credible claim that any out-of-the-ordinary decisions are likely to be detected could also fend off pressure from politically well-connected litigants invested in the outcome of a case. Across the levels of the court judicial hierarchy, too, many also welcome the opportunity to position their work as cutting edge.[44] After years of hearing how the courts are weak and lagging behind their Western counterparts, here is an area where Chinese courts could lead both within China and globally.

The Chinese courts' embrace of technology also dovetails with central government priorities, particularly the Communist Party General Secretary Xi Jinping's push to centralize political power and lead the world in artificial intelligence.[45] Making sure that judicial decisions are consistent across the vast breadth of China is most often framed within China as a way to make the legal system fairer, or to boost public trust that courts serve as impartial adjudicators.[46] What

43. In a 2015 survey of 2,660 judges, forty-nine percent of respondents felt that the responsibility system for wrongly-decided cases (错案责任制度) is unreasonable, and forty-three percent expressed concern about deciding cases incorrectly. Hu Changming (胡昌明), *Zhongguo Fayuan Zhiye Manyi Du Kaocha—Yi 2660 Fen Wenjuan Wei Yangben de Fenxi* (中国法官职业满意度考察——以 2660 份问卷为样本的分析) [*An Investigation of the Professional Satisfaction of Chinese Judges: An Analysis of 2660 Survey Responses*], ZHONGGUO FALÜ PINGLUN (中国法律评论) [CHINA L. REV.], no. 4, 2015, at 194, 199–200; *see also generally* Gao Tongfei (高童非), *Woguo Xingshi Sifa Zhidu Zhong de Xieze Jizhi Yi Fayuan he Faguan wei Zhongxin* (我国刑事司法制度中的卸责机制——以法院和法官为中心) [*On the Shirking Mechanism in Our Nation's Criminal Judicial System—Taking Courts and Judges as the Center*], ZHEJIANG GONGSHANG DAXUE XUEBAO (浙江工商大学学报) [J. ZHEJIANG GONGSHANG U.], no. 5, 2019, at 102 (arguing that the rise of AI in the courts may permit judges to avoid responsibility for their decisions).

44. *See* Luo, *supra* note 10.

45. Zuigao Renmin Fayuan Sifa Zerenzhi Shishi Yijan (Shixing), Fafa [2017] 20 Hao (最高人民法院司法责任制实施意见(试行) 法发【2017】20 号) [Supreme People's Court Opinion on the Implementation of the Judicial Accountability System (for Trial Implementation), Judicial Opinion No. 20 (2017)] (promulgated by the Sup. People's Ct., July 25, 2017, effective Aug. 1, 2017), LAW INFO CHINA, July 25, 2017 [https://perma.cc/945D-XX28].

46. The SPC has already embraced consistency as a priority for the Chinese court system. SPC guidelines, introduced in 2017, ask judges to search for similar cases (检索类案件) on platforms like China Judgments Online as part of their decision-making process.

is less often discussed is that the uniform application of national laws also serves as a significant step toward centralizing political power—one of the hallmarks of Xi Jinping's administration.[47] In addition, the embrace of data analytics and artificial intelligence positions the courts as key players in a nationwide effort to lead the world in artificial intelligence.[48] China's push for AI is an important part of the country's strategic response to slowing economic growth and is motivated by a pervasive belief in nationalist vindication through technological innovation.[49] Viewed through this lens, the courts' strides toward algorithmic analytics contribute to the "first in the world" narrative of technological success poised to become a prominent part of the Party's twenty-first century legitimacy strategy.

One side effect of the rise of big data is the emergence of a robust market for data analysis to make sense of the tens of millions of legal decisions now publicly available. This market is strongly shaped by the Chinese courts' dual role as both a market participant and a regulator. The courts now purchase significant support from technology companies, including software, to track the progress of cases and to determine whether cases were correctly decided.[50] In addition,

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If past cases are inconsistent, or if the judicial panel feels that precedent is a poor guide, they must submit the case to the "professional judges meeting" (专业法官会议), in which a group of senior judges and tribunal heads discuss the case and decide whether to refer it to the adjudication committee. *Id*.

47. *See, e.g.*, CHENG LI, CHINESE LEADERSHIP IN THE XI JINPING ERA: REASSESSING COLLECTIVE LEADERSHIP 7–39 (2016).

48. The *Notice on a Next-Generation Artificial Intelligence Development Plan*, released in July 2017 by the State Council, spells out a three-step plan to become a world leader in AI by 2030. A good deal of financial support for AI is also available on the local level. As prominent venture capitalist Kai-Fu Lee explains, "even small cities are putting together $100 million programs. If you are an AI company and you want to set up, tell them how much money you want." Jessi Hempel, *Inside Baidu's Bid to Lead the AI Revolution*, WIRED (Dec. 6, 2017) [https://perma.cc/TY96-LG46].

49. Nationalist bravado is often mixed up in discussions of AI, such as SenseTime founder Xiaoou Tang's comment that AI will fuel China's return to the global technological dominance it enjoyed in the Tang Dynasty, Will Knight, *China's AI Awakening*, MIT TECH. REV. (Oct. 10, 2017) [https://perma.cc/V9HN-HPCK], or iFlyTek chairman Qingfeng Liu's belief that AI "will spread from China to the world," Paul Mozur & Keith Bradsher, *China's A.I. Advances Help Its Tech Industry, and State Security*, N.Y. TIMES (Dec. 3, 2017) [https://perma.cc/ZN3U-USY3].

50. Certainly, this is a fast-growing sector. Huayu, a Beijing-based company, whose top four clients in 2017 were courts, reported 31.5 percent average annual revenue growth between 2015 and 2017. In 2017, the company's top four clients were the Beijing High Court (98 million RMB in sales), the Beijing Second Intermediate Court (84 million RMB in sales), the Qinghai High Court (74 million RMB in sales) and the Supreme People's Court (56 million RMB in sales). Beijing Huayu Ruanjian Gufen Youxian Gongsi (北京华宇软件股份有限 公司) [Beijing Huayu Software Co., Ltd.], 2017 Nian Niandu Baogao (2017 年年度报告) [2017 Annual Report] 27 (Apr. 10, 2018). Scrambling for contracts early on is also a strategy to

courts are active in a secondary market where companies seek to re-package (now) public court data and sell either the original data, or an analysis of it, to litigants and lawyers.[51] The courts participate in this freewheeling marketplace for legal information through close working relationships with legal technology start-ups. In Shanghai, for example, the courts partnered with tech company iFlyTek to develop software that could be used in Shanghai and sold to courts elsewhere.[52] In Beijing, the SPC has also invested in at least one legal tech company.[53] Looking forward, there is uncertainty about how tightly the courts will choose to control their data and who will be allowed to profit from it.[54]

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lock-in a client base, with the hope that courts will later find switching software vendors to be expensive and annoying. Already, we heard during fieldwork that at least one provincial high court awarded a contract to Huayu to ensure compatibility with existing systems, and because personnel were already familiar with its products.

51. A partial list of prominent new entrants includes: Open Law in Shanghai, Jufa and Bashou in Changchun, and Wusong, Legal Miner, IP House, Faxin, Gridsum, and Huayu in Beijing. Long-time players, such as the Beijing-based Beida Fabao and Fayi, have also rushed to keep pace with new entrants.

52. Hu Jianxia (胡建霞), *Woguo Shouci Yingyong Rengong Zhineng Fuzhu Jishu Kaiting Shen'an, Shanghai Yanfa "206 Xitong" Zhengdang Shijie Lingpao Zhe* (我国首次应用人工智能辅助技术开庭审案， 海研发 "206 系统" 争当世界领跑者) [*Artificial Intelligence Assisted with the Court Hearing for the First Time in China; Shanghai Became a World Front-Runner by Developing "Project 206"*], FAZHI RIBAO (Feb. 21, 2019) [https://perma.cc/9WRR-YC3H]; *see also* Ye Jincai (进财), *Fanchang Xian Fayuan: Anhui Sheng Gaoyuan Sifa Jianding Chu Fuzhuren Liuhua Yixing Dao Fanchang Fayuan Diaoyan "206 Xitong" Shiyong Qingkuang* (繁昌县法院: 安徽省高院司法鉴定处副主任刘华 行到繁昌法院调研 "206 系统" 使用情况) [*Fanchang County Court: The Deputy Chief of the Judicial Authentication Department of the Anhui High People's Court, Liuhua, Along with Others, Visits Fanchang County Court to Research on the Use of "Project 206"*], WUHU FAYUAN WANG (芜湖法院网) [WUHU CT. ONLINE] [https://perma.cc/5XZN-PZP5]. We discuss Project 206 in more detail *infra* Section II.B.

53. The SPC's Information Technology Service Center (人民法院信息技术服务中心) owns thirty-nine per cent of the China Judicial Big Data Research Institute Company (中国司法大数据研究院公司). The company was originally established in 2016 under the name Tianping Judicial Big Data Limited Company (天平司法大数据有限公司). *Lianxi Women* (联系我们) [*Contact Us*], ZHONGGUO SIFA DASHUJU YAN JIU YUAN (中国司法 大数据研究院) [CHINA JUST. BIG DATA SERV. PLATFORM] [https://perma.cc/3FNL-LHA4]; *Tianping Sifa Dashuju Gongsi Chengli* (天平司法 大数据公司成立) [*Tianping Judicial Big Data Limited Company Is Established*], CAIXIN CHUANMEI (财新传媒) [CAIXIN MEDIA] (Nov. 11, 2016) [https://perma.cc/KJF4-8MS3]; *Zhongguo Sifa Dashuju Yan Jiu Yuan Youxian Gongsi* (中国司法大数据研究院有限公司) [*China Judicial Big Data Research Institute Company*], QI CHA CHA (企查查) [QICHACHA] [https://perma.cc/S98M-UEN6].

54. On the "dual drive," see Qian Dajun (钱大军), *Sifa Rengong Zhineng de Zhongguo Jincheng: Gongneng Tidai Yu Jiegou Qianghua* (司法人工智能的中国进程: 功能替代与结构强化) [*China's Progress Toward Judicial Artificial Intelligence: Replacing Functions and Strengthening the Structure*], FAXUE PINGLUN (法学评论) [LEGAL STUD.] no. 5, 2018, at

What is certain is that China's emergent legal technology sector will continue to be shaped by state involvement. It is also clear that most technological expertise resides in China's technology companies, rather than the courts. That means that the technology sector is poised to play a critical role in determining whether China's political ambition to build world-leading "smart courts" can become a reality.

One way of understanding the Chinese courts' rapid embrace of data analytics and artificial intelligence is as a historically specific story that reflects the particular challenges facing Chinese courts, the Party's top-down push for technological supremacy, and the courts' view that they should control how their own data are used. At the same time, however, many of the dynamics at play in China are likely to have echoes elsewhere, as court systems worldwide grapple with decisions about judicial disclosure and technology. First, the Chinese case highlights an affinity between centralization of power and a groundswell of political interest in deciding "like cases alike" through algorithms perceived to be scientific, reliable, and impartial. Centralization of law has long been linked to centralization of political power,[55] and in promoting consistency and oversight of lower courts and judges, algorithmic justice cedes decision-making power to the person or persons who write the algorithm (or contract out such writing). As long as those overseeing software development are attentive to what the leadership wants, as is the case in China, algorithmic analytics can be a powerful tool of central control over local courts.

Second, once judicial data exist, a wide range of political actors will emerge as advocates of algorithmic analytics in service of their own agendas. Comparative courts scholars would do well to ask whose interests are served by the public release of official data, as well as by the integration of technology into court administration. Technology companies will be important players across jurisdictions, especially against the backdrop of concerns in some places (including the United States) that outsourcing the design of software used for key court functions risks transferring public power to private hands.[56]

138, 139–43 (discussing the degree to which the development of judicial AI in China benefits from cooperation between the state and private actors).

55. For example, legal historians point to the rise of the King's Courts under Henry II in twelfth century England as a critical development in the evolution of the common law that simultaneously helped standardize justice and solidify royal power. *See* RAOUL CHARLES VAN CAENEGEM, THE BIRTH OF THE ENGLISH COMMON LAW 29–61 (1988). Likewise, the 1804 Napoleonic Code was the first code in the world to be established on the basis of nationality and played a key part in knitting together modern France. *See* Jean-Louis Halperin, *1804: Many Nations Under One Code of Law*, *in* FRANCE IN THE WORLD: A NEW GLOBAL HISTORY 484, 484–94 (Patrick Boucheron ed., 2019).

56. *See* Wu, *supra* note 1. In China, technology companies are arguably even less accountable than in the United States. In Hangzhou, Alibaba worked with local courts to

Despite these misgivings, corporate partners are likely to be found both serving and shaping government policy, and more work is needed to document what happens when their incentives diverge from state goals. The China case also reminds us that the market for legal information may be shaped by government agencies who want to control how their data are used or perhaps profit off the valuable commodity of their data themselves. Whenever government agencies both participate in the market and referee it, as in China, a complex mix of political and financial incentives will strongly shape who gets access to legal information, how it is used, and who profits from it.

II. REFORMS IN PRACTICE: THE CHALLENGES OF CREATING "SMART COURTS"

A. Judicial Disclosure: Compliance and Legibility

Marching orders announced by the commanding heights of Party leadership are rarely flawlessly executed. This section documents the SPC's struggle to ensure compliance with its own judicial disclosure policies and the implications of this compliance failure for governance. Algorithmic analytics gained traction as a policy direction because it resonated with a broader push to centralize oversight, as detailed in the previous section. But building a complete repository of judicial data in a far-flung court system has proved a formidable challenge, and missing data remains a serious problem. These gaps in the public record will frustrate outsiders' efforts to discern Chinese court trends, but perhaps more importantly, may also obstruct the Chinese Party-state's own view of its courts and citizens. Mapping the state's blind spots is a crucial challenge for scholars.

Following the first step of making cases public, the next challenge for China's courts quickly became one of compliance:

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establish China's first "Internet court" to speed up Internet-related disputes. Some disputes in this new court involve Alibaba's Taobao platform. *Hulianwang Fayuan Hulianwang Fayuan* (互联网法院) [*Internet Court*], SHANGFA (商法) [CHINA BUS. L.J.], (Nov. 22, 2019) [https://perma.cc/X7VU-UDD6] (interviewing Yu Siying, Deputy General Counsel for Alibaba Group). The close ties to Alibaba have drawn some scrutiny, resulting in the creation of a separate state-owned company apparently spun off from Alibaba, but nevertheless with close ties to Alibaba. Huang Zhujing (黄姝静) & Lu Wei (鲁伟), *Hangzhou Hulianwang Liangnian Deshi* (杭州互联网法院两年得失) [*Two-Year Retrospective of Hangzhou Internet Court*], CANKAO WANG (参考网) [REFERENCE ONLINE] (Nov. 2, 2019) [https://perma.cc/WU4Q-QU77]; Zhang Wen (张问), *Ali "Lianxiaohao" Jinjun Qukuailian* (阿里 "练小号" 进军区块链) [*Company Tied to Alibaba Enters Blockchain Market*], JINSE CAIJING (金色财经) [JINSE FINANCE] (Sept. 20, 2018) [https://perma.cc/89FL-26QE].

persuading local courts to release the vast majority of court decisions in keeping with SPC rules. Although official statistics on judicial disclosure rates are not public, scholars concur that compliance with judicial disclosure requirements has been middling.[57] Throughout the court bureaucracy, the overriding focus is on releasing vast amounts of data, with the emphasis on what has been made public, not on what is missing.[58] National estimates of the percent of cases available online range from just over forty-seven percent in 2016[59] to sixty percent in 2017.[60] There are also significant variations across provinces and subject matter, with higher rates of disclosure in wealthier coastal regions and with higher disclosure rates for criminal cases than for administrative or civil cases.[61] Lower courts also have greater disclosure than intermediate or provincial high courts.[62] The sheer number of missing documents suggests that the SPC is struggling to implement its own policy, taking into account categories of cases that are not required to be made public. Indeed, this is the outcome expected by China studies scholars. For a policy to be energetically and thoroughly implemented, the consensus is that it must feature prominently in annual evaluations of officials, generate revenue for local government

57. Tang Yingmao (唐应茂), *Sifa Gongkai Ji Qi Jueding Yinsu: Jiyu Zhongguo Caipan Wenshuwang de Shuju Fenxi* (司法公开及其决定因素：基于中国裁判文书网的数据分析) [*Judicial Openness and its Decisive Elements: Data Analysis Based on the Chinese Judicial Decision Document Website*], QINGHUA FALÜ PINGLUN (清华法律评论) [TSINGHUA U. L.J.], no. 12, 2018, at 35, 36; Ma Chao (马超), Yu Xiaohong (于晓虹) & He Haibo (何海波), *Da Shuju Fenxi: Zhongguo Sifa Caipan Wenshuwang Gongkai Baogao* (大数据 分析: 中国司法裁判文书网公开报告) [*Big Data Analysis: A Report on China Judgments Online*], ZHONGGUO FALÜ PINGLUN, no. 4, 2016, at 195, 199–200; Yang Jinjing (杨金晶), Yan Hui (覃慧) & He Haibo (何海波), *Caipan Wenshu Shangwang Gongkai de Zhongguo Shixian: Jinzhan, Wenti Yu Wanshan* (裁判文书 网公开的中国实践：进展、问题与完善) [*The Practice of Placing Judicial Documents Online in China: Progress, Problems, and Improvements*], ZHONGGUO FALÜ PINGLUN, no. 6, 2019, at 125, 128–29. *See generally* Liebman et al., *supra* note 16.

58. *See supra* note 10 (official reports emphasizing total volume of cases with no discussion of the percentage of cases missing).

59. Tang, *supra* note 57, at 41.

60. Yang, Yan & He, *supra* note 57, at 128. These estimates compare the judgments available on the SPC's website with official statistics listing the number of cases concluded by province. For scholarly analysis of the missing data problem, see *id.*; Ma, Yu & He, *supra* note 57; Liebman et al., *supra* note 16; Tang, *supra* note 57.

61. We examine differences in cases put online across different substantive areas and individual courts in work currently in draft form. Xiaohan Wu et al., *Augmenting Serialized Bureaucratic Data: The Case of Chinese Courts* (unpublished manuscript) (on file with authors).

62. *Id.*

coffers, or offer a chance for implementers to advance themselves.[63] To date, disclosure rates appear largely to be considered a recommended target, rather than the type of hard target that is used in evaluations of court leaders and judges for promotion.[64]

Struggles with compliance are also reflected in the fact that provisions of the 2016 SPC guidelines governing disclosure are widely ignored by local courts, even though they were written precisely to clear up confusion and are quite specific. For example, the 2016 guidelines ask courts to disclose the case number of any case not placed online, with a written explanation of why the case was not made public.[65] Yet we found only 4,718 examples of public notice of nondisclosure posted by September 2018, and these notices were concentrated in just forty-three courts.[66] Compliance with other provisions

63. Graeme Smith, *Political Machinations in a Rural County*, 62 CHINA J. 29, 30 (2009); Yanhua Deng et al., *Enthusiastic Policy Implementation and Its Aftermath: The Sudden Expansion and Contraction of China's Microfinance for Women Programme*, 234 CHINA Q. 506, 515 (2018).

64. SPC Regulations on Online Judgments (2016), *supra* note 17, suggests that this may change in the near future, perhaps reflecting recognition that compliance has been mixed to date. Media reports suggest some courts face hard targets for placing cases online, but most make the targets non-binding. Some provincial-level courts appear to have experimented with evaluating judges and lower courts based on the percentage of cases placed online. For example, in 2017, the Beijing High People's Court announced that the percentage of cases being put online would be an "important target" in evaluating judicial performance. Beijing Fayuan zai Hulianwang Gongbu Caipan Wenshu de Guiding (Shixing) (北京法院 在互联网公布裁判文书的规定 [试行]) [Regulations on the Online Publication of Beijing Court Opinions (Preliminary Trial)] (promulgated by the Beijing High People's Ct., Sept. 5, 2017), BEIJING FAYUAN SHENPAN XINXI WANG (北京法院审判信息网) [BEIJING CT. TRIAL INFO. ONLINE], Sept. 5, 2017 [https://perma.cc/64V2-HFNT]; *see also Shenru Tuijin Sifa Gongkai Quanmian Goujian Yangguang Sifa* (深入推进司法公开全面构建 阳光司法) [*Deepen Judicial Transparency and Build a Comprehensive Open Judiciary*], ZUIGAO RENMIN FAYUAN WANG (Oct. 22, 2019, 2:30 PM) [https://perma.cc/JZ96-8QAE] (discussing provincial ranking in Jilin on the level of "sunshine" in the courts). At times, courts also issue reports noting that they have ranked well in judicial transparency rankings undertaken by academics. *‹Zhongguo Sifa Toumingdu Zhishu Baogao (2019)› Fabu Guangzhou Shi Zhongji Renmin Fayuan Zhegui* (《中国司法透明度指数报告(2019)》发布广州市中级人民法院 折桂) ["*National Judicial Transparency Index Report (2019)" Published Figures with Guangzhou Intermediary People's Court at the Top*], GUANGZHOU SHI RENMIN ZHENGFU (广州市人民政府) [GUANGZHOU MUN. PEOPLE'S GOV'T] (June 9, 2020) [https://perma.cc/45FW-M8YN].

65. SPC Regulations on Online Judgments (2016), *supra* note 17, art. 6.

66. All examples in this section are drawn from an analysis of 44,279,532 judicial decisions downloaded from the SPC's website. These decisions range in date from June 1999 to September 2018, with most cases decided between 2013 and 2018. Public notices of nondisclosure are typically short (200 to 300 characters), so to find them we looked for documents fewer than 400 characters containing at least one of the following phrases: "Internet" (网), "publish" (公布) or "public" (公开). We also removed 1.6 million duplicate files before running the queries described here. We believe that our database includes all cases made public during this period, although direct comparison to the number of cases on the SPC's

has been similarly spotty. A range of documents not previously subject to disclosure are now meant to be released. These include decisions in compulsory medical cases (in which a party is being compelled to undergo medical treatment, most often in a psychiatric facility), decisions reducing or amending criminal sentences, decisions to administratively detain individuals, and outcomes in mediated administrative cases.[67] Courts have been inconsistent in their compliance with these requirements, however, and the total number of such documents made public is small. For example, Shanghai released zero decisions in compulsory medical cases between 2016 and the middle of 2018, and the entire province of Hebei released just eleven.[68]

At times, courts also release documents that the SPC has asked them to shield from public view. This is a form of non-compliance that is likely unintentional and caused by the courts' limited capacity to absorb and follow disclosure rules. Courts placed 91,132 divorce decisions online in 2017, for example, even though judgments in divorce cases were not supposed to be made public after October 1, 2016.[69] To take another example, the 2016 regulations made clear that parties' names should be redacted when there are privacy concerns.[70] Yet there were still 7,451 decisions in divorce cases released in 2017 that included the full names of the parties, as well as 4,331 un-redacted decisions in disputes over inheritance, both areas with real concerns over privacy.[71] To be sure, censorship shapes the public record. Chinese lawyers can often point to cases they have handled that are missing from China Judgments Online, likely because the disputes involved politically well-connected parties or sensitive topics. [72]

website is difficult due to the fact that cases are at times removed from the SPC website and there may be differences in how duplicate files are handled.

67. SPC Regulations on Online Judgments (2016), *supra* note 17, art. 3.

68. We counted all documents that matched one of the following document types: 强制医疗决定书 [decision on compulsory medical treatment], 强制医疗刑事决定书 [decision on compulsory medical treatment in criminal cases], 强制医疗复议决定书 [administrative review decision on compulsory medical treatment], 继续强制医疗决定书 [decision on continuing compulsory medical treatment], 解除强制医疗决定书 [decision on compulsory medical treatment termination], and 不予解除强制医疗决定书 [decision on denying termination of compulsory medical treatment].

69. SPC Regulations on Online Judgments (2016), *supra* note 17, art. 4.

70. *Id.* art. 8.

71. Each court decision includes a title of the case, which includes the reason for the case (案由). We looked for cases with "divorce" (离婚) or "inheritance" (继承) in the title, and then searched to find how many of those cases included "某," "x," "X," or numbers in the title. These are all ways to redact names to protect the privacy of parties.

72. For one example of a report of a case missing from China Judgments Online, *see Meituan Xiaodai Xian "Weifa Fangdai" Luosheng Men, Wangxing Jinrong Bankuai Pinxian*

However, the fact that courts also post cases they are not permitted to make public, or fail to redact others, suggests that lack of compliance is an important reason why cases are missing from China Judgments Online. This interpretation suggests that disclosure is simply a low priority for often overworked courts who care more about other, more important performance targets.

Why has it proved so difficult for the SPC to win cooperation from local courts? For students of Chinese politics and law, the struggle to make central directives stick is a familiar story about center-local relations or the tussle for power between bureaucrats based in Beijing and those based in the provinces. Indeed, Chinese history is full of examples of commands issued by officials atop the political hierarchy either ignored or subverted by local bureaucrats motivated by different incentives.[73] However, this dynamic is hardly unique to China. The success of judicial disclosure rests on resources, political will, and centralized control, commodities that are in short supply in many court systems worldwide, not just in China's authoritarian legal system.[74]

Low compliance with judicial disclosure requirements also creates real limits to legibility both for the Chinese state and its observers. For the Chinese state, the incompleteness of the public record documented above could compromise the state's ability to see and track its own officials and citizens.[75] If the courts' internal data are similarly patchy, as seems likely, there is a real risk that poor quality or incomplete court data might lead to bad decisions by any agency

Hegui Yinhuan (美团小贷陷 "违法放贷" 罗生门，王兴金融板块频现合规隐患) [*Meituan Xiaodai Involved in Disputes, Wangxing Finance Shows Financial Compliance Issues*], XUEQIU (雪球) [SNOWBALL FIN.] (July 1, 2020) [https://perma.cc/58QR-6UAM].

73. For a classic overview of the history of local Chinese officials ignoring or thwarting the mandates of political superiors, see generally VIVIENNE SHUE, THE REACH OF THE STATE: SKETCHES OF THE CHINESE BODY POLITIC (1988).

74. To take one example, an attempt to introduce a unified electronic case management system across California's fifty-eight trial courts was discontinued due to a statewide budget crisis in 2012. Today, each trial court in California makes an individual decision about what software to use to manage their caseload. Should California ever wish to follow China's lead and create a centralized repository of trial court decisions, the decentralization of the state court system, which is visible in the bricolage of information technology currently deployed across the state, would stand as a major obstacle to widespread judicial disclosure. *See CA Scraps Multibillion Dollar Computer Project*, ABC7 NEWS (Mar. 27, 2012) [https://perma.cc/YDW6-JG4X] (connecting the demise of the California Case Management System to the Californian budget crisis).

75. For a classic discussion of legibility, see generally JAMES C. SCOTT, SEEING LIKE A STATE: HOW CERTAIN SCHEMES TO IMPROVE THE HUMAN CONDITION HAVE FAILED (1998).

that relies on them.[76] In other words, if the hope was to use algorithms to produce actionable information about social trends, standardize decision-making, or evaluate judicial personnel, these projects might be based on substantially incomplete data. In addition, Chinese officials may not be attuned to issues surrounding missing data. The public discussion of what is missing from China Judgments Online has been confined to a small group of scholars, with Chinese courts instead focused on claiming credit for the vast numbers of documents now available. For scholars, too, missing data frustrates our ability to see the state clearly. Even with over 100 million cases now posted to China Judgments Online, there are significant holes in our view of the Chinese legal system. For the broader comparative courts field, China also serves as a reminder of the obvious (but sometimes overlooked) point that big data are not necessarily good data. A gap can open between a mandate for judicial disclosure and compliance with that mandate, which means that scholars need to investigate missing data before assuming that even a gigantic corpus of legal documents is complete.

Recognizing that the vast amount of data the Chinese state is collecting includes sizable holes also complicates the common understanding of China as an emergent techno-authoritarian superpower. China is undoubtedly seeking to use data to improve governance and strengthen Party-state control, and recent developments in the courts are but one example of this trend. However, these developments are also a reminder that collecting huge amounts of data and deploying it does not make the state omniscient. Indeed, it may create new challenges when data quantity is prioritized over data accuracy.

76. From the perspective of court leadership, this may not be a problem if superior courts have access to public and non-public cases. It is unclear whether or how often higher-level courts or court leaders are able to view lower court decisions that have not been made public. The fact that compliance with higher-level disclosure rules has been middling, along with the fact that the SPC's own website is not static, suggests there is reason to believe that cases that are not made public may also not always be visible to higher level courts. In forthcoming work, we examine these issues in greater detail, in particular the fact that some cases seem to disappear from the SPC website after being made public, and also the fact that some courts have uploaded large numbers of enforcement decisions some years after they were decided. Given the inconsistent release of cases, the use of different technology platforms across provinces, and widespread differences in the percentage of cases made public by region and by type of case, there are strong reasons to believe that higher level courts may also lack a complete view of lower court decisions.

B. The Challenges of Artificial Intelligence: Project 206 as a Case Study

After creating a public repository of tens of millions of cases, Chinese courts proceeded to embrace artificial intelligence in case analysis.[77] Outside of China, the use of artificial intelligence to assist or replace decisions by judges remains largely a future possibility.[78] In China, in contrast, media reports and publicly-available procurement requests indicate that a good number of courts have purchased software that suggests case outcomes to judges or reviews court decisions for consistency with prior cases.[79] To be sure, it is hard to know

77. Chinese courts and observers of Chinese courts have affixed the label "artificial intelligence" to a wide range of initiatives. These range from the automation of routine tasks, such as using voice recognition software to transcribe court proceedings and providing automated help guides (and in some cases robots) to assist litigants, to more technologically sophisticated applications that aspire to help automate decision-making. We focus here on efforts to use technology to assist with deciding cases. *See, e.g.*, *Shanghai Shi Gaoji Renmin Fayuan Xingshi Anjian Zhineng Fuzhu Ban'an Xitong* (海市高级人民法院刑事案件智能辅助办案系统) [*AI-Assisted Criminal Case System by Shanghai High Court*], *in* ZHONGGUO DIANZI ZHENGWU NIANJIAN 2018 (中国电子政务年鉴 2018) [CHINA E-GOV'T Y.B.] 246, 248 (2020); Yu Dongming (余东明), *Woguo Shouci Yong Rengong Zhineng Fuzhu Jishu Kai Tingshen An: Shanghai Yanfa "206 Xitong" Zhengdang Shijie Lingpao Zhe* (我国首次应用人工智能辅助技术开庭审案: 海研发 "206 系统" 争当世界领跑者) [*Our Country's First Application of Artificial Intelligence in Assisting Trials: The "206 System" Developed in Shanghai Leads the World*], FAZHI RIBAO (Jan. 23, 2019) [https://perma.cc/29V5-EGDM].

78. There are limited exceptions, including discussion of experiments in Brazil and Estonia. Niiler, *supra* note 4.

79. Many court procurement documents are publicly available on websites such as Zhaobiao (www.zhaobiao.cn), and the authors were able to find dozens of examples of courts soliciting bids for "judicial big data" software (司法大数据). *See, e.g.*, Anqing Shi Zhongji Renmin Fayuan Sifa Shuju Keshihua Shengji Xiangmu Danyi Laiyuan Caigou Fangshi Gongshi (安庆市中级人民法院司法数据可视化升级项目单 来源采购方式公示) [Public Announcement on the Purchase of Judicial Data Visualization Upgrade Project by the People's Intermediate Court of Anqing City], ZHAOBIAO WANG (招标网) [BIDDING ONLINE] (July 26, 2018) [https://perma.cc/HTL9-NQGY]; Shanghai Shi Jiading Qu Renmin Fayuan Weixian Jiashi Anjian Sifa Da Shuju Fenxi Fuzhu Xitong Xiangmu de Zhongbiao Gonggao (海市嘉定区人民法院危险驾驶案件司法大数据分析辅助系统项目的中标公告) [Public Announcement on the Winning Bid Regarding the Purchase of Dangerous Driving Cases Data Analysis Assistance System by the People's Court of Jiading District, Shanghai City], ZHAOBIAO WANG (Dec. 27, 2017) [https://perma.cc/YW57-UPQY]; *see also Renmin Fayuan Anjian Xinxi Guanli Xitong, Kaifa Yao Gao Qidian Gao Sudu Gao Shuiping* (人民法院案件信息管理系统 开发要高起点高速度高水平) [The Development of Courts' Case Information Management System Requires High Starting Points, High Speed and High Level of Technology], RENMIN FAYUAN BAO (Dec. 30, 2010) [https://perma.cc/SX3G-UJB2]; Song Wei (宋伟) & Guo Xinlei (郭新磊), *Shandong Fayuan Yanzhi Chu Diannao Liangxing Ruanjian Tiaozhan Ziyou Cailiang Quan* (山东法院研制出电脑量刑软件挑战自由裁量权) [*Shandong Courts Developed Computer Sentencing Software, Challenging Sentencing*

how many judges are using software capable of helping them decide cases, or even to determine their degree of reliance on such software. Media reports tend to extoll the adoption of artificial intelligence while providing few details, and even those working in courts said to be leaders in artificial intelligence often struggle to be specific about how it is changing judicial practice.[80] Even so, the limited information available helps shed light on the difficulties of algorithm-assisted adjudication, including poor data, the prevalence of data silos,[81] and the lack of oversight or transparency. This section examines these challenges through a short sketch of the introduction of artificial intelligence into the Shanghai courts, a flagship initiative with high-level political backing.

In 2017, the Communist Party's Central Political Legal Committee selected Shanghai to be a test site for the rollout of artificial intelligence, and Shanghai court leaders enthusiastically donned the mantle of technological leadership.[82] The project, known as "Project 206" because of the February 6, 2017 launch date, is a joint effort of the Shanghai courts and iFlyTek (科大讯飞), an Anhui-based technology company.[83] The project quickly commandeered substantial resources from both the courts and iFlyTek. More than 400 officials were assigned from the courts, the procuratorate, and the police to advise approximately 300 iFlyTek staff on the legal standards that should inform the computer code and the necessary functionality of the software.[84] The assembled team moved quickly, and the first version of the software went into use just five months later, in July 2017.[85] The primary goals of Project 206 were

Discretion], XINLANG XINWEN (新浪新闻) [SINA NEWS] (Sept. 9, 2006) [https://perma.cc/Y89K-J9RU].

80. For example, in late 2018, interviews with judges and technology company employees in Shanghai revealed a range of different takes, from those who said that the rollout of artificial intelligence in Shanghai had slowed and was of limited use, to those who claimed artificial intelligence was being used in an increasingly wide range of cases.

81. On data silos, see Shao Jun (邵俊), *Xingshi Susong Xinxi Gongjian Gongxiang Wenti Yanjiu* (刑事诉讼信息共建共享问题研究) [*Research in Information Sharing in Criminal Cases*], ZHEJIANG GONGSHANG DAXUE XUEBAO, no. 33, 2019, at 36, 37–39 (arguing that courts, police, and procuratorates have hired different companies to build internal databases, with limited compatibility).

82. Yu, *supra* note 77.

83. Hu, *supra* note 52.

84. The number of people involved in the project clearly ramped up over time. In 2017, the media reported that 215 people were at work on the project, including 79 from the Shanghai High People's Court and 136 from iFlyTek. *Uncovering "206," supra* note 33.

85. The project was closely tied to Cui Yadong, the President of the Shanghai High People's Court from 2014 to 2018, a reminder of the important role local leadership can play in pushing forward new projects. Indeed, examination of similar efforts elsewhere

to standardize and streamline evidence collection, to improve consistency in the treatment of similar cases, and to strengthen oversight of judges to reduce erroneously-decided cases.[86] The project initially focused on standardizing outcomes in criminal cases.[87] One mechanism for doing so was introducing automated checks to make sure each required piece of evidence was submitted.[88] Official media reports on the launch of the system noted that it was designed to address the three major causes of incorrectly-decided criminal cases: weak or illegal evidence, insufficient examination of evidence, and differences among judicial personnel handling criminal cases.[89] One 2019 report quoted a Shanghai police officer

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suggests that at least some court efforts to embrace technology may primarily reflect court efforts to be seen as at the cutting edge, with little focus on what is actually practical or useful. A request for proposals from the Chongqing High Court, for example, includes fanciful requests alongside practical technical specifications, such as the ability to support nine languages. *See* Chongqing High People's Court (重庆高级人民法院), Zhengfu Caigou Zhaobiao Wenjian Chongqing Fayuan Sifa Da Shuju Fenxi Guanli Pingtai (政府采购招标文件重庆法院司法大数据分析管理平台) [Government Procurement Bidding Documents: Chongqing Court Big Data Analysis and Management Platform], ZHONGGUO ZHENGFU CAIGUO (中国政府采购) [CHINESE CENT. GOV'T PROCUREMENT] (Oct. 2017) [https://perma.cc/5X2U-FXJP].

86. Chen Jian (陈健), *Shanghai "Zhihui Fayuan" Jianshe Zai Shengji Feifa Xishou Cunkuan Zui Deng An Yi Jinru Xin Xitong Shi Yunxing* (海 "智慧法院" 建设再升级非法吸收存款罪等案已进入新系统试运行) [*The Shanghai Smart Courts System on Illegal Deposit Cases Starts a Trial Run*], JINRONG JIE (金融界) [CHINA FIN. ONLINE] (Oct. 31, 2017) [https://perma.cc/5XEK-VGY6]; *see* Zhang & Zheng, *supra* note 31, at 99.

87. *See* Zhang & Zheng, *supra* note 31, at 96. This focus on evidence was part of national efforts to make trials the centerpiece of criminal cases. Reports stated that the Shanghai courts convened teams of experts to determine what evidence should be required and how it should be handled for a range of 102 routine criminal cases. The software includes 19,404 "testing points" for assessing the evidence in a particular case. Cui Yadong (崔亚东), *Rengong Zhineng Yingyong Yu Zhili* (人工智能应用与治理) [*The Application and Management of Artificial Intelligence*], ZHONGGONG ZHONGYANG DANGXIAO (中共中央党校) [CENT. PARTY SCH. OF THE CHINESE COMMUNIST PARTY] (June 24, 2020) [https://perma.cc/7VMR-CV6J].

88. One example given in official media reports celebrating the launch of the system was a case in which the computer detected that the procuratorate had failed to submit a receipt for seized goods. Yu, *supra* note 76.

89. Reports from other locations suggest that the goals of strengthening standardization and oversight are widely shared. Trial systems in Guangzhou and Hainan, to take two examples, suggest recommended criminal sentences based on a list of facts (typically selected from a drop-down list by the judge) and an analysis of how similar cases were decided in the past. *Id.* On Hainan, see Fang Qian (方茜), *Hainan Fayuan Da Shuju Rengong Zhineng Zhuli Sifa Gaige* (海南法院大数据人工智能助力司法改革) [*Hainan Court Uses AI to Promote Judicial Reform*], RENMIN FAYUAN BAO (July 27, 2017) [https://perma.cc/J4P2-5NN8]. On Guangzhou, see Li Zhe (李哲), *Rengong Zhineng Zou jin Fayuan Pan Anzi* (人工智能走进法院判案子) [*Artificial Intelligence in Case Decisions*],

stating that the software made it impossible for the police to create false evidence or omit evidence.[90]

Although Project 206 was celebrated as a symbol of the Shanghai courts' technological leadership, it also imposed new burdens on the police and procuratorate, and thus seems to have provoked bureaucratic pushback.[91] The broader point is that technology that makes things easier for one state agency may create problems for others. Resistance from other agencies can also exacerbate the problem of data silos, where each agency builds a stand-alone data system with little data-sharing or coordination across the Party-state. China appears to be rapidly moving toward a system in which the police, procuratorate, and courts work toward algorithmic analytics in parallel, jointly

JINGJI RIBAO (July 1, 2017) [https://perma.cc/A9U5-BBCX]. In Nanjing and Guizhou, a warning system (同案不同判预警) alerts judges if a decision falls outside the typical range. *Id.*; Peng Qiang (彭强) & Runfeng Chen (陈润锋), *Sifa Da Shuju de Yunyong Yu Zhanwang—Yi Guizhou Fayuan Wei Li* (司法大数据的运用与展望——以贵州法院为例) [*The Application and Prospect of Judicial Big Data—Looking at the Guizhou Courts as an Example*], FAZHI YU SHEHUI (法治与社会) [LEGAL SYS. & SOC'Y], no. 4, 2017, at 111–12. According to media reports, a handful of courts around the country have also now adopted the "Project 206" software, including courts in Kunming and Hefei. Wang Chuan (王川), *Shanghai "206 Xitong" You Duoniu?* (海 "206 系统" 有多牛?) [*How Awesome Is the Shanghai "206 Project"?*], SHANGHAI FAZHI BAO (海法治报) [SHANGHAI LEGAL DAILY] (Jan. 23, 2019) [https://perma.cc/J6GS-24BH].

90. *AI Faguan Zhuli Yizai Shanghai Quanmian Yingyong* (AI 法官助理已在 海全面应用) [*AI Assistant to Judges Fully Applied in Shanghai*], XINLANG CAIJING (新浪财经) [SINA FIN.] (Aug. 27, 2019, 7:50 AM) [https://perma.cc/5DTL-QDPE]. For additional details of the use of the system to standardize evidence collection and review, see *Cui Yadong: Rengong Zhineng Rang Sifa Gengjia Gongzheng* (崔亚东: 人工智能 让司法更加公正) [*Cui Yadong: Artificial Intelligence Makes the Judiciary Fairer*], FENGHUANG XINWEN (凤凰新闻) [PHOENIX NEWS] (Aug. 30, 2019, 8:35 PM) [https://perma.cc/7NZ4-7ZCX]; Wang Xianle (王闲乐) & Liang Zong (梁宗), *Rengong Zhineng Shouci Canyu Shanghai Fayuan Tingshen: Neng Zidong Shibie Xiaci Zhengju de Falü Rengong Zhineng Biaoxian Jiujing Ruhe?* (人工智能首次参与 海法院庭审: 能自动识别瑕疵证据的法律人工智能表现究竟如何?) [*Artificial Intelligence Participates in Shanghai Trial for the First Time: How Does the Legal Artificial Intelligence that Automatically Identifies Flawed Evidence Perform?*], SHANGGUAN (观) [SHANGHAI OBSERVER] (Jan. 23, 2019, 8:40 PM) [https://perma.cc/Q6PN-G7EP].

91. *Shanghai Yanfa Tuiguang "206" Xitong Zouchu Sinian "Tianlu"* (海研发推广 "206" 系统走出四年 "天路") [*Shanghai Paved a Four-Year "Sky Path" by Developing and Promoting the "206" System*], FAZHI RIBAO (Feb. 4, 2021) [https://perma.cc/JRN4-TQ4C] (discussing new requirements for police); Feng Jiao (冯姣), *Zhihui Jianwu Shenshi: Keneng Xing Jiqi Juxian* (智慧检务审视：可能性及其局限) [*A Review on Smart Prosecution: Possibilities and Limitations*], JINGXUE YANJIU (警学研究) [POLICE SCI. RSCH.], no. 3, 2019, at 74, 79 (discussing how "smart prosecution systems" increase the workload for procurators).

supervising each other, but without necessarily working together to unify their approach or share information.[92]

Judges and scholars have also expressed skepticism about the usefulness of the software being rolled out in the courts.[93] Indeed, despite exuberant media reports, initial evidence suggests that Chinese judges are more likely disappointed than wowed by the algorithmic analytics at their disposal.[94] As a first step toward computer-assisted judging and the underlying goal of deciding "like cases alike," many courts have commissioned software capable of recommending "similar cases" for judges to reference in decision-making. Conversations with judges in Sichuan province and Jiangsu province, however, led Sichuan University Law School Dean Zuo Weimin to conclude that the current state-of-the-art software returns a long list of cases that are "similar, but useless."[95] The vast number of results is hard to trawl through, and the software rarely succeeds at accurately matching the kinds of complicated cases where judges would most welcome guidance.[96] Judges at basic level courts also complain that they are required to enter so much information into the system that "they already know the appropriate sentence" by the time they are done.[97] Some judges admit they prefer to ask colleagues to recommend similar cases or search for similar cases on publicly-available commercial websites instead.[98] No doubt, high expectations about the potential of artificial intelligence have also exacerbated feelings of disappointment.

The accuracy of the data being used to generate algorithms to assist or supervise judges is also questionable. Scholars writing in Chinese have argued that existing data are insufficient and unreliable, and

92. *Cf.* Zhang & Zheng, *supra* note 31, at 99 (discussing the challenges of coordinating among the courts, police, and procuratorates).

93. For example, Zhou Youyong argues that algorithms being used for predicting sentences and case outcomes are of limited efficacy, in part because many of the algorithms being used are generic analytic tools that have not been adapted to use in the legal system. Zhou Youyong (周佑勇), *Zhineng Jishu Qudong Xia de Susong Fuwu Wenti ji Qi Yingdui Zhi Ce* (智能技术驱动下的诉讼服务问题及其应对之策) [*The Litigation Service Issues and Methods of Addressing them under Intelligent Technologies*], DONGFANG FAXUE (东方法学) [E. L. REV.], no. 5, 2019, at 14, 15 (2019).

94. *See* Zuo Weimin [左卫民], *Ruhe Tongguo Rengong Zhineng Shixian Leian Leipan?* (如何通过人工智能实现类案类判?) [*How to Realize the Goal of Deciding Similar Cases Alike Through Artificial Intelligence?*], ZHONGGUO FALÜ TAOLUN (中国法律讨论) [CHINA L. DISCUSSION], no. 2, 2018, at 26, 29–30.

95. *Id.* at 29*; see also* Yu, *supra* note 77.

96. Zuo, *supra* note 94, at 29.

97. Zhang & Zheng, *supra* note 31, at 96. We heard similar comments from judges in Shanghai locations during fieldwork in 2018.

98. Zuo, *supra* note 94, at 27–38.

thus, that the algorithms being used are not appropriate.[99] Part of the problem is the incompleteness of the public record; building algorithms based on this selective record is problematic and is, thus, the "central challenge" facing AI in China's courts.[100] But accuracy is also a concern for an additional reason. Through anchoring, algorithms discourage judges from using their own experience, moral judgments, and values in deciding cases.[101] As a result, adoption of algorithms risks shifting judges' focus from assessing the evidence to aligning with the algorithm.[102]

Looking at the specific issues that arose in Shanghai suggests three takeaways for observers of algorithmic-assisted decision-making, both in China and elsewhere. The first is that the Party-state faces a challenge ensuring that algorithms are reliable. One familiar problem is opening up the black box of computer code to make sure that the "suggested outcomes" recommended to judges are legally correct. Both judges and programmers acknowledge the difficulty of arriving at a correct legal solution exclusively from the facts of the case and the text of the law.[103] The other option is to train the algorithm based on past decisions. Of course, efforts to introduce algorithms in Western legal systems similarly risk replicating existing biases and inaccuracies. But the problem appears particularly acute in an authoritarian political system where there are few (if any) institutions capable of reviewing algorithms if they were to be made publicly available. Focusing on "legally correct" outcomes may also be in tension with the

99. *See, e.g.*, Liu Miao (刘渺), *Rengong Zhineng zai Sifa Lingyu de Yunyong Xianzhuang ji Weilai Fazhan Fangxiang* (人工智能在司法领域的运用现状及未来发展方向) [*Current Applications of Artificial Intelligence in the Judiciary and Future Development Trends*], FAZHI YU SHEHUI (法制与社会) [RULE L. & SOC'Y], no. 1, 2019, at 92. Other scholars have likewise expressed concerns about data quality. *See, e.g.*, Han Yaguang (韩亚光), *Rengong Zhineng Yujing Xiade Falü Shuju Yingyong Wenti Fenxi* (人工智能语境下的法律数据应用问题分析) [*An Analysis on the Use of Legal Data in an Artificial Intelligence Context*], SHANGHAI SHI FAXUE HUI (海市法学会) [SHANGHAI L. SOC'Y] (June 8, 2020) [https://perma.cc/8YJB-F22M]. Han makes the additional important point that written decisions often provide only brief summaries of the facts, and therefore, fail to capture the reasons for a particular outcome. *Id.*

100. Zhang & Zheng, *supra* note 31, at 94.

101. *Id.* at 98.

102. *Id.*; *see also* Cai Shengbing (蔡胜宾), *Dashuju Dui Fayuan Sifa Tongji de Jiji Gongxiao Ji Bianjie* (大数据对法院司法统计的积极功效及边界) [*The Benefits and Limits of Big Data on Judicial Statistic in Courts*], ANHUI XINGZHENG XUEYUAN XUEBAO (安徽行政学院学报) [J. ANHUI ADMIN. COLL.], no. 1, 2020, at 84, 88–90 (arguing that judges will be incentivized to comply with algorithms in order to meet performance evaluation targets instead of exercising their own judgment).

103. *Uncovering "206," supra* note 33.

balancing that has long been an acknowledged part of how Chinese judges make decisions.[104] Can algorithms capture the range of non-legal concerns that Chinese courts are expected to consider, including the risk of unrest and the importance of ensuring that compensation is paid to those in need?[105] To date, there appears to be very little focus, at least in public, on the accuracy of algorithms being developed and deployed in the courts.

The emphasis on rapid rollout has also meant that little attention has been paid to software design choices. In analyzing past cases, for example, does the underlying algorithm do a good job selecting "similar" cases? What about past cases that were wrongly decided? Do opinions always accurately report the relevant facts in prior cases?[106] Can and should algorithms capture many of the still vaguely-defined provisions in Chinese law, in particular regarding sentencing? These types of questions are as yet little-discussed, although a few judges and scholars writing in Chinese are starting to call for legal experts to become more deeply involved in software design.[107] There are also more profound normative questions to consider about how to weigh competing values, and whether standardization equates to fairness or justice.[108]

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104. For an example in the context of tort litigation, see generally Benjamin L. Liebman, *Ordinary Tort Litigation in China: Law Versus Practical Justice*, 13 J. TORT L. 197 (2020).

105. Zhang Shuqin raises this point in civil cases, arguing that standardization makes it difficult to tailor decision-making to local circumstances. *See generally* Zhang Shuqin (张书勤), *Rengong Zhineng zai Shenpan Zhong de Yingyong* (人工智能在审判中的应用) [*Applications of Artificial Intelligence in Adjudication*], SHANGHAI SHIFAN DAXUE XUEBAO (ZHEXUE SHEHUI KEXUE BAN) (海师范大学学报 [哲学社会科学版]) [J. SHANGHAI NORMAL UNIV. (PHIL. & SOC. SCI. EDITION)], no. 49, 2020, at 102.

106. Han Yaguang raises the concern that court decisions often leave out critical information, which is one reason why cases that appear superficially similar may have divergent outcomes. *See* Han, *supra* note 99.

107. For example, the deputy head of the Chengdu Intermediate Court publicly stated at a 2017 conference on big data that courts' algorithms should ideally be written by legal experts with at least ten years of experience. Zhao Yu (赵瑜), *Dang Falü Yushang Rengong Zhineng Zhuanjia: Guore Xuyao Leng Sikao* (当法律遇 人工智能专家: 过热需要冷思考) [*When Law Meets Artificial Intelligence, Experts Say: The Heated Discussion Needs Some Cold-minded Thinking*], BEIJING SHIJIAN (北 京 时 间) [BEIJING TIMES] (Dec. 10, 2017) [https://perma.cc/RU2A-XFNZ]. *See also* Zuo, *supra* note 94, at 29 (calling for crossover talents who understand both law and technology). To some degree this is happening, with teams of up to thirty scholars, judges, and programmers coming together to try to create decision trees for individual criminal charges to guide court resolution of cases.

108. *See* Liu Yanhong (刘艳红), *Rengong Zhineng Faxue Yanjiu de Fanzhihua Pipan* (人工智能法学研究的反智化批判) [*Critique of Anti-Intellectualism in Research on Artificial Intelligence in Law*], DONGFANG FAXUE, no. 5, 2019, at 119, 125 (calling a blind faith in technology "anti-intellectual" and expressing concerns about algorithmic discrimination); Du Jia (杜佳), *Rengong Zhineng Dui Sifa Yingxiang de Sikao* (人工智能对

A second takeaway is that claiming credit for technological accomplishment proved a more achievable political goal than improving court administration. Despite much public discussion of how algorithmic analytics can help Chinese courts solve widely-recognized problems—such as standardizing judicial decisions, reducing corruption, and lightening judges' workloads—there have been no serious efforts to evaluate whether technology is improving court administration. Surely, policy evaluation is a central task facing both policy analysts inside the Chinese state and scholars. And yet the lack of attention to outcomes is also revealing. It underscores how much of the drive toward data-driven governance has been propelled by short-term incentives to announce futuristic initiatives and quickly claim success. This focus on the appearance of reform places the embrace of algorithmic analytics initiatives within the stream of legal reforms that have become one of the defining features of China's post-Mao legal systems. As others have noted, the process of reform itself is as much the point as any outcome, perhaps so China can "pass as a high-performance state regardless of the actual results."[109]

Third, passing as a high-performance state also works well for surveillance. An influential line of thinking about social control, which stretches through the work of Jeremy Bentham and Michel Foucault, has long argued that surveillance works as long as subjects *believe* they are being observed.[110] In other words, what matters is the existence of an electronic dashboard showing the records of individual judges, rather than assurance that the records are complete or even the analysis accurate. To be sure, one urgent task for scholars is an ethnography of Chinese courts that details how judges are reacting to intensified oversight and investigates forms of resistance. Yet everything we know about disciplinary power suggests what this research will find: an uptick in caution among judges who believe they are being monitored by algorithms, particularly by avoiding decisions that stray from the mean or by avoiding politically contentious decisions entirely. Similar issues may arise in any system in which judges are subject to continuous evaluation by superiors. In Israel, for example, the introduction of real-time, individualized forms of judicial monitoring was met with resistance by judges who resented the shift to a

司法影响的思考) [*Reflections on the Impact of Artificial Intelligence on the Judiciary*], FAZHI BOLAN (法制博览) [LEGAL SYS. STUD.], no. 9, 2020, at 217, 218 (expressing concern about treating "like cases alike" at the expense of individualized justice).

109. Alex L. Wang, *Symbolic Legitimacy and Chinese Environmental Reform*, 48 ENV'T L.J. 699, 702 (2019).

110. *See* MICHEL FOUCAULT, DISCIPLINE AND PUNISH: THE BIRTH OF THE PRISON 201 (Alan Sheridan trans., 1977).

production-line mentality.[111] Court management matters, and scholars interested in algorithmic justice would do well to also investigate how the perception of constant monitoring alters judicial behavior.

CONCLUSION: IMPLICATIONS FOR CHINA AND FOR THE WORLD

The hope that algorithmic analytics could improve legal outcomes is an idea with global traction. In the United States, for example, there is debate about whether computational analysis of big datasets can improve criminal justice outcomes, from police surveillance to setting bail to sentencing.[112] In Israel, software used by the courts already renders the actions of individual judges visible to their superiors.[113] If the appeal of algorithmic analytics extends worldwide, what, then, is distinctive about how this policy direction is playing out in China? And what can China's experience tell the world? Although a significant number of Chinese legal scholars have in recent years tried to "pour cold water" on AI fervor,[114] a contrast remains between the optimism that surrounds algorithmic decision-making in China and

111. Amnon Reichman et al., *From a Panacea to a Panopticon: The Use and Misuse of Technology in the Regulation of Judges*, 71 HASTINGS L.J. 589, 592–96 (2020).

112. *See, e.g.*, Jon Kleinberg et al., *Human Decisions and Machine Predictions*, 133 Q.J. ECON. 237, 288–89 (2018) (examining how machine learning can improve bail decisions); Frank Fagan & Saul Levmore, *The Impact of Artificial Intelligence on Rules, Standards, and Judicial Discretion*, 93 S. CAL. L. REV. 1, 29–30 (2019) (arguing that a human-AI combination is the best, and also that machine learning is less impressive when the past is unlike the future and new variables appear over time); Lyria Bennett Moses & Janet Chan, *Algorithmic Prediction in Policing: Assumptions, Evaluation, and Accountability*, 28 POLICING & SOC'Y 806, 817–18 (2018) (discussing how predictive policing leads to an accountability gap); Andrew Guthrie Ferguson, *Policing Predictive Policing*, 94 WASH. U. L. REV. 1109, 1116 (2016) (arguing for the need to police predictive policing).

113. Reichman et al., *supra* note 111, at 599.

114. *See, e.g.*, Wang Lusheng (王禄生), *Sifa Dashuju yu Rengong Zhineng Jishu Yingyong de Fengxian ji Lunli Guizhi* (司法大数据与人工智能技术应用的风险及伦理规制) [*Risks and Ethical Regulation of Judicial Big Data and Artificial Intelligence Tools*], FASHANG YANJIU (法商研究) [STUD. L. & BUS.], no. 2, 2019, at 101, 105–09 (discussing the risks to the Judiciary posed by AI); Zheng Xi (郑曦), *Rengong Zhineng Jishu zai Sifa Caipanzhong de Yunyong Ji Guizhi* (人工智能技术在司法裁判中的运用及规制) [*The Use and Regulation of Artificial Intelligence Technology in Judicial Decision-Making*], ZHONGWAI FAXUE (中外法学) [CHINESE & FOREIGN LEGAL STUD.], no. 32, 2020, at 674, 681–83 (arguing that AI may increase the power of the procuratorate and the police at the expense of ordinary people); Zhang, *supra* note 105, at 104–05 (criticizing how judges search databases); *see also* Du, *supra* note 108, at 218 (arguing that identical cases are only a theoretical possibility, and that current technology only allows courts to search for superficially similar cases).

concerns about algorithmic bias in the United States and Europe.[115] In China, the starting point—at least among the Party and court leadership—is often an assumption that people are fallible while technology is less so. Calls for exceptionless enforcement of law are now routine, often accompanied by discomfort with vesting discretion in Chinese judges.[116] Meanwhile, technology is associated with a bright future,[117] an attitude anchored in a history of socialist futurism and a contemporary lack of civil society voices capable of counterbalancing Party-state and corporate interests to advocate for algorithmic accountability.[118] Partly because of this lack of legal and social objections to algorithmic decision-making, the Chinese legal system has mobilized enormous resources rapidly to embrace AI. Yet even though the Chinese courts have moved more quickly than would be possible in most places, their experiences suggest issues that a range of jurisdictions are likely to confront, particularly as rising technology use coincides with increased criticism of judicial discretion.

The Chinese courts' experience with algorithmic analytics underscores how the gap between transparency and legibility can exacerbate inequality in the legal system. Both the SPC's website and parallel commercial websites work well for searching individual cases or even uncovering strings of similar cases. But the combination of the

115. This contrast has been widely noted by observers of China's technology scene. As Robin Li, the co-founder of Baidu explains, the downsides of AI are "not that debated in China. The government is more focused on the positive impact of AI, and I also agree with the government." Hempel, *supra* note 48.

116. Cui Yadong (崔亚东), *Rengong Zhineng Rang Sifa Gengjia Gongzheng Gaoxiao Quanwei* (人工智能让司法更加公正高效权威) [*Artificial Intelligence Makes the Judicatory More Just, Efficient and Authoritative*], ZHONGGUO SHENPAN (中国审判) [CHINA TRIAL] (Nov. 5, 2017) [https://perma.cc/9624-AFTX]; *see also* Ge Xiang (葛翔), *Sifa Shijian Zhong Rengong Zhineng Yunyong de Xianshi yu Qianzhan* (司法实践中人工智能运用的现实与前瞻) [*The Reality and Prospects of Applying Artificial Intelligence in Judicial Practice*] HUADONG ZHENGFA DAXUE XUEBAO (华东政法大学学报) [J. E. CHINA U. POL. SCI. & L.], no. 5, 2018, at 67, 74; Wang Cheng (汪成), *Rang Rengong Zhineng Zhuli Sifa Gaige* (让人工智能助力司法改革) [*Use Artificial Intelligence to Advance Judicial Reforms*], GUANGMING RIBAO (July 1, 2019) [https://perma.cc/PYV2-Z3VC].

117. *Guanyu Keji Chuangxin He Fazhan, Dudong Xi Jinping Qiangdiao de Zhe Sange Yaodian* (关于科技创新和发展，读懂习近平强调的这三个要点) [*Read and Understand Xi Jinping's Three Points on Technological Innovation and Development*], ZHONGGUO GONGCHANDANG XINWEN (中国共产党新闻) [CHINESE COMMUNIST PARTY NEWS] (Sept. 18, 2020, 8:18 AM) [https://perma.cc/QB2J-V53Y].

118. On socialist futurism, see generally Julian Gewirtz, *The Futurists of Beijing: Alvin Toffler, Zhao Ziyang, and China's "New Technological Revolution," 1979–1991*, 1 J. ASIAN STUD. 78 (2019). On restrictions on civil society, see generally Anthony J. Spires, *Regulation as Political Control: China's First Charity Law and Its Implications for Civil Society*, 3 NONPROFIT & VOLUNTARY SECTOR Q. 49 (2020).

sheer number of documents available, the little information about what is missing, and the technical safeguards that prevent scraping the SPC website make it extraordinarily difficult for outsiders to aggregate individual data points into an understanding of broader trends. Both the SPC and the market players that repackage court data are focused on celebrating the total number of cases available and, for all that kudos about a new norm of judicial disclosure are deserved, this boosterism obscures the time and effort required to convert atomized data into useful information. The more than 100 million cases now public are only of limited legibility, with companies poised to charge for the privilege of converting raw data into the kind of information that could inform a litigation strategy. Naturally, the rich, repeat players in the legal system are also best-equipped to pay companies to crunch data and consult about trends. The irony is that for all the effort Chinese courts have invested in improving access to justice for ordinary people, embracing judicial disclosure may exacerbate the inequalities that dog adjudication worldwide and that empirical research has shown to be a problem in China.[119]

Chinese courts' embrace of AI also spotlights the risks that arise when a state "sees" primarily through dashboards of indicators, and algorithms guide frontline decision-making. One implication is that future research needs to spend as much energy documenting what the state cannot see as documenting what it can. Otherwise, the risk is that we perpetuate the stereotype of the all-seeing state, thus joining the "state's project of presenting itself as invincible" rather than recognizing that top court officials themselves have an obstructed view of the day-to-day operation of local courts.[120] Mapping the state's blind spots is particularly important in light of the global spread of an "indicator culture" that "places a high value on numerical data as a form of knowledge and as a basis for decision-making."[121] What are the blind spots that stem from incomplete or inaccurate data, as compared to those that arise because only some aspects of behavior can be distilled into easily digestible indicators? Are these risks amplified in an authoritarian state focused on technological prowess, with few voices willing to contest the rapid adoption of new technology? So far, the attention of outside observers has been trained on how the rise of algorithmic governance in China could present a challenge to liberal governance models. But there is another question to ask as well:

119. Xin He & Yang Su, *Do the "Haves" Come Out Ahead in Shanghai Courts?*, 10 J. EMPIRICAL LEGAL STUD. 120, 131–33 (2013).

120. JOEL S. MIGDAL, STATE IN SOCIETY: STUDYING HOW STATES AND SOCIETIES TRANSFORM AND CONSTITUTE ONE ANOTHER 115 (2001).

121. SALLY E. MERRY, THE SEDUCTIONS OF QUANTIFICATION: MEASURING HUMAN RIGHTS, GENDER VIOLENCE, AND SEX TRAFFICKING 9 (2016).

Could algorithmic analytics also present unseen challenges to the Chinese state?

The rise of AI in China's courts also spotlights how technology can curb judges' discretion and authority. In the past, the justification for granting discretion to Chinese judges was often that legal rules were unclear.[122] Today, the official narrative is that there are fewer gaps in the law, and that discretion only opens opportunities for misconduct.[123] In this way of thinking, judges need to be monitored, and even imperfect algorithmic decision-making is an improvement over human variability.[124] This emphasis on technology as a tool of oversight is underscored by the lack of discussion of predictability as an important value in its own right. Tellingly, the goal of standardization is typically framed as reducing incorrect decisions and speeding progress toward a rules-based legal order, rather than increasing predictability to either facilitate access to justice or strengthen court legitimacy.[125] Of course, a rules-based legal order does not necessarily translate into improved judicial independence; and increased use of

122. *See, e.g.*, Chen Zhihui (陈志辉), *Lun Chengshi Xinyong yu Ziyou Cailiang Quan* (论诚实信用与自由裁量权) [*On Honesty and Discretionary Power*], ZHONGGUO FAYUAN WANG (Apr. 1, 2004, 1:52 PM) [https://perma.cc/F922-UCZX].

123. Zuigao Renmin Fayuan Yinfa ‹Guanyu Zai Shenpan Zhixing Gonzuo Zhong Qieshi Guifan Ziyou Cailiang Quan Xingshi Baozhang Falü Tongyi Shiyong de Zhidao Yijian› de Tongzhi (最高人民法院印发《关于在审判执行工作中切实规范自由裁量权行使保障法律统　适用的指导意见》的通知) [Supreme People's Court Notice on the Publication of the "Guiding Opinions on Effectively Regulating the Exercise of Discretionary Power in Trial and Enforcement and Guaranteeing the Uniform Application of Law"] (promulgated by the Sup. People's Ct., Feb. 28, 2012), ZUIGAO RENMIN FAYUAN WANG, Mar. 14, 2012, [https://perma.cc/7DTL-4TRE]; You Shaohua (尤韶华), *Jianli Sifa Ziyou Cailiang Quan Shidu Yunyong de Falü Wenhua Jichu—Cong Falü Wenhua de Shijiao Kan Sifa Ziyou Cailiang Quan de Lanyong Yu Xianzhi* (建立司法自由裁量权适度运用的法律文化基础 —— 从法律文化的视角看司法自由裁量权的滥用与限制) [*Establishing the Legal Culture for the Proper Use of Judicial Discretion—A Look at the Misuse and Restrictions on Judicial Discretion from a Legal Culture Perspective*], ZHONGGUO FAXUE WANG (中国法学网) [CHINA L. ONLINE] [https://perma.cc/GDA4-3RDT].

124. There is also some public pushback against this idea. Some Chinese legal scholars are on record defending judicial discretion as an indispensable feature of any legal system. *See* Ma Yufei (马宇菲), *Rengong Zhineng yu "Zhihui Fayuan" Jianshe Wenti Yanjiu* (人工智能与 "智慧法院" 建设问题研究) [*Studies in Artificial Intelligence and Building "Smart Courts"*], BANGONGSHI YEWU (办公室业务) [OFF. OPERATIONS], no. 9, 2020, at 17, 17; Zheng, *supra* note 114, at 684–85 (arguing that use of AI will reduce the independence of judges and thus, over the long-term, reduce public confidence in the courts).

125. *See, e.g.*, Li Xin (李鑫), *Rengong Zhineng zai Fayuan Gongzuo Zhong Yingyong de Lujing yu Qianjing* (人工智能在法院工作中应用的路径与前景) [*Outlook and Pathways of Applying Artificial Intelligence in Court Work*], 16 JINGJI YU SHEHUI FAZHAN (经济与社会发展) [ECON. & SOC. DEV.], no. 16, 2018, at 55, 56 (discussing the need for a uniform rule of law and the utility of AI in monitoring judges' actions).

technology may curb individual malfeasance by facilitating central oversight and control.

After a decades-long worldwide expansion of judicial power,[126] perhaps the overarching question is what the rise of artificial intelligence will mean for the status of courts globally. Courts in countries as diverse as Poland, India, and the United States are now confronting new challenges to their legitimacy and independence, often as the result of the rise of populism and expanded executive power.[127] Could technology exacerbate this trend? Particularly in countries where courts already face growing restrictions on their authority from populist leaders, it is easy to imagine judicial monitoring and algorithmic decision-making being imposed on courts to rein them in. Comparative court-watchers are used to thinking about how judges are constrained in their decision-making by the power and preferences of other officials.[128] The case of China suggests that it is time to consider how technology might become a means to curb judicial autonomy and to pay attention to who advocates for it and why. Technology needs to be considered alongside judicial purges[129] and

126. *See, e.g.*, TORBJÖRN VALLINDER & CHESTER NEAL TATE, THE GLOBAL EXPANSION OF JUDICIAL POWER 3 (1995).

127. *See, e.g.*, Rana Ayyub, *The Destruction of India's Judicial Independence Is Almost Complete*, WASH. POST (Mar. 24, 2020) [https://perma.cc/EW5M-NG5K] (on India); Allyson K. Duncan & John Macy, *The Collapse of Judicial Independence in Poland: A Cautionary Tale*, 104 JUDICATURE 41, 41–43 (2020) (on Poland); Michael J. Klarman, *The Degradation of American Democracy—and the Court*, 134 HARV. L. REV 1, 22 (2020) (on the United States). For further discussion on challenges faced by courts in these and other countries, see generally Madhav Khosla, *With Freedom at Stake*, *Courts Are Collapsing*, N.Y. TIMES (Sept. 9, 2020) [https://perma.cc/ZWD3-XS2G]; Kriszta Kovács & Kim Lane Scheppele, *The Fragility of an Independent Judiciary: Lessons from Hungary and Poland—and the European Union*, 51 COMMUNIST & POST-COMMUNIST STUD. 189 (2018).

128. For two prominent examples of this approach, see Robert D. Cooter & Tom Ginsburg, *Comparative Judicial Discretion: An Empirical Test of Economic Models*, 16 INT'L REV. L. & ECON. 295 (1996); Lee Epstein et al., *The Role of Constitutional Courts in the Establishment and Maintenance of Democratic Systems of Government*, 35 LAW & SOC'Y REV. 117 (2001).

129. In Sudan, for example, Omar Al-Bashir directly fired more than 300 judges between 1989 and 1994. *See* MARK FATHI MASSOUD, LAW'S FRAGILE STATE 132 (2013). Lowering the retirement age is also a favorite tactic. In Hungary, Victor Orban's government lowered the retirement age for judges from seventy to sixty-two in 2012, forcing about 274 judges into early retirement. Gábor Halmai, *The Early Retirement Age of the Hungarian Judges*, *in* EU LAW STORIES: CONTEXTUAL AND CRITICAL HISTORIES OF EUROPEAN JURISPRUDENCE 471, 471 (Fernanda Nicola & Bill Davis eds., 2017).

restrictions on judicial review,[130] then, as part of a toolkit that can be used to strengthen political oversight over the legal system.

Technology can also slowly erode judicial power by shifting conceptions of the judicial role. In Israel, judicial monitoring software "nudged [Israeli] judges to think of themselves as part of an assembly line, the business of which is to produce dispute settlements under the law."[131] Although assembly line justice can be fair and efficient, it also transforms the profession of adjudication—where judges spend their entire careers cultivating the wisdom necessary to craft individual legal solutions—into a lower-status occupation. In this second pathway to restraining courts' authority, the erosion of judicial power through technology is an unintentional side effect of a court system determined to modernize itself rather than a part of an external political strategy to curb the courts. At least for now, this is China's story. In China, the push for technology has come from those atop the judicial hierarchy, including both the judicial leadership in Beijing and court presidents around the country. In a sense, then, Chinese courts have chosen to constrain their own autonomy through technology, partly to strengthen the oversight of rank-and-file judges, and partly to better accord with central government priorities. To be sure, there is real value in using technology to make courts more accessible, efficient, and user friendly, especially in places that have yet to digitize court records and procedures. When judges are encouraged to substitute algorithms for their own reasoning, however, or when judicial monitoring systems offer real-time information about judicial efficiency, the adoption of technology may start to change how judges think about themselves, as well as how society views the courts.

It is too soon to know how most court systems will integrate technology into court administration, let alone the implications for judicial power. Even in China, it is too soon to say whether embracing cutting-edge technology will help courts boost their status, as advocates initially hoped, or whether judicial authority will shrink alongside judicial discretion. It is also unclear whether the transparency gains of recent years will prove lasting, particularly given the rise of "data security" as a counter-vailing value (and catchphrase) in Chinese legal circles.[132] References to "data security" once again align the

130. Singapore, for example, restricted the court's authority to exercise judicial review following the 1989 *Chng Suan Tze* case. *See* Gordon Silverstein, *Globalization and the Rule of Law: A Machine that Runs Itself*, 1 INT'L J. CONST. L. 427, 439 (2003).

131. Reichman et al., *supra* note 111, at 635.

132. *See, e.g.*, Han, *supra* note 99 (discussing data security issues arising from the public release of court decisions). One data point suggesting that the high tide of judicial transparency may have crested is the fact that, as of early 2021, it is impossible to view more

courts with central Party-state priorities, but they also reflect what appears to be an emerging view within the SPC that the courts should more tightly control how public data are used.[133]

What we have seen so far in China, however, offers an inkling that two powerful global trends—the ascendant interest in algorithmic governance and the worldwide assaults on judicial authority—could be connected. This realization sets a research agenda for a new generation of scholarship on technology inside courts, and the implications for inequality, legibility, and judicial power. As this scholarship emerges, the case of China also suggests that scholars have a role to play in expanding the public conversation beyond how (and how much) technology strengthens state power. Without losing sight of how technology can abet social control, we also need to disaggregate the state to better understand how technological choices reorder and alter relationships across agencies and among ordinary officials and their supervisors.

than the first 600 results for any search on China Judgments Online, dramatically weakening the usefulness of the website for external observers. *See* Online Case Search, ZHONGGUO CAIPAN WENSHU WANG, https://wenshu.court.gov.cn (enter keyword into search field, then follow the "搜索" hyperlink). SPC officials argued that the new restrictions, which also made it impossible to search cases by upload date, were necessary to deter companies seeking to scrape data as frequent scraping was slowing down the website. *See* Chang Qu (屈畅) & Jianyong Zhu (朱健勇), *Caipan Wenshu Wang Shuju Jing Bei Biaojia Shoumai* (裁判文书网数据竟被标价售卖) [*China Judgment Online Data Are Priced and Sold*], PENGPAI XINWEN (Aug. 2, 2019, 6:33 AM) [https://perma.cc/7332-VT4V].

133. Zhou Rongrong (周蓉蓉), *Tisheng Shuju Zhili Xiaoneng, Zhuli Zhihui Fayuan Jianshe* (提升数据治理效能，助力智慧法院建设) [*Increase the Efficiency of Data Governing and Aiding the Smart Court Development*], RENMIN FAYUAN BAO (Apr. 14, 2020) [https://perma.cc/3VJD-VGSU] (quoting SPC President Zhou Qiang).