

Reflections on the TEPCO Trial: Prosecution and Acquittal after Japan's Nuclear Meltdown

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Abstract: This article focuses on the criminal justice consequences of the nuclear meltdown at Fukushima that was precipitated by the earthquake and tsunami of March 11, 2011. Through a process of “mandatory prosecution” initiated by Japan’s unique Prosecution Review Commissions, three executives of the Tokyo Electric Power Company were charged with criminal negligence in 2015-2016. They were acquitted at trial in 2019 when the Tokyo District Court concluded there was insufficient evidence to convict. Following this verdict, Japanese prosecutors essentially said “we told you so – these cases should not have been prosecuted.” But we argue that a courtroom loss does not mean that the case should never have been brought, for the TEPCO trial and the criminal process that preceded it performed some welcome functions. Most notably, this criminal case revealed many facts that were previously unknown, concealed, or denied, and it clarified the truth about the Fukushima meltdown by exposing some of TEPCO’s claims as nonsense. At the same time, this case study illustrates the limits of the criminal sanction and the difficulty of controlling corporate crime in the modern world.

Key Words: Fukushima, criminal negligence, white-collar crime, Prosecution Review Commissions, mandatory prosecution, Japanese criminal justice

“The scale of the tsunami far exceeded all previously held expectations and knowledge.”

Headline of “Important Report from TEPCO” (April 24, 2012)

“Who could they be kidding?... The Sanriku coast [in the Tohoku region of Japan] is famously like California: big earthquakes hit it often, hit it regularly, and hit it with massive tsunami.”

Harvard University Professor of Law J. Mark Ramseyer (2012)

On September 19, 2019, a panel of three professional judges in the Tokyo District Court acquitted three former executives of the Tokyo Electric Power Company (TEPCO). The defendants were former chairman Katsumata Tsunehisa (79), and former vice presidents Takekuro Ichiro (73) and Muto Sakae (69), who shared responsibility for the company’s nuclear energy sector. They had been charged with criminal negligence¹ for failing to prevent the meltdown of the Fukushima Daiichi nuclear power plant, which was precipitated by the earthquake and tsunami of March 11, 2011, which killed more than 18,000 people and forced 400,000 to evacuate their homes in order to escape the nuclear fallout (Hasegawa, 2013).²

The 3/11 earthquake was the most powerful ever recorded in Japan, and it was the fourth most powerful earthquake in the world since modern record keeping started in 1900. The tsunami it precipitated reached heights up to 40 meters (130 feet), and in some places the

colossal swell traveled at 700 kmh (435 mph) and surged 10 kilometers (6 miles) inland. The only nuclear accident as serious as the meltdowns at the Fukushima plant was the 1986 disaster at Chernobyl in Ukraine. But while the Fukushima triple-disaster was severe, it was not precipitated by a low-probability event. The 3/11 earthquake was a “high-probability event,” for massive earthquakes and tsunamis have been assaulting the northeastern coast of Japan for centuries – in 869, 1611, 1793, 1896, and 1933 (Ramseyer, 2012). The size of the tsunami in 2011 was almost the same as the one in 1933.

There have been many legal and political reactions to the meltdowns in Fukushima (Samuels, 2013; Aldrich, 2019). Japan stopped using nuclear power for much of 2011 and 2012, and its usage has remained low since then, though the administration of Prime Minister Abe Shinzo seems determined to restart many of the country’s reactors. More broadly, several countries, including Germany, Italy, Belgium, and Taiwan, suspended or ended their use of nuclear power, and China suspended its plan to expand its use of nuclear power for half a year. New nuclear safety laws were also established in Japan, China, and South Korea, though in most of East Asia, major changes in the field of nuclear power seem unlikely because of “nuclear power’s sunk-cost structure and embeddedness in national energy plans” (Fraser and Aldrich, 2019, p.58). As for administrative law, Japan’s lax regulatory system (Kingston, 2012) was reformed after 3/11, with the Nuclear and Industrial Safety Agency (NISA) and the Nuclear Safety Commission (NSC) replaced by the Nuclear Regulation Authority (NRA). Government supervision of the nuclear industry was also transferred from the ministry responsible for promoting it (the Ministry of Economy, Trade, & Industry, or METI) to the Ministry of Environment (MOE), which *might* result in more emphasis on safety and less on profit and the production of power (time will

tell). In civil law, about 30 collective actions have been filed against TEPCO and government officials, in addition to some 400 individual lawsuits filed nationwide by the victims of the Fukushima meltdown (Jobin, 2019, p.74). As of September 2019, eight of the collective actions had resulted in judgments – and all found TEPCO liable (Dooley, Yamamitsu, and Inoue, 2019).³

And then there is the legal process through which criminal sanctions can be imposed. Significant efforts were made to respond to the anti-social behavior of TEPCO executives and government officials by imposing punishment on those believed guilty of violating Japanese criminal law. The central question in this essay is this: what was the criminal process good for in the TEPCO case? We argue that, despite the acquittal of the TEPCO defendants, Japan’s criminal process did some good in this case, and that when it failed it did so in ways that are common in other systems of criminal justice. The latter claim will be no consolation to the victims and survivors of 3/11, but it does reflect how hard it is to hold corporations and their executives criminally accountable for the harms that they cause, not only in Japan but in all countries. While we focus on the limits of criminal law and criminal procedure in a case that may be the biggest crime in postwar Japanese history, our point applies more broadly, for in many societies white-collar crime is “the greatest crime problem of our age” (Coleman, 2002, p. xi).⁴

Our essay proceeds in three parts. Part one describes the complicated process of criminal prosecution through which charges were filed against the three TEPCO executives. This part of our story involves a uniquely Japanese institution called the Prosecution Review Commission (*kensatsu shinsakai*), which was reformed in 2009 to enable panels of 11 citizens to override the non-charge decisions of professional prosecutors. Part two analyzes the reasoning of the Tokyo District Court and

describes some of the reactions to its decision to acquit the executives. Many Japanese were harshly critical of that decision, but Japanese prosecutors essentially said “we told you so” after the Court concluded there was insufficient evidence to convict. In our view, the verdicts in this case are troubling but unsurprising, for impunity is common both in white-collar crime cases and in cases of “mandatory prosecution” (*kyosei kiso*) initiated by Japan’s PRCs. Part three of this article concludes by suggesting some lessons to learn from the TEPCO trial. Foremost among them is how difficult it is for criminal law and the institutions of criminal justice to control the conduct of corporations and their agents.

I. Prosecution

A *Timeline* summarizing the main events leading to and resulting from the triple disaster of 3/11 can be found in the Appendix to this article. The timeline shows that the earthquake and tsunami of March 11, 2011 resembled large natural disasters that had occurred many times before on the northeastern coast of Japan. In this sense, the chain of events leading to 3/11 could be traced back centuries.⁵ But our summary focuses on a cascade of executive, engineering, and regulatory failures that occurred in the few decades preceding the Fukushima disaster (Synolakis and Kanoglu, 2015). The Union of Concerned Scientists has concluded that “there is plenty of blame to go around” for the Fukushima meltdown (Lochbaum et al, 2014, p.245), and some other analysts share this view (Jones, 2019).⁶ Among the key proximate causes are the following:

*There was too little attention paid to evidence of large tsunamis that had assaulted the northeastern coast of Japan in previous decades and centuries. This heedlessness was widespread: by TEPCO executives, by regulatory officials and other agents of the Japanese state, and by

the mass media.

*There were inexplicably different design conditions in the nuclear power plants located near each other in northeastern Japan. The Fukushima plant design was especially deficient.

*There were major methodological mistakes in the hazard analysis that TEPCO conducted to calculate the maximum possible tsunami at the Fukushima No.1 Nuclear Power Plant.

*In the years preceding 3/11, TEPCO made false reports during government inspections of its nuclear plants more than 200 times, and it concealed numerous plant safety incidents as well.

*There were major weaknesses in the regulation of Japan’s nuclear energy industry.⁷

One question concerns what conduct leading to the Fukushima meltdown can be considered criminal. Although the answer is contested, we believe many people who should have been charged and convicted were not held criminally accountable for the enormous harms that they helped cause. In June 2012, 1324 residents of Fukushima filed a criminal complaint with the Fukushima District Prosecutors Office against 33 TEPCO executives and government officials (Yamaguchi and Muto, 2012). Fifteen months later, prosecutors in Tokyo announced that they would not charge any TEPCO executives because, in their view, there was little chance of conviction. Over the next few years, two different Prosecution Review Commissions would review and reverse this non-charge decision and institute mandatory prosecution against the three former executives who would later be acquitted. This section and the pre-3/11 part of the Timeline explain how this happened.



Photos from June 11, 2012, when 1324 residents of Fukushima filed a criminal complaint against 33 TEPCO executives and government officials.

Ultimately, three of them would be indicted, after citizens on two Prosecution Review Commissions overruled the non-charge decisions of Japan’s professional prosecutors.

A criminal trial can only occur if someone is charged with a crime. In the modern world it is prosecutors who usually make charge decisions. Even in the United States where grand juries can issue indictments, they almost always do what the prosecutor wants: investigating only those whom the prosecutor wants investigated, and indicting only those whom the prosecutor wants indicted (Blumberg, 1979, p.139). In fact, American grand juries are so likely to do the prosecutor’s bidding that critics have said they will even “indict a ham sandwich” – if that is what the prosecutor desires (Heilbroner, 1990, p.245). Thus, in the US as in Japan and most other nations, the prosecutor is the main gatekeeper

of the criminal justice system. In the TEPCO case, Japanese prosecutors tried to keep the gate to criminal trial closed, but two Prosecution Review Commissions (PRCs) pried it open by compelling the indictment of the former executives. This section explains how that happened.

Prosecution in Japan has long been characterized by three qualities (Johnson and Hirayama, 2019). First, prosecutors have such broad discretion that they may have more control over life, liberty, and reputation than any other officials in the country. Second, prosecutors tend to exercise their discretion cautiously, by following a conservative charging policy which mandates that they charge a case only if it is all but certain to end in conviction. Third, the best-known results of Japan’s charging conservatism are a conviction rate that approaches 100 percent and an acquittal rate that is close to 0 (Johnson, 2002; Ramseyer and Rasmusen, 2001).

Japan’s conservative charging policy has several strengths. Most notably, it results in less use of imprisonment than do more aggressive charging policies in other democracies, most notably the United States. For progressives who are skeptical of the capacity of the criminal sanction to do good, this is a significant virtue (Packer, 1968). It is hard to say for sure, but Japan’s charging conservatism may also result in fewer wrongful convictions than more aggressive charging policies. Some critics contend that Japan’s high conviction rate results from an authoritarian approach to criminal justice in which too much power is vested in police and prosecutors and in which judges are too deferential to law enforcement’s interests. There are elements of truth in these criticisms, but one meaning of the country’s high conviction rate is that many criminal offenders who would be charged and convicted in other systems are never charged at all in Japan. In this sense, Japan’s cautious approach to charging cases is more protective

of the rights and interests of criminal suspects than are prosecution systems in countries with lower conviction rates (Johnson, 2002, pp.237-242).

But Japan's conservative charging policy also has several negative consequences. Some victims of crime feel abandoned or betrayed by prosecutors who do not charge the individual or organizational actors who have offended against them. There are relatively few criminal trials where guilt is seriously contested and where citizens can be instructed about law, government, and the duties of citizenship in the "classroom" of the courthouse (Tocqueville, 1835). When a contested trial does occur, it is difficult for some judges to remain neutral because issuing 98 or 99 convictions for every acquittal can numb their sensitivity to reasonable doubt. The supply of skilled and aggressive defense lawyering gets suppressed, for who wants to do criminal defense work when the chances of victory are so slim? The Japanese public loses some of the benefits of general deterrence that a more aggressive charging policy would generate. And in the thin layer of cases in which a crime is serious, the defendant denies guilt, and there is public pressure to produce a conviction, the risk of false confession rises, as does the risk of wrongful conviction (Johnson, 2002; Johnson, 2015).

In an effort to address some of the problems of prosecution, Prosecution Review Commissions were established in Japan in 1948, and their powers were strengthened by a legal reform that took effect in 2009 (Fukurai, 2011; Goodman, 2013). At present, there are 165 PRCs in Japan's 50 district court jurisdictions. Each is composed of eleven citizens chosen randomly from local electoral rolls. If a prosecutor decides not to charge a case, a victim or suitable proxy can request that a PRC review the decision.⁸

PRCs were created during the postwar

Occupation by adapting the American grand jury system to the Japanese context. In the 1930s, when Japan's government became militaristic and fascistic, prosecutors frequently abused their powers by charging enemies and protecting allies and friends (Mitchell, 1992). Article 1 of the PRC Law of 1948 states that the main purpose of the PRC institution is to guarantee "proper and fair execution of the right of public action by reflecting the popular will," and American officials in the Occupation described PRCs as a "safeguard against procurators who fail to prosecute cases" (West, 1992, p.694). The PRC Law left prosecutors' decisions to charge a case unreviewable except by the courts. Most prosecutors believed this reform - a check on their non-charge decisions but no check on their decisions to charge - was more beneficial to their interests than an American-style grand jury would have been (Goodman, 2013).

A Prosecution Review Commission and an American grand jury share some similarities in form. Both rely on citizen oversight to check prosecutorial discretion, and both focus on charging decisions. But the two systems differ in function, with the American grand jury reviewing cases before an indictment is issued, and PRCs reviewing cases after a decision has been made not to charge. In most criminal justice systems, decisions not to charge are seldom subject to discussion or disapproval because the media and the public learn little about them (Davis, 1969; Bach, 2009, ch.3). In Japan, however, the possibility of review by a PRC means that prosecutors know a non-charge decision could be reviewed and (since the 2009 reform) reversed. It also means the public has a means of reviewing uncharged cases. If you believe prosecutors are inclined to protect their friends and allies, or if you think prosecutors are biased in favor of certain individuals or groups, then this form of lay participation may be a welcome development. The affirmative power to charge someone with a crime is enormous, but "the negative power

to withhold prosecution may be even greater, because it is less protected against abuse” (Davis, 1969, p.188).

In the United States, there is no institution other than the media to review non-charge decisions, so a case that is not charged but should have been seldom received serious scrutiny. Moreover, in the United States, prosecutors have been so timorous about charging white-collar offenses and corporate crimes that one highly acclaimed book on the subject is called *The Chickenshit Club: Why the Justice Department Fails to Prosecute Executives* (Eisinger, 2017). The title comes from a speech James Comey gave to prosecutors in 2002 in the Office of the U.S. Attorney for the Southern District of Manhattan, where Comey was the top prosecutor (in 2013 Comey became Director of the FBI; he was fired by President Donald Trump in 2017). After spending his first months as U.S. Attorney listening to career prosecutors and learning what kind of cases they were making, he gave a speech in the criminal division, where he asked “Who here has never had an acquittal or a hung jury?” Among the go-getters and resume-builders in his office, many hands went up, whereupon Comey congratulated them by saying “You are members of what we like to call the Chickenshit Club” (quoted in Eisinger, 2017, p.xiv). As Eisinger explains,

“Prosecuting wrongdoers is an awesome responsibility, to be undertaken carefully and judiciously. But prosecutors - unlike other lawyers - are not simply advocates for one side. They are required to bring justice. They need to be righteous, not careerist. They should seek to right the biggest injustices, not go after the easiest targets. Victory in the courtroom should be a secondary concern, meaning that government lawyers should neither seek to win at all costs nor duck a valid case out of fear of losing. Federal prosecutors should

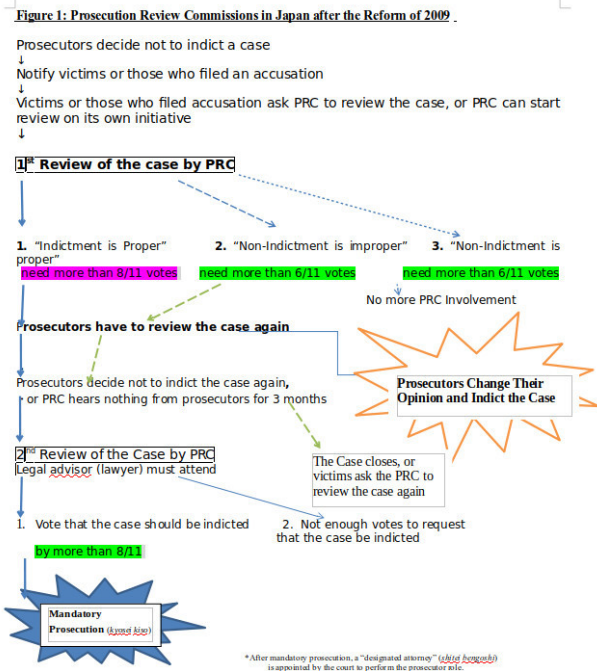
not be judged on their trial record, whether they are criticized or what the political consequences might be of their prosecutions. Comey wanted his prosecutors to be bold, to reach and to aspire to great cases, no matter their difficulty” (Eisinger, 2017, pp.xiv-xv).

As it turns out, Comey’s speech came to be seen as feckless, and Comey himself joined this discreditable Club by failing to pursue many white-collar offenders when he was the top federal prosecutor in Manhattan (Eisinger, 2017, p.136). More broadly, despite widespread and serious malfeasance that led to the 2008 financial crisis, no top bankers from America’s biggest financial firms were prosecuted. The problem of impunity for white-collar criminals in the United States extends far beyond finance, to pharmaceutical companies, technology giants, automobile manufacturers, transnational corporations, and beyond. In short, the U.S. Department of Justice lacks the will and ability to prosecute business elites, and so do many other prosecutors’ offices in the United States (Garrett, 2014; Soltes, 2016) and the world (Bullough, 2019).

The problem of impunity through under-prosecution is one reason why countries such as Germany, Italy, and Sweden *require* prosecutors to file charges when an offense is made known. Their approach reflects a “principle of mandatory prosecution,” which can be contrasted with the “principle of discretionary prosecution” that prevails in Japan, the US, and South Korea, where prosecutors have no legal obligation to charge, regardless of the state of the evidence (Johnson, 2002, p.37). In the former countries, prosecutors are, by law and tradition, supposed to have no choice but to charge. But how often is the principle of mandatory prosecution evaded or ignored? After all, there is often a gap between law-on-the-books and law-in-action. In Germany, where the principle of *legalitätsprinzip* has long been established,

prosecutors are frequently criticized for inappropriately dismissing charges or deferring prosecution, especially in cases of corporate crime (Boyne, 2017, p.139). The German and the American examples suggest that controlling the problem of under-prosecution - especially in cases of white-collar crime - is a formidable challenge in many countries and cultures. There is much evidence to support this view (Langer and Sklansky, 2017).⁹

As shown in Figure 1, Japan's reformed Prosecution Review Commissions can begin an investigation of an un-charged case in two ways: by holding a hearing in response to a claim made by a crime victim or the victim's proxy, or (through majority vote of its 11 members) by starting its own investigation. The PRC examines each case by questioning prosecutors, summoning witnesses, and asking for advice from legal advisors (*shinsa hojoin and kojo bengoshi*).¹⁰ Ultimately, a PRC arrives at one of three decisions, which it presents to prosecutors in writing: (a) non-indictment is proper (*fukiso soto*); (b) non-indictment is improper (*fukiso futo*); or (c) indictment is proper (*kiso soto*). For the first two outcomes a simple majority vote of 6 to 5 is required, while for the third a super-majority of 8 votes is necessary. Under the revised PRC Law, a PRC's decision is binding only after it finds that "prosecution is appropriate" two times for the same case. Then one or more "designated attorneys" (*shitei bengoshi*) will be appointed by a court and will file criminal charges. The designated attorney (a private attorney recommended by the Bar) plays the role of prosecutor during the investigation, trial, and post-trial appeals. In English, cases charged in this way are called "compulsory prosecutions" or "mandatory prosecutions" (*kyosei kiso*). We employ the latter term.¹¹



The reformed PRC Law seems good on paper, but what effects do PRCs actually have? Until 2009, PRC recommendations to prosecutors were advisory, not binding. Hence, prosecutors could ignore a recommendation - and frequently did (Johnson, 2002, pp.222-223). Since PRCs seldom prompted prosecutors to change their non-charge decisions, they were long considered "obscure" and "underutilized" features of Japanese criminal justice (West, 1992, p.694). This was also a motivation for reforming them.

In assessing PRC influence, some analysts focus narrowly on cases of mandatory prosecution (Goodman, 2013). These are, after all, the most visible consequence of PRC activity. Japan has had only nine cases of mandatory prosecution since the PRC reform took effect in 2009 (TEPCO being the most recent), for an average of less than one case per year. See Table 1. A total of 13 people were criminally charged in these nine cases, and only 2 were convicted, for a conviction rate of 15 percent.¹² Some critics of mandatory

prosecution claim this low conviction rate means PRCs are pushing for prosecution recklessly, with little regard for the harmful effects on defendants and the public interest (Goodman, 2013; *Sankei Shimbun*, 2019; *Tokyo Shimbun*, 2019). Similarly, prosecutors believe the low conviction rate in cases of mandatory prosecution vindicates their original non-charge decisions. After the TEPCO executives were acquitted, prosecutors stressed that the court had agreed with their original conclusion that “the three couldn’t be indicted or held criminally responsible,” and they claimed the team of designated attorneys who had played the prosecutorial role at trial had “failed to present sufficient proof” to convict (quoted in *The Mainichi*, September 20, 2019). This “we told you so” attitude is supported by some scholarly observers too (Goodman, 2013; Goodman, 2019). After the TEPCO trial, Meiji University Professor Otsuka Hiroshi said “They’re cases where prosecutors have given up on bringing charges, so in a way it’s natural that a large number of them end in acquittals” (quoted in Dooley, Yamamitsu, and Inoue, 2019).

The sentences imposed on the two defendants who were convicted after mandatory prosecution suggest that PRCs do not always focus on the most serious cases. In one, the mayor of a small town in Tokushima prefecture (on the island of Shikoku) was convicted of assault and fined 9000 yen (about \$90). In the other, a sixth-grade teacher in Nagano prefecture was convicted of “professional negligence resulting in injury” for causing a head injury to one of his students, by throwing him in a judo class. He was sentenced to one-year imprisonment, suspended for three years – so he was not incarcerated.¹³

Table 1. Mandatory Prosecutions in Japan, 2009-2019

Case (# of defendants)	Result*
1. Akashi Pedestrian Bridge Case (1)	indictment dismissed b/c SOL expired
2. JR West Amagasaki Rail Crash Case (3)	3 defendants acquitted
3. Okinawa Unlisted Stock Fraud Case (1)	defendant acquitted
4. Rikuzankai Case (1)	defendant acquitted (politician Ozawa Ichiro)
5. Senkaku Islands Ship Collision Case (1)	indictment dismissed b/c defendant in China
6. Tokushima Mayor Assault Case (1)	defendant convicted & fined 9000 yen (\$90)
7. Golf Instructor Quasi-Rape Case (1)	defendant acquitted
8. Judo Class Severe Injury Case (1)	defendant convicted & sentenced to 1 year imprisonment, suspended for 3 years
9. TEPCO Case (3)	3 defendants acquitted

*In the first ten years of Japan’s reformed PRC system, 2 of the 13 defendants charged through “mandatory prosecution” (*kyosei kiso*) were convicted, for a conviction rate of 15 percent.

Measured in the currency of criminal convictions and sanctions actually imposed, mandatory prosecutions seem to have had little effect. But the influence of Japan’s reformed PRCs should not be understated. For one thing, PRCs ratify the large majority of non-charge decisions that they review, thereby lending legitimacy to the practices of professional prosecutors. In 2011, for example, PRCs concluded that “non-prosecution is appropriate” (*fukiso soto*) in nearly 80 percent of the cases they reviewed. To Japanese prosecutors, this is a strong endorsement of their decision-making. Moreover, the possibility of mandatory prosecution through PRC review surely causes prosecutors to charge some cases more aggressively than they otherwise would, though the frequency of this “hidden impact” is impossible to measure (Hirayama, 2019). In addition, prosecutors sometimes reconsider a non-charge decision after a PRC “kick back” a case (*ken shin bakku*) by ruling that “prosecution is appropriate” or “non-prosecution is not appropriate.” In the half-century from 1949 to 2001, prosecutors decided to charge in about 7 percent of the cases (1144 out of 15,990 cases) in which PRCs had recommended once that they reconsider. From 2002 to 2017, this figure tripled to 22

percent (Hirayama, 2019), largely because concerns about victims' rights made prosecutors more responsive to their interests and desires (Herber, 2019, ch.4).¹⁴ Thus, while PRCs seldom institute mandatory prosecution, when they ask prosecutors to reconsider a non-charge decision, prosecutors change it fairly frequently. Moreover, when PRCs agree with prosecutors about the propriety of a non-charge decision, they foster the perception that prosecutors are making good charge decisions. In short, while the evidence suggests that PRCs are passive toward prosecutors and powerful offenders in some cases, this institution does perform important political and criminological functions in Japanese society. One such function concerns accountability for white-collar crime. Five of the nine PRC-indicted cases (56 percent) and nine of the thirteen defendants (69 percent) subject to mandatory prosecution involved allegations of white-collar crime by governmental, political, or corporate elites.¹⁵

One key issue in the TEPCO case concerned the jurisdiction of prosecution. This is also a political issue in that it concerns "who gets what, when, and how" (Lasswell, 1936). How did such an important case involving victims in Fukushima - a prefecture that did not use a single kilowatt of power generated by TEPCO's nuclear power plants - get handled by prosecutors in Tokyo and by two different Prosecution Review Commissions, each of which was composed of 11 residents of the nation's capital, which is 150 miles south of the scene where the nuclear meltdowns occurred?¹⁶ The answer to this question requires an understanding of the way in which prosecution in Japan is organized (Johnson, 2002, ch.4, pp.119-143).

Japan's procuracy is a bureaucracy which routinely employs a system of "hierarchical consultation and approval" (*kessai*) that is especially thoroughgoing in high-profile cases (Johnson, 2002, pp.128-132). In the TEPCO

case, too, there were many discussions between prosecutors at various levels of this bureaucracy. Ultimately, decision-making authority was vested in the executive prosecutors in the Supreme Prosecutors Office in Tokyo,¹⁷ who seemed to believe that in moving the jurisdiction to Tokyo they could exercise greater control over the case by avoiding the involvement of Fukushima citizens in a PRC review, and who realized that if charges were filed, it would be better for the trial to take place in Tokyo, where court decisions in criminal cases have long been more pro-prosecutor than in other parts of the country (Johnson, 2002, pp.67-71).

Prosecutors provided several justifications for their decision to transfer jurisdiction to Tokyo, although the transfer of venue was only announced on September 9, 2013, just a few hours before the non-charge decision was issued by the Tokyo Prosecutors Office, not the Fukushima Prosecutors Office. Procedurally, prosecutors spoke with attorneys from Fukushima before the transfer decision was made, thereby lending a patina of procedural legitimacy to their decision. Practically, since the TEPCO executives lived in Tokyo, any trials that occurred would be more convenient there (there are also many more prosecutors in Tokyo than Fukushima). Historically, a similar transfer of jurisdiction had occurred in 2003, when cases involving allegations of criminal misconduct by TEPCO officials in Fukushima and Niigata had been transferred to the Tokyo District Court. And substantively, prosecutors stressed that shifting the jurisdiction to the capital would help preserve "the stability and unity of case dispositions" (Johnson and Hirayama, 2019).

In our view, these justifications are less persuasive than a more parsimonious and political explanation: executive prosecutors did not want the TEPCO case to be charged.¹⁸ In fact, prosecutors and police did not even employ the basic methods of "coercive

investigation” (*kyosei sosa*) that are routinely used in serious cases – search warrants, arrests, interrogations, and the like – ostensibly because TEPCO officials were “cooperating” with the investigation (Herber, 2016). A political explanation for the transfer of jurisdiction is also favored by victims, survivors, and attorneys in Fukushima. One attorney said the decision to transfer jurisdiction to Tokyo was an “extremely dirty trick,” as was the decision to announce the non-prosecutions on the day after the announcement that Tokyo would host the 2020 Olympics, when that welcome news would dominate public discussions (Johnson and Hirayama, 2019). Criticism was common in the national media too, with analysts calling the transfer of jurisdiction and prosecutors’ non-charge decision “strange” (*Asahi Shimbun*, 2013), “cold to victims” (*Mainichi Shimbun*, 2013), and “monkey wisdom” (*Shukan Kinyobi*, 2013). In this context, mandatory prosecution through PRC review seemed to reflect “the public will,” which was the main purpose of the law that created this institution (West, 1992, p.694).

II. Trial

During the pre-trial process that ensued after mandatory prosecution was instituted in February 2016, the issues to be contested at the TEPCO trial were defined, and relevant evidence was presented by the prosecution and defense. Then the trial took place in 38 sessions over a 27-month period, from June 30, 2017 to September 19, 2019.¹⁹ It was a shorter trial than many people anticipated, partly because the sessions (one every three weeks, on the average) were held closer together than is often the case when trials occur before a panel of professional judges.²⁰ The Tokyo District Court did not want this trial to last as long as many high-profile contested trials have in the past (in 1999, a former nursery school

teacher named Yamada Etsuko was acquitted of homicide some 21 years after she had been charged when a PRC had concluded that prosecutors’ non-charge decision was inappropriate). The TEPCO trial also attracted much attention in the media and many more observers than the courtroom in Kasumigaseki could accommodate. Even late in the trial, few analysts were confident about what the verdicts would be. We were unsure, too.

In presenting the prosecution’s case, the designated attorneys stressed that, based on knowledge that was available before 3/11, a major earthquake and tsunami were concretely foreseeable events, and that the TEPCO executives should have and could have prevented the nuclear meltdown if they had fulfilled their “duty of care” (*chui gimu*). According to the criminal law of professional negligence as defined in Article 211 of Japan’s Penal Code (and under orthodox interpretations of Article 211 by Japan’s judiciary), if a professional engages continuously and repetitively in acts that are potentially dangerous to others, the person who has chosen to commit those acts has a special “duty of care” (Herber, 2016). Media reporting on this trial stressed that the prosecution’s case relied on a 2002 report from the Headquarters for Earthquake Research Promotion (HERP), which stated that there was a 20 percent chance of a magnitude 8 earthquake occurring near Fukushima within the next 20 years. In actuality, the prosecution presented much evidence in addition to the HERP report, including TEPCO emails and memos that showed TEPCO executives were informed of risks and advised of countermeasures long before 3/11, as well as testimony from witnesses who suggested that executives seemed reluctant to take meaningful countermeasures against a catastrophe. To put it in plain language, the prosecution’s core claim was that TEPCO executives had allowed cost considerations and profit imperatives to prevail over considerations of public safety.

In response to the charges of criminal negligence, the defense maintained what TEPCO spokespersons have long insisted: that the company has adhered to the “basic policy of always keeping safety first” (TEPCO, 2012). It also stressed that HERP’s report was unreliable, and that other experts disagreed with its conclusions, especially the Japan Society of Civil Engineers, whose 2002 report had been emphasized by professional prosecutors in their explanations for the non-charge decisions that were subsequently overturned by the Tokyo PRCs. More fundamentally, the defense insisted that a disaster of Fukushima’s magnitude was not “concretely foreseeable,” and it argued that its 5.7-meter (19 foot) sea wall was designed to withstand a tsunami equivalent to the maximum tide level ever recorded on the Fukushima shores. For their part, the three defendants echoed at trial what TEPCO spokespersons had been saying since the 3/11 meltdown: the safeguards they took were sufficient, but they “deeply regretted” the accident that occurred and the trouble it caused to victims and survivors. Many observers found their words hollow and insincere. Apologies of this kind – “I am not causally or legally responsible, but I am sorry” – are common in Japan. One analyst has noted the tendency to “grovel through a ritual of remorse” is so routine that “it’s a running joke” in some parts of Japanese society (West, 2006, p.285).



Former TEPCO executives and criminal defendants

Katsumata Tsunehisa, Muto Sakae, and Takekuro Ichiro.

The Tokyo District Court made three main points in its decision to acquit the former TEPCO executives (Takeda, 2019). First, the Court acknowledged that the “long-term evaluation of seismic activities,” which was published by HERP in 2002, had predicted that a tsunami of up to 15.7 meters (52 feet) could occur, but it said this assessment lacked a “concrete foundation,” and concluded that there were doubts about its “reliability.” We call this the *Shaky Prediction* claim. Second, based on knowledge available at the time of 3/11, the Court held that the defendants did not have an obligation to shut down the nuclear plant until safety countermeasures against a giant tsunami could be completed. We call this the *No Duty to Shut It Down* claim. Third and most broadly, legal standards that applied at the time of the Fukushima incident did not create an obligation for the executives to ensure the “absolute safety” of nuclear power plants. In one often-quoted sentence, the Court stated that “it would be impossible to operate a nuclear plant if operators are obliged to predict every possibility about a tsunami and take necessary measures” (Dooley et al, 2019; Olsen, 2019). We call this the *Absolute Safety Not Required* claim. On these three grounds, the Tokyo District Court concluded that none of the defendants is criminally responsible for the deaths of the 44 patients who were evacuated from Futaba Hospital or for the injuries of the 13 soldiers that were caused by explosions at the Fukushima plant.

In our view, all of the Court’s core claims are questionable, and so, therefore, are its conclusions.

Shaky Prediction? After the Great Hanshin-Awaji Earthquake of 1995 brought to light a number of problems in Japan’s earthquake disaster prevention measures, a Special Measure Law on Earthquake Disaster

Prevention was enacted in July of the same year. The law recognized failures to communicate and apply the results of earthquake research to the general public and to organizations that could and should prevent disasters. It also established a Headquarters for Earthquake Research Promotion, as a special governmental organization attached to the Prime Minister's Office (HERP now belongs to the Ministry of Education, Culture, Sports, Science and Technology). Among other missions, it “[evaluates seismic activity in a comprehensive manner](#)” and “[publishes evaluation results](#)”. Its report in 2002 predicted a 20 percent chance of an M8.0 earthquake and (in such an event) tsunami heights of 8.4 to 10.2 meters, which far exceed the 5.7-meter seawall at Fukushima. But TEPCO ignored this report, claiming there was “no wave source model” for the prediction. However, other engineers have explained that “the Fukushima accident was preventable” when examining seismic hazards over long periods of time, and they emphasized that “the best practice remains to assume that the largest inferred event can occur anywhere along the coast of interest” when there are large seismic events in the historical record (Synolakis and Kanoglu, 2015, p.10). Considering the coast's historical record, TEPCO's failure to follow best practice is both “inconceivable” and “incomprehensible” (Synolakis and Kanoglu, 2015, p.10).

There also was an abundance of other evidence introduced at trial that major earthquakes and massive tsunamis have occurred near the Sanriku coast, including (as described at the outset of this article) an 8.1 magnitude earthquake in 1933 that caused a tsunami about the same size as its successor would be in 2011 (Ramseyer, 2012). In many fields where experts forecast the future, predictions are inaccurate and unreliable (Tetlock, 2005). In this case, however, the question was not whether a major earthquake would occur; it was when. And in science and common sense, it is taken for granted that a massive earthquake

may cause a giant tsunami. Philosophically, the March 11 earthquake and tsunami have been called “black swan” events, for they were unpredictable, they had big impacts, and (after the fact) it was easy to concoct explanations that made them appear more certain than they actually were (Taleb, 2007; Aven, 2015). But scientifically and legally, a massive earthquake and a mighty tsunami near Fukushima were foreseeable events, even if their exact date was impossible to predict. TEPCO not only paid insufficient attention to historical evidence of large tsunamis striking the region (Acton and Hibbs, 2012). It also failed to follow up on its own computer simulation which showed a serious tsunami risk to the plant in 2008, three years before 3/11. But TEPCO reported the results of this simulation to NISA just 4 days before the triple disaster occurred (Kingston, 2012).

No Duty to Shut It Down? The Court's second conclusion, that uncertainty about earthquakes and tsunamis means there was no need to shut down the nuclear reactors in Fukushima, is a grand *non-sequitur* (Takeda, 2019). To be sure, the nuclear meltdowns could have been prevented by shutting the nuclear reactors down. In retrospect, this extreme step would have been prudent. But shutting down the reactors was not the only way to avert nuclear catastrophe. Other countermeasures could have been taken, and some were taken by other power plants impacted by 3/11 (Soeda, 2019). The plants that took sufficient precautions did not meltdown, including Units 4, 5, and 6 of the Fukushima No.1 Nuclear Power Plant (National Academies Press, 2014; Synolakis and Kanoglu, 2015).

By insisting that the only way to avert a catastrophic meltdown was to shut down the Fukushima plants entirely, the Tokyo District Court “arbitrarily changed the frame” (*katte ni dohyo o kaeta*) for deciding the question of preventability, and it did so in a way that made conviction more difficult (Takeda, 2019). The

Court also turned a blind eye to facts that favored conviction. If the emergency power supplies had been moved to higher ground or placed in watertight bunkers, the nuclear disaster could have been prevented. If watertight connections had been made between emergency power supplies and critical safety systems, the nuclear disaster could have been prevented. And if seawater pumps had been better protected or a backup means to dissipate heat had been constructed, the nuclear disaster could have been prevented. In short, even if the TEPCO executives did not have a duty to shut down the Fukushima plant, they repeatedly violated their duty of care by failing to take other reasonable safety precautions.²¹

Absolute Safety Not Required? The Court's third conclusion, that absolute safety is not required when operating a nuclear power reactor, also rests on dubious reasoning (Soeda, 2019). For starters, TEPCO's nuclear power plants have had numerous accidents and incidents over the years. "Absolute safety" is a pipe dream. What the law expects is reasonable care: the degree of caution and concern an ordinary, prudent, and rational person would exercise in similar circumstances. Moreover, by siting nuclear plants in convenient locations building public support for the production of nuclear energy, TEPCO executives had long fostered belief in what has come to be called the "myth of safety" (*anzen shinwa*) - the view that nuclear accidents could not and would not occur (Aldrich, 2014). Before 3/11, this belief "tended to stifle honest and open discussion of the risks" of nuclear power (Noggerath, Geller, and Gusiakov, 2011, p.37). After 3/11, this belief was revealed to be a fairy tale.²² In order to find that "absolute safety is not required," the Tokyo District Court had to turn a deaf ear to TEPCO's decades-long PR campaign, whose aim was to convince the public that nuclear energy is completely safe. It also had to turn a jurisprudential somersault, by applying a duty of care²³ in a case involving nuclear power (!)

that is lower than the duty of care that courts routinely apply for automobile accidents (Takeda, 2019).

In sum, the Tokyo District Court's decision makes two major mistakes. First, by requiring the prosecution to show that shutting down the plant was the one and only way to prevent a meltdown, it raised the evidentiary bar to an unusually and unreasonably high level. Second, by lowering the "duty of care" for TEPCO executives, it defined "professional negligence" down in a way that contradicts previous judicial interpretations and that closely resembles the claims prosecutors made in their original non-charge decisions (Soeda, 2019).²⁴

We cannot read the minds or the motives of the judges in this case, but their problematical reasoning is compatible with the view that "peculiar convictions and biases" (*tokuyu na omoikomi ya biasu*) led them to their conclusion (Takeda, 2019). There is a long history of Japanese judges deferring to the interests of professional prosecutors in criminal cases (Foote, 2010). Research also shows that Japanese judges who decide cases in ways favored by the ruling party sometimes enjoy better careers than do judges who deviate from the party line (Ramseyer and Rasmusen, 2003). In this light, we should not be surprised to find that judges' convictions in the TEPCO case closely resemble those possessed by the Liberal Democratic Party (LDP) and by professional prosecutors.



After the TEPCO Trial acquittals on September 19, 2019, a woman outside Tokyo District Court holds up a sign saying “All Acquitted: Inappropriate Judgment.”

The outcome of the TEPCO trial also raises an interesting question: what if the trial had occurred before a lay judge panel of six citizens and three professional judges? This did not happen in the TEPCO case because under Japan’s Lay Judge Law, the only crimes eligible for lay judge trial are those for which the maximum possible punishment is a life sentence or a death sentence (only about 2 percent of Japanese crimes fall into these categories). But what if?

One prominent Japanese journalist has claimed that if there had been a lay judge trial, the citizens sitting in judgment would have been free of the “peculiar convictions and biases” that caused judges to tilt toward acquittal (and toward the procuracy and the LDP). He also believes that lay judges’ fidelity to the basic rules of criminal procedure would have led them to conviction (Takeda, 2019). In our view, this counterfactual reasoning is plausible but not persuasive. For one thing, the conviction rate in lay judge cases is actually a little lower than it was in similar cases before the lay judge reform took effect in 2009. For another, professional judges tend to dominate the deliberations by lay judge panels in Japan, much as professional judges do in criminal

cases adjudicated by mixed tribunals in European countries (Johnson and Vanoverbeke, forthcoming). Moreover, to convict a criminal defendant in Japan, at least one professional judge must join the majority on a lay judge panel. Under this rule, lay judges cannot simply out-vote their professional counterparts on the bench. In the TEPCO case, persuading one judge to join their side and convict the three defendants may have been a tall order. On the other hand, this was a case in which citizens on two different PRCs overrode the non-charge decisions of professional prosecutors. It is therefore reasonable to wonder whether citizen participation in the TEPCO trial would have reached a different verdict. The answer is not obvious.

III. Lessons

Sometimes a not-guilty verdict is a miscarriage of justice – recall O.J. Simpson’s acquittal for a double-murder in 1995 (Toobin, 1996). In our view, there is proof beyond a reasonable doubt that the TEPCO executives acted with criminal negligence when they failed to exercise reasonable care in their management of the nuclear power plants at Fukushima. In fact, there was more evidence of guilt (and less room for reasonable doubt) in the TEPCO trial than in thousands of cases of negligence that result in the criminal conviction of automobile drivers in traffic accidents each year in Japan (Kawai, 2015; Takeda, 2019).

But while the TEPCO trial ended in acquittal, it was not all for naught. The trial and the criminal processes that preceded it revealed many facts that are proving useful to plaintiffs in their ongoing civil lawsuits with TEPCO and the Japanese government (Dooley, Yamamitsu, and Inoue, 2019).²⁵ The TEPCO prosecution also revealed facts that were previously unknown, concealed, or denied (Repeta, 2013; Herber, 2016; Takeda, 2019), and it promoted public discussion of issues related to nuclear

power and regulation (Jones, 2019). The criminal process also clarified the truth about Fukushima by exposing many of TEPCO's claims as humbug and hokum. In this sense, the TEPCO trial was an elaborate and successful act of "bullshit-detection" (Frankfurt, 2005).²⁶ Thanks to the information revealed in this case, we now know that TEPCO executives had many opportunities to increase safety at the aging Fukushima plants, and that they had many good reasons to believe more safety was imperative (Acton and Hibbs, 2012). But instead of spending money to make the Fukushima facilities safer, and instead of making improvements that could have made Fukushima as safe as the nuclear reactors at Onagawa in Miyagi prefecture (just north of Fukushima), which were assaulted by the same size tsunami but had an entirely different fate, TEPCO executives paid dozens of celebrities to appear in advertising aimed at persuading the public that safety was the company's top priority (Horvat, 2011, p.201). Safety was not TEPCO's top priority. Profit was (Repeta, 2011, p.186). The "most critical question" for company executives was not "how safe is safe enough?" but rather "how can we maximize profits?" (Lochbaum et al, 2014, p.248). It is not clear whether TEPCO's priorities have changed in the post-3/11 period. In many local areas, the company continues to push for the use of nuclear power, much as it has been doing for decades (Aldrich, 2010). Backed by the Ministry of Economy, Trade and Industry and by the cabinet of Prime Minister Abe Shinzo, TEPCO is also lobbying for permission to dump into the ocean up to one million tons of contaminated water that are currently stored in 1000 or so giant tanks on the Fukushima plant site (the water was pumped through the reactors to cool melted fuel that is too hot and radioactive to remove). TEPCO repeatedly claimed that all but one type of radioactive material (tritium, which is believed to pose a low risk to human health) had been removed to levels deemed safe for discharge under Japanese law, but in the summer of 2019 the

company acknowledged that "only about one-fifth of the stored water had been effectively treated," because TEPCO had not changed filters frequently enough in its decontamination system (Rich and Inoue, 2019). Fukushima fishermen believe that dumping the dirty water will destroy their already devastated business, and many observers believe TEPCO's long history of dishonesty and deception means its assurances should not be trusted.

The three elderly defendants in the TEPCO trial returned home after they were acquitted, but they did not return to life as normal. The designated attorneys have appealed to the Tokyo High Court, which will hold hearings in the next year or two. Considering the tendencies of Japan's conservative judiciary, convictions on appeal seem unlikely (Segi, 2015).

Japan's criminal courts have long been criticized for having an "iron hand" of justice that results in conviction rates of "close to 100 percent" (Johnson, 2002, p.215),²⁷ but in the TEPCO trial it was acquittals that prompted widespread criticism. [A spokesman for Greenpeace said,](#) "A guilty verdict would have been a devastating blow not just to TEPCO but the Abe government and the Japanese nuclear industry. It is therefore perhaps not a surprise that the court has failed to rule based on the evidence. More than eight years after the start of this catastrophe, TEPCO and the government are still avoiding being held to full account for their decades of ignoring the science of nuclear risks".²⁸

Ishida Shozaburo, one of the designated attorneys, also claimed the fix was in. "This is a ruling that took the government's nuclear power policy into consideration," he lamented (The Mainichi, 9/20/2019). A more general version of this view holds that Japanese courts are often instruments of state power, and that Japanese judges routinely stand on the side of

government by affirming its preferences - as they did in the TEPCO trial (Segi, 2014; Ramseyer and Rasmusen, 2003).²⁹

Lawyer Kaido Yuichi, who has represented victims of the Fukushima meltdown in various legal proceedings, echoed these views when he fumed that “I never imagined such a terrible ruling would be handed down...If criminal punishments can't be pursued for causing an accident, a similar [nuclear] accident could occur again” (*The Mainichi*, September 20, 2019).

Members of a support group for victims and complainants who were waiting outside the Tokyo District Court “roared in anger” when they were informed of the acquittals (*Asahi Shimbun Asia & Japan Watch*, September 20, 2019). Yoshidome Akihiro, an 81-year-old anti-nuclear campaigner from Tokyo, said “I had braced myself that we might not get a clean victory, but this [result] is too awful. This shows Japanese courts don't stand for people's interest” (*Japan Today*, September 20, 2019).

And an editorial in Japan's newspaper of record called the Tokyo court ruling “baffling” because it took “a surprisingly different stance toward the predictability of the tsunami from other [Japanese] court decisions concerning the matter” (*Asahi Shimbun Asia & Japan Watch*, September 20, 2019).³⁰

Around the turn of the 20th century, the scientist Marie Currie carried around a vial of radium salt because she liked the pretty blue glow. Since then there have been many atomic mistakes, accidents, and disasters (Mahaffey, 2015). Two of the biggest were Three Mile Island in 1979 and Chernobyl in 1986. The criminal justice consequences of both differed markedly from those in the Fukushima case.

On March 28, 1979, the accident that occurred at Three Mile Island in Pennsylvania began when a pump providing cooling water to steam generators stopped running. This triggered a

series of events that caused a nuclear reactor to shut down (Walker, 2006). It was the 13th time in a year that problems in the cooling system had caused a shutdown. The TMI accident was much less serious than the crisis at Fukushima, but the fundamental cause was “one common and dangerous belief: that an accident at Three Mile Island, or Fukushima Daiichi, just could not happen” (Lochbaum et al, 2014, p.142). TMI has been called “the most studied accident in U.S. history, at least up to that time” (Lochbaum et al, 2014, p.149). Many analysts agree that “the accident largely resulted from safety studies and reviews that focused too narrowly on nuclear plant designs and hardware and not sufficiently on the human part of the safety equation” (Lochbaum et al, 2014, p.149, emphasis added). For example, the Kemeny Commission (appointed by President Jimmy Carter) stressed “the failure of organizations to learn the proper lessons from previous incidents” and said “we are convinced that an accident like Three Mile Island was inevitable” (quoted in Lochbaum et al, 2014, p.150).³¹ Other studies have revealed that organizational and management factors, not technology, were the main cause of the TMI incident (Perrow, 1984; Pidgeon, 2011). Yet America's nuclear industry was “uncowed by these conclusions,” and in the decades that followed, the industry and its supporters repeatedly emphasized that “nobody died at TMI.” This shibboleth would become “a huge stumbling block to comprehensive safety reform” in the United States and other countries, including Japan (Lochbaum et al, 2014, p.150). In the end, a federal grand jury indicted the TMI operator, the Metropolitan Edison Company, for falsifying leak rate data and destroying documents related to the accident, but none of the human mistakes or misconduct resulted in the prosecution and conviction of corporate executives (Weinraub, 1983).

In the 1986 Chernobyl nuclear disaster in the Ukrainian Soviet Socialist Republic, a reactor

exploded during a test of emergency power availability, killing at least 31 people (this official Soviet count is contested, and it does not include those who died from the effects of radiation exposure in the years that followed). The subsequent meltdown forced the evacuation of 135,000, and it spread radioactive material across Europe and beyond. This has been called “the world’s greatest nuclear disaster” (Higginbotham, 2019). After 3/11, it took Japan’s criminal justice system eight-and-one-half years to reach verdicts in criminal court. In Chernobyl, it took just three months for the head of the nuclear power station and two of his aids to be convicted of crimes and sentenced to 10 years in a labor camp. In a summation of the criminal court’s decision, the chief judge stressed that the Chernobyl plant had been poorly administered, and that “an atmosphere of lack of control and lack of responsibility” was the main cause of the disaster (*New York Times*, July 30, 1987). Three other Chernobyl employees were convicted of crimes and sentenced to 5 years, 3 years, and 2 years, respectively, and three other engineers who were criminally charged had their prosecutions terminated when they died. The criminal trial of the six people who were convicted lasted all of three weeks, and most of it was closed to the public. This was a rush to judgment of the kind that is common in repressive legal systems (Nonet and Selznick, 1978, p.29). As for the remains of Chernobyl itself, they now lie within an “exclusion zone” of 1000 square miles, where wildlife flourishes in what some have called “a radioactive Eden” (Higginbotham, 2019).

Another turn of the comparative kaleidoscope focuses on a non-nuclear accident involving Japan’s nearest neighbor, South Korea. The sinking of the M.V. Sewol ferry in South Korean waters on April 16, 2014 killed 304 people – 250 of them high-school students on a class trip. Lee Jun-seok, the captain of the Sewol, jumped a railing and abandoned ship. He was one of 172 passengers and crew to survive –

and one of 15 members of the crew to be convicted of criminal charges related to the sinking (Lavery, 2019). In November 2014, the Gwangju District Court found Lee guilty of negligence and sentenced him to 36 years in prison. The chief engineer of the Sewol was convicted and received a 30-year sentence, and the 13 other defendants were convicted and sentenced to terms of imprisonment up to 20 years. After the prosecution and defense appealed, Lee’s sentence was increased from 36 years to life imprisonment, while the other 14 defendants had their sentences reduced to a maximum term of incarceration of 12 years. This may not have been a rush to judgment in the Russian style, but it was fast enough to make many observers wonder if the “quick” was undermining the “careful.” The criminal prosecutions in the Sewol case were also shaped by brazenly populist and political forces that are common in Korean criminal justice (Choe, 2019) but more difficult to discern in high-profile cases in Japan – including the TEPCO case.³²

The TEPCO case raises important questions about the capacity of the criminal law to hold corporations and their agents accountable. For many decades corporations have been, for good and for ill, some of the primary makers and managers of social change in Japanese society, and they are rightly considered the source of many of the country’s most serious crime problems (Miller and Kanazawa, 2000, pp.81-92). Some analysts believe the TEPCO acquittals are prima facie evidence that there was insufficient evidence to prosecute the former executives in the first place (Goodman, 2019). But in our view, “a courtroom loss, even if predictable, does not mean the case should not have been brought” (Gillers, 2000). As described above, the TEPCO trial and criminal investigations revealed many important facts and performed a variety of functions, including increased public awareness of the risks of nuclear power.

Other analysts have criticized the Tokyo PRC for presuming the possibility of a “zero-risk society” (*Sankei Shimbun*, August 1, 2015). On this view, using law to promote extremely low tolerance for risk creates perverse incentives for business, governmental, and civilian actors, who may become too cautious about taking risks that would lead to economic growth. But when it comes to nuclear energy, the central risk is a disaster that could be catastrophic – and that was catastrophic at Fukushima and Chernobyl. The most perverse legal incentives are those put in place by the rules of limited liability that apply to corporations in Japan and many other nations, for in the event of a disaster they cap a corporation’s liability at the fire-sale value of its net assets. As Ramseyer (2012) has observed,

“Because that maximum [amount of liability] falls far short of the social costs of a nuclear meltdown, Tokyo Electric will not pay the full cost of running these reactors. Instead, it can use the law to externalize the cost of doing business. It and the other power companies built nuclear reactors that could not survive expected earthquakes. But they did not do so foolishly. They did so because the limited liability at the heart of the corporate law made it profitable to do so.”

Ramseyer is right about the effects of the legal rule of limited liability, for it creates incentives for corporations to externalize the negative consequences of their actions. But we wonder about the wisdom of contrasting profit-seeking behavior with foolishness, for what is profitable can be foolish in the extreme – and Fukushima is Exhibit A. The legal regime under which TEPCO and many other corporations operate is perverse in that it encourages and condones harmful behavior if it is profitable to the company. It is even appropriate to ask a question that some may find inflammatory: are corporations “psychopathic?”

One hallmark of corporations is that they “lack

the ability to care about anyone or anything but themselves” (Bakan, 2004, p.57). This is also a defining trait of psychopathy. And when an expert on psychopathology (Dr. Robert Hare) was asked how his checklist for diagnosing this condition in individuals applied to the character of corporations, he found a close match in several other respects (see Bakan, 2004, pp.56-57):

- (1) Corporations are irresponsible in that they attempt to satisfy the goal of profitability and are willing to put much else at risk in the process.
- (2) Corporations are manipulative about public opinion.
- (3) Corporations are grandiose, frequently insisting on their own superiority.
- (4) Corporations lack empathy for the victims of their behavior.
- (5) Corporations are asocial and inconsiderate of the interests of others.
- (6) Corporations refuse to accept responsibility for their own actions.
- (7) Corporations are unable to feel remorse.
- (8) Corporations relate to others superficially, by presenting themselves to the public in a manner that seems appealing but does not reflect their real character.

In short, corporations are often “compelled to cause harm when the benefits of doing so outweigh the costs” (Bakan, 2004, p.60). This is not mainly a matter of will or malevolence. Rather, the corporation has within it, as the shark has within it, “those characteristics that enable it to do that for which it was designed” (Bakan, 2004, p.70). The result is a self-interested organization that is created and

enabled by law yet difficult for law to control (Stone, 1975; Bakan, 2004; Barak, 2017). Japan's lawmakers have done little to criminalize corporate misconduct (Matsuo, 2007), and Japanese prosecutors and judges have long been reluctant to punish corporations and their agents for the harms that they cause (Miller and Kanazawa, 2000; Johnson, 2000; Johnson, 2017). In these senses, Japanese criminal law and criminal justice resemble their counterparts in many other countries. In the TEPCO case, it was lay citizens on the Prosecution Review Commissions whose decisions led to the prosecution of a few corporate elites - and ultimately to their acquittal. In the end, Fukushima teaches lessons about the risks of nuclear energy, the awesome power to prosecute, and the limits of the criminal sanction. It also serves as a poignant reminder that "business as usual" for corporations can have terrible consequences for people and the planet, both in the present and far into the future.³³ Experts believe it will take 40 to 200 years to clean up the Fukushima site (Jobin, 2019, p.73). In the meantime, the plant and its surroundings have become a huge storage area for radioactive waste and a grotesque monument to corporate misconduct, government dereliction, and criminal impunity.

Appendix: Fukushima Timeline

Our summary of the events leading to and resulting from the Fukushima nuclear meltdown of March 11, 2011 focuses narrowly, on a few decades before 3/11, and the decade or so after it. The first entries in the timeline are meant to highlight the context of 3/11 by describing events that preceded Japan's triple disaster, while the remaining entries summarize the criminal justice aftermath.

Before 3/11

May 1960 - The Great Chilean earthquake (magnitude 9.4 - 9.6) is the largest ever

recorded instrumentally. Estimates of the total number of fatalities from the earthquake and subsequent tsunamis range between 1000 and 7000. A 6-meter tsunami (20 feet) reached Japan 23 hours later, killing 138 people. In Chile, the tsunami reached 25 meters (82 feet). And the 35-foot tsunami that struck Hilo, Hawaii at 1:05 AM on May 23 killed 61 people. It was on the basis of these experiences that seawalls with normalized heights of 6 meters or so were constructed along the Sanriku coast in the Tohoku region of northeastern Japan (Synokalis and Kanoglu, 2015).

1974 - Two scholars (SL Soloviev and ChN Go) publish a 310-page book (*A Catalog of Tsunamis on the Western Shore of the Pacific Ocean*) which refers to 19 studies (published between 1868 and 1969) of the magnitude 8.6 Jogan earthquake of 869 AD, which had an epicenter approximately 120 kilometers west of the earthquake that occurred on March 11, 2011. This Russian book was translated into English in 1984. It assigned the Jogan tsunami an intensity of $I = 4$ (one of the highest values). Research published in 1971 showed that the magnitude 8.5 Showa Sanriku earthquake of 1933 generated a tsunami with heights up to 29 meters (95 feet). Hardest hit was the town of Taro in Iwate prefecture (now part of Miyako city), where 42 percent of the population was killed and 98 percent of the houses were destroyed. The seawall built to protect the Fukushima plant was 5.6 meters (18 feet). After 3/11, TEPCO argued repeatedly that there had been no reliable evidence of significantly larger tsunamis striking the eastern coast of Japan (Synolakis and Kanoglu, 2015).

July 1993 - A magnitude 7.7 earthquake occurs, causing the Hokkaido Nansei-oki tsunami that devastated the island of Okushiri with run-ups in some places reaching 30 meters (98 feet). Okushiri's 4.5-meter seawall (15 feet) was overtopped by a tsunami of 11 meters (36 feet). In 1998, Japan spent over \$600 million (\$130,000 per Okushiri resident) to build an 11-

meter seawall, to rebuild the main town of Aonae, and to protect about 20 kilometers (12 miles) of coastline.

2000 - Sugaoka Kei, a nuclear inspector working for General Electric at Fukushima No.1, notices a crack in a reactor's steam dryer, which extracts excess moisture to prevent damage to the turbine. When TEPCO directs Sugaoka to cover up the evidence, he contacts government regulators, who order TEPCO to handle the problem on its own. TEPCO does, and Sugaoka is fired.

July 2002 - Japan's Headquarters for Earthquake Research Promotion (HERP) publishes a long-term Evaluation of Seismic Activities (*choki hyoka*) which estimates a 20 percent chance of an M8.0 earthquake occurring in the next 30 years in the Japan Trench that includes Fukushima Prefecture.

August 2002 - The Japanese government reveals that TEPCO is guilty of false reporting in routine governmental inspections of its nuclear plants, and of concealing numerous plant safety incidents. All seventeen of TEPCO's boiling-water reactors are shut down for inspection, and the company's chairman, president, vice-president, and two advisers resign. TEPCO eventually admits that it submitted false technical data at least 200 times between 1977 and 2002. TEPCO's new president announces that the company will take all necessary countermeasures to prevent fraud and restore the nation's confidence, but in 2007 the company announces that an internal investigation has revealed other unreported incidents.

December 2004 - A 9.1 to 9.3 magnitude earthquake in the Indian Ocean near Sumatra ruptures along a fault length of 1500 km (900 miles, or longer than the state of California). The rumbling lasts 10 minutes and causes a series of tsunami waves up to 30 meters high (100 feet), killing more than 220,000 people in 14 countries. This comes to be known as the

Boxing Day Tsunami.

September 2006 - In response to a 6.8 magnitude earthquake in Kobe that killed 6000 people in January 1995, Japan's Nuclear Safety Commission (an organization within the Cabinet Office) issues 14 pages of new guidelines "concerning inspection standards for vibration resistance," and the Nuclear and Industrial Safety Agency (under the Ministry of Economy, Trade and Industry) instructs nuclear power operators to conduct "backchecks" to confirm compliance with the new guidelines. The guidelines state that Japan's nuclear facilities must be built to withstand tsunamis "which are appropriate to expect during the operational life [40 years] of the plant even though the possibility of such occurrence may be very rare." But they provided no guidance about what would be "appropriate to expect" (Repeta, 2011, pp.188-189).

July 2007 - A 6.8 magnitude earthquake occurs in Niigata Prefecture. Later in 2007 TEPCO acknowledges that it had known since 2003 about the 14-mile-long active fault in the seabed about 11 miles from Kashiwazaki-Kariwa, but it had not reported its findings because company staff did not believe the fault could produce an earthquake large enough to threaten the reactors. After this earthquake, all seven units at TEPCO's Kashiwazaki-Kariwa Nuclear Power Plant are stopped and safety checks are performed. Without 20 percent of its generating capacity, TEPCO posts its first loss in 28 years, totaling \$1.44 billion, and its stock value drops 30 percent. To boost public confidence, Shimizu Masataka replaces Katsumata Tsunehisa as the new TEPCO president, and Katsumata (who later became one of the TEPCO trial defendants) becomes chairman. Shimizu, a career TEPCO employee, makes cost-cutting a high priority, and within two years he returns TEPCO to profitability, exceeding his target of \$615 million in cuts, partly by "reducing the frequency of inspections" (Lochbaum, Lyman, Stranahan,

and the Union of Concerned Scientists, 2014, pp.50-51).

March 2008 - TEPCO makes a tentative calculation that a tsunami of up to 15.7 meters in height (52 feet) could strike the site of the Fukushima No. 1 Nuclear Power Plant. The calculation is reported to vice-president Muto Sakae in June 2008.

July 2008 - Vice-president Muto puts on hold a TEPCO plan to take countermeasures against a large tsunami. He suggests taking more time to study the issue, and he asks an academic society specializing in this field to do the relevant research.

January 2010 - A 7.0 magnitude earthquake and more than 50 aftershocks occur in Haiti, killing approximately 160,000 people. The fishing town of Petit Paradis is hit by a localized tsunami, killing three people.

February 7, 2011 - After 40 years of operation, the Ministry of Economy, Trade and Industry (METI) issues TEPCO a renewed license to operate Unit 1, the oldest nuclear reactor at the Fukushima Daiichi (No.1) Nuclear Power Plant.

March 11, 2011, 2:46 PM - The Great East Japan Earthquake (*higashi nihon daishinsai*) occurs at 2:46 PM, Japan Standard Time. The 9.0 magnitude earthquake strikes off the northeast coast of Honshu, causing a tsunami that destroys many towns and villages. At the Fukushima Daiichi (No.1) Nuclear Power Plant, which was commissioned in 1971, the power supply and the cooling system for the reactor are damaged, causing nuclear fuel to overheat and melt down. Despite warnings from scientists, critical backup diesel generators had been placed in low-lying areas at high risk for tsunami damage. Some generators were put in the basement, and others were placed 10 to 13 meters above sea level. The tsunami heights coming ashore reached about 15 meters (49 feet). In the words of two engineering scholars

who studied the meltdown, TEPCO's placement of the emergency diesel generators was "inexplicably and fatally low" and made the Fukushima No. 1 plant "a sitting duck waiting to be flooded" (Synolakis and Kanoglu, 2015).

March 11, 2011, 7:03 PM - The Japanese government declares a nuclear emergency and issues evacuation orders to residents who live nearby. The evacuation boundaries are gradually expanded from 3 km to 30 km in the weeks to come. In total, approximately 170,000 people were evacuated from the "prohibited" and "on-alert" areas. In the coastal town of Namie-machi, mayor Baba Tomatsu learned of the nuclear crisis by watching TV, after which TEPCO and government officials directed citizen evacuees from his town of 21,000 directly into the path of the plume. Fifteen-thousand Namie citizens later signed a complaint against TEPCO, and Baba accused TEPCO and the government of "institutional murder" (Cleveland, 2019). In total, the 3/11 earthquake and tsunami killed approximately 18,000 people and forced about 400,000 to evacuate their homes in order to escape the nuclear fallout.

After 3/11

March 12, 2011 - Workers at the Fukushima plant open a Unit 2 reactor vent, which releases pressure and radioactive fumes from inside. The first of a series of hydrogen explosions at the plant rips through the building, but the reactor remains intact. Approximately 160,000 people living near the plant vacate their homes.

December 16, 2011 - Japan's government says it has contained the leaking reactors, which are now in a state of cold shutdown.

June 11, 2012 - Some 1324 Fukushima residents file a criminal complaint with the Fukushima District Prosecutors Office against 33 TEPCO executives and government officials.

June 20, 2012 – TEPCO releases an accident report that says the strength of the tsunami was beyond what could have reasonably been foreseen.

July 4, 2012 – A panel of experts appointed by the Japanese Diet releases a report which concludes that the Fukushima nuclear accident was “a profoundly manmade disaster – that could and should have been foreseen and prevented” (National Diet of Japan, 2012). This report has been criticized for stressing the purported dysfunctions of “Japanese culture,” thereby obscuring personal and political responsibility for the decisions that led to the meltdown (Curtis, 2012).

September 7, 2013 – Tokyo is selected to host the 2020 Summer Olympic Games. In a speech to the International Olympic Committee, Prime Minister Abe Shinzo says the Fukushima crisis is “under control,” though decontamination and decommissioning work is expected to continue for decades.

September 9, 2013 – The Fukushima District Prosecutors Office officially transfers the criminal case to the Tokyo District Prosecutors Office. On the same day, prosecutors in Tokyo announce that they will not charge the TEPCO executives because there is little chance of obtaining convictions.

October 2013 – A Citizens Group from Fukushima asks a Prosecution Review Commission (*kensatsu shinsakai*) in Tokyo to review prosecutors’ non-charge decision against 6 of the former TEPCO executives.

July 2014 – The Prosecution Review Commission in Tokyo finds that “prosecution is appropriate” (*kiso soto*) for 3 of the former executives, which obligates prosecutors to reinvestigate the case.

January 2015 – For the second time, the Tokyo District Prosecutors Office decides not to charge the 3 former executives.

July 31, 2015 – A Prosecution Review Commission in Tokyo concludes for the second time that “prosecution is appropriate” (*kiso soto*), which initiates the process of “mandatory prosecution” (*kyosei kiso*). The panel of 11 citizens on this PRC decide that the three former executives should be tried for negligently causing: (a) the deaths of 44 patients from Futaba Hospital, who died during their evacuation from the area around the Fukushima plant, and (b) the injuries of 13 Self Defense soldiers who were hit by rubble thrown by explosions at the Fukushima plant. These 57 people became the designated victims in the TEPCO criminal trial.

August and September 2015 – The Tokyo District Court appoints five private attorneys (recommended by Nichibenren, the Japan Federation of Bar Associations) to be the “designated attorneys” (*shitei bengoshi*) to play the role of prosecutor in the mandatory prosecution of the three former executives.

February 2016 – The designated attorneys charge the three former executives with “professional negligence resulting in death or injury” (*gyomujo kashitsu chishishozai*). The maximum criminal punishment for this crime is five years imprisonment or a fine of not more than 1 million yen (about \$9100). This was the ninth case of mandatory prosecution since a legal reform in 2009 enabled PRCs to override the non-charge decisions of professional prosecutors and compel prosecution. In the previous eight cases, only 2 out of 11 defendants were convicted.

March 17, 2017 – For the first time, a court orders TEPCO and the Japanese government to pay compensation (38.6 million yen, or about \$340,000) to some of the residents who had fled their homes after the nuclear disaster. A total of at least 30 civil lawsuits have been filed against TEPCO and the Japanese government over their failure to anticipate and prevent the 2011 meltdown. As of September 2019, eight

judgments have been rendered, and TEPCO has lost all eight (Dooley, Yamamitsu, and Inoue, 2019).

June 30, 2017 - In the first session of their criminal trial at the Tokyo District Court, the three former executives plead “not guilty.” All claim they “do not recognize any predictability in the disaster.” Over the next 27 months, 37 more trial sessions are held. In the penultimate trial session on March 12, 2019, the designated attorneys asked the Court to impose a prison sentence of five years on each of the three defendants.

September 19, 2019 - The three TEPCO defendants are acquitted. Presiding Judge Nagafuchi Kenichi takes nearly three hours to read the court’s decision, which acknowledges that the executives were aware that a massive tsunami could strike the Fukushima plant, but concludes that there was not enough evidence to find that the executives should have suspended the plant’s operation in order to avoid a nuclear accident. The court-appointed prosecutors appealed on September 30, 2019, and the appeals process is expected to take at least a year or two.

References

- Acton, James M., and Mark Hibbs. 2012. “Why Fukushima Was Preventable.” *The Carnegie Papers*, Carnegie Endowment for International Peace, March, pp.1-44.
- Aldrich, Daniel P. 2010. *Site Fights: Divisive Facilities and Civil Society in Japan and the West*. Cornell University Press.
- Aldrich, Daniel P. 2012. *Building Resilience: Social Capital in Post-Disaster Recovery*. University of Chicago Press.
- Aldrich, Daniel P. 2019. *Black Wave: How Networks and Governance Shaped Japan’s 3/11 Disasters*. University of Chicago Press.
- Aven, Terje. 2015. “Implications of Black Swans to the Foundations and Practice of Risk Assessment and Management.” *Reliability Engineering and System Safety*. Vol.134, pp.83-91.
- Bach, Amy. 2009. *Ordinary Injustice: How America Holds Court*. New York: Metropolitan Books.
- Bakan, Joel. 2004. *The Corporation: The Pathological Pursuit of Profit and Power*. New York: Free Press.
- Barak, Gregg. 2017. *Unchecked Corporate Power*. New York: Routledge.
- Bazon, Emily. 2019. *Charged: The New Movement to Transform American Prosecution and End Mass Incarceration*. New York: Random House.
- Behling, Noriko, Mark C. Williams, and Shunsuke Managi. 2019. “Regulating Japan’s Nuclear Power Industry to Achieve Zero-Accidents.” *Energy Policy*, Vol.127 (April), pp.308-319.
- Black, Donald. 1976. *The Behavior of Law*. Orlando, FL: Academic

Press.

September 9.

- Blumberg, Abraham S. 1979. *Criminal Justice: Issues and Ironies*. New Viewpoints Press.
- Boyne, Shawn. 2017. "German Prosecutors and the Rechtsstaat." In Maximo Langer and David Alan Sklansky, editors. *Prosecutors and Democracy: A Cross-National Study*. New York: Cambridge University Press, pp.138-174.
- Bullough, Oliver. 2019. *Moneyland: The Inside Story of the Crooks and Kleptocrats Who Rule the World*. New York: St. Martin's Press.
- Choe, Sang-Hun. 2019. "In Seoul, Crowds Denounce a Divisive Politician[Cho Kuk]. Days Later, Others Defend Him." *New York Times*, October 13.
- Cleveland, Kyle. 2019. "The Politics of Radiation Assessment in the Fukushima Nuclear Crisis." Unpublished paper, October 18, pp.1-20.
- Coleman, James William. 2002. *The Criminal Elite: Understanding White-Collar Crime*. New York: Worth Publishers (fifth edition).
- Complainants for Criminal Prosecution of the Fukushima Nuclear Disaster (CCPFND). 2013. "[Higaisha o Guro-suru Fukiso ni Kogi!](#)" [[Protest Derisive Non-Indictment Decision!](#)], CCPFND,
- Cravens, Gwyneth. 2008. *Power to Save the World: The Truth about Nuclear Energy*. New York: Vintage.
- Curtis, Gerald. 2012. "Stop Blaming Fukushima on Japan's Culture." *Financial Times*, July 10.
- Davis, Kenneth Culp. 1969. *Discretionary Justice: A Preliminary Inquiry*. Urbana and Chicago: University of Illinois Press.
- Dooley, Ben, Eimi Yamamitsu, and Makiko Inoue. "Fukushima Nuclear Disaster Trial Ends with Acquittals of 3 Executives," *New York Times*, September 19, 2019.
- Eisinger, Jesse. 2017. *The Chickenshit Club: Why the Justice Department Fails to Prosecute Executives*. New York: Simon & Schuster.
- Foote, Daniel H. 1992. "The Benevolent Paternalism of Japanese Criminal Justice." *California Law Review*, Vol.80, No.2 (March), pp.317-390.
- Foote, Daniel H. 2010. "Policymaking by the Japanese Judiciary in the Criminal Justice Field." *Hoshakaigaku* [Journal of the Japanese Association for Sociology of Law]. Vol.72, pp.6-47.

- Frankfurt, Harry G. 2005. *On Bullshit*. Princeton University Press.
- Fraser, Timothy, and Daniel P. Aldrich. 2019. "East Asia's Nuclear Policies: Fukushima's Effect or a Nuclear Renaissance?" *Georgetown Journal of Asian Affairs* (special issue on "Energy Politics in Asia: A Time of Transition"), Winter, pp.58-65.
- Fukurai, Hiroshi. 2011. "Japan's Prosecutorial Review Commissions: Lay Oversight of the Government's Discretion of Prosecution." *University of Pennsylvania East Asia Law Review*. Vol. 6, No.1, pp.1-42.
- Fukurai, Hiroshi. 2013. "A Step in the Right Direction for Japan's Judicial Reform: Impact of the Justice System Reform Council Recommendations on Criminal Justice and Citizen Participation in Criminal, Civil, and Administrative Litigation." *Hastings International and Comparative Law Review*. Vol.36, No.2, pp.517-567.
- Garrett, Brandon. 2014. *Too Big to Jail: How Prosecutors Compromise with Corporations*. Harvard University Press.
- Geospatial Information Authority of Japan (GSI). 2011. "The 2011 Off the Pacific Coast of Tohoku Earthquake: Crustal Deformation and Fault Model" (Preliminary), March 13.
- Gillers, Stephen. 2000. "A Weak Case, but a Brave Prosecution." *New York Times*, March 1.
- Goodman, Carl F. 2013. "Prosecution Review Commissions, the Public Interest, and the Rights of the Accused: The Need for a 'Grown-Up' in the Room." *Washington International Law Journal*. Vol.22, No.1, pp.1-47.
- Goodman, Carl F. 2019. "Compulsory Prosecution in Japan." Paper presented at symposium on "Public and Victim Participation in Criminal Justice in Japan," University of California at Hastings College of Law, September 20.
- Heilbroner, David. 1990. *Rough Justice: Days and Nights of a Young D.A.* New York: Dell.
- Henderson, Bonnie. 2014. *The Next Tsunami: Living on a Restless Coast*. Corvallis, OR: Oregon State University Press.
- Herber, Erik. 2016. "The 2011 Fukushima Nuclear Disaster: Japanese Citizens' Role in the Pursuit of Criminal Responsibility," *Journal of Japanese Law*, Vol.21, pp.87-109.
- Herber, Erik. 2019. *Lay and Expert Contributions to Japanese Criminal Justice*. Routledge.
- Higginbotham, Adam. 2019. *Midnight at*

Chernobyl: The Untold Story of the World's Greatest Nuclear Disaster. New York: Simon & Schuster.

- Hirayama, Mari. 2019. "What Can We Expect from Prosecution Review Commissions in Sex Crime Cases?" PowerPoint presentation at the annual meetings of the Asian Law & Society Association, Osaka, Japan, December 13, 2019, pp.1-42.
- Hooper, Rowan. 2015. "Psychology Is Where Real Radiation Risks Lie." *Japan Times*, August 15.
- Horvat, Andrew. 2011. "How American Nuclear Reactors Failed Japan." in *Foreign Policy eBook, Tsunami: Japan's Post-Fukushima Future*, pp.195-202.
- Inajima, Tsuyoshi, and Yuji Okada. 2011. "Japan Orders Evacuation From Nuclear Plant After Quake," *Bloomberg Businessweek*, March 11.
- Israel, Brett. 2011. "The Science Behind Japan's Dead Earthquake." *Live Science*, March 11.
- JFBA. 2016. "Kensatsu Shinsakai Seido no Unyo Kaizen oyobi Seido Kaikaku o Motomeru Ikensho." September 15, pp.1-15.
- Jobin, Paul. 2019. "'Some 40 Years to Clean Up Fukushima': A View from Ongoing Court Battles." *Georgetown Journal of Asian Affairs* (special issue on "Energy Politics in Asia: A Time of Transition"), Winter, pp.73-81.
- Johnson, David T. 1999. "Kumo no Su ni Shocho Sareru Nihonho no Tokushoku" [Japan's Legal Cobweb]. *Jurisuto*, No.1148 (January 1-15), pp.185-189.
- Johnson, David T. 2000. "Why the Wicked Sleep: The Prosecution of Political Corruption in Postwar Japan," *Asian Perspective*, Vol.24, No.4, pp.59-77.
- Johnson, David T. 2002. *The Japanese Way of Justice: Prosecuting Crime in Japan*. New York: Oxford University Press.
- Johnson, David T. 2015. "Wrongful Convictions and the Culture of Denial in Japanese Criminal Justice." *Asia-Pacific Journal*. Vol. 13, Issue 6, No. 5 (February 9).
- Johnson, David T. 2017. "Nihon no 'Kumo no Su' Shiho to Kensatsu no Katsudo," in Makoto Ibusuki et al, editors, *Keiji Shiho o Kangaeru*, Volume 3, *Keiji Shiho o Ninau Hitobito* (Iwanami Shoten, 2017, translated by Mari Hirayama), pp.29-51.
- Johnson, David T., and Mari Hirayama. 2019. "Japan's Reformed Prosecution Review Commission: Changes,

- Challenges, and Lessons." *Asian Journal of Criminology*, Volume 14, Issue 2 (June), pp.77-102.
- Johnson, David T., and Dimitri Vanoverbeke. 2020 (forthcoming). "The Limits of Change in Japanese Criminal Justice." *Journal of Japanese Law* [ZJapanR: Zeitschrift fur Japanisches Recht]. Pp.1-57.
- Jones, Colin P.A. 2019. "The TEPCO Verdict Is Predictable But Not Insignificant." *Japan Times*, September 29.
- Kakutani, Michiko. 2018. *The Death of Truth: Notes on Falsehood in the Age of Trump* (New York: Tim Duggan Books).
- Kawai, Mikio. 2015. "Kiso Soto o Daseru koto ga Keiji Shiho Kaikaku no Pointo." *Asahi Ronza*, August 11.
- [Kemeny Commission. 1979. "Report of the President's Commission on the Accident at Three Mile Island: The Need for Change: The Legacy of TMI" \(October\), pp.1-178.](#)
- [Kingston, Jeff. 2012. "Mismanaging Risk and the Fukushima Nuclear Crisis," *The Asia-Pacific Journal: Japan Focus*, Vol.10, Issue 12, No.4 \(March 12\).](#)
- Langer, Maximo, and David Alan Sklansky, editors. 2017. *Prosecutors and Democracy: A Cross-National Study*. New York: Cambridge University Press.
- Lasswell, Harold D. 1936 (2018). *Politics: Who Gets What, When, How*. Papamoa Press Ebooks.
- Lavery, Sean. 2019. "The Sinking of the M.V. Sewol and the Confusion of Disasters." *The New Yorker*, April 9.
- Londono, Ernesto. 2019. "Can We Make Destroying the Amazon a Crime Against Humanity?" *New York Times Week in Review*, September 22, pp.4-5.
- Mahaffey, James. 2015. *Atomic Accidents: A History of Nuclear Meltdowns and Disasters: From the Ozark Mountains to Fukushima*. Pegasus Books.
- Matsui, Shigenori. 2018. *Law and Disaster: Earthquake, Tsunami, and Nuclear Meltdown in Japan*. Routledge.
- Matsuo, Koya. 2007. "The Development of Criminal Law in Japan since 1961." In Daniel H. Foote, editor, *Law in Japan: A Turning Point* (University of Washington Press), pp.312-333.
- Miller, Alan S., and Satoshi Kanazawa. 2000. *Order by Accident: The Origins and Consequences of Conformity in Contemporary Japan*. Boulder, CO: Westview Press.
- Mitchell, Richard H. 1992. *Janus-Faced Justice: Political Criminals in*

- Imperial Japan*. Honolulu: University of Hawaii Press.
- National Academies Press. 2014. *Lessons Learned from the Fukushima Nuclear Accident for Improving Safety of U.S. Nuclear Plants*, 394 pages.
- National Diet of Japan. 2012. "The Official Report of the Fukushima Nuclear Accident Independent Investigation Committee" (Chairman Kiyoshi Kurokawa), pp.1-86.
- New York Times* (Reuters). 1987. "Chernobyl Officials Are Sentenced to Labor Camp." July 30.
- NHK. 2019. *TEPCO Criminal Trial Summary ["Shoho Toden Keiji Saiban: 'Genpatsu Jiko no Shinso wa'"]*.
- Nihon Keizai Shimbun*. 2016. "Toden no Katsumata Kaichora 29-Nichi ni Kyosei Kisoe: Fukushima Genpatsu Jiko" [Forced Prosecution of Chair-Person Katsumata and Other TEPCO Executives: Fukushima Nuclear Plant Accident], February 27.
- Nishimura, Takeshi. 2019. "Significance and Some Issues of Japan's Prosecution Review Commission." PowerPoint presentation at the annual meetings of the Asian Law & Society Association, Osaka, Japan, December 13, pp.1-29.
- Noggerath, Johannis, Robert J. Geller, and Viacheslav K. Gusiakov, 2011. "Fukushima: The Myth of Safety, the Reality of Geoscience." *Bulletin of the Atomic Scientists*. Vol.67, Issue 5, pp.37-46.
- Nonet, Philippe, and Philip Selznick. 1978. *Law and Society in Transition: Toward Responsive Law*. New York: Harper & Row.
- Olsen, Kelly. 2019. "Fukushima: Japan Court Acquits Three on Criminal Charges: Decision Means No-One Has Been Held Criminally-Responsible for the World's Worst Nuclear Disaster Since Chernobyl." *Aljazeera*, September 19.
- Packer, Herbert L. 1968. *The Limits of the Criminal Sanction*. Stanford, CA: Stanford University Press.
- Pascale, Celine-Marie. 2017. "Vernacular Epistemologies of Risk: The Crisis in Fukushima." *Current Sociology*, Vol.65, No.1, pp.3-20.
- Perrow, Charles. 1984. *Normal Accidents: Living with High-Risk Technologies*. Princeton University Press.
- Pidgeon, Nick. 2011. "In Retrospect: Normal Accidents," *Nature*, Vol.477, Issue 7365, pp.404-405.
- Ramseyer, J. Mark, and Eric B. Rasmusen. 2001. "Why Is the

- Japanese Conviction Rate So High?" *Journal of Legal Studies*. Vol. 3, No. 1 (January), pp.53-81.
- Ramseyer, J. Mark, and Eric B. Rasmusen. 2003. *Measuring Judicial Independence: The Political Economy of Judging in Japan*. University of Chicago Press.
- Ramseyer, J. Mark. 2012. "Why Power Companies Build Nuclear Reactors on Fault Lines: The Case of Japan." *Theoretical Inquiries in Law*. Vol.133, Issue 2, pp.457-486.
- Repeta, Lawrence. 2011. "Could the Meltdown Have Been Avoided?" in *Foreign Policy eBook, Tsunami: Japan's Post-Fukushima Future*, pp.183-194.
- Repeta, Lawrence. 2013. "Japan's News Media, The Information Disclosure Law, and the Fukushima Nuclear Disaster." *Issues in Legal Scholarship*, Vol.11, No.1, pp.69-88.
- Rich, Motoko, and Makiko Inoue. 2019. "Japan Wants to Dump Nuclear Plant's Tainted Water. Fishermen Fear the Worst." *New York Times*, December 23.
- Samuels, Richard. 2013. *3.11: Disaster and Change in Japan*. Ithaca, NY: Cornell University Press.
- Sankei Shimbun*. 2015. "TODEN Genpatsu Jiko Kyosei Kiso ni wa Gimon Nokoru." August 1.
- Sankei Shimbun*. 2015. "'Tantan to Shokumu Suiko' Shitei Bengoshi ni 3-Nin Sennin" ['Straight-Forward Execution of Duty' Appointment of 3 Court-Appointed Lawyers], August 21.
- Sankei Shimbun*. 2015. "Tokyo Denryoku Kyu-Keieijin no Kyosei-Kiso Shiteibengoshi 2-nin o Tsuika Sennin: Fukushima Daiichi Genpatsu Jiko de Tokyo Chisai" [Two Court-Appointed Attorneys Added in the Forced Prosecution of Former TEPCO Managers: Fukushima No.1 Nuclear Plant Accidents and Tokyo District Court], September 15.
- Sankei Shimbun*. 2019. "Kyosei Kiso o Kangaeru: Konnan na Rissho Muzai Aitsugu," May 18, p.31, and "Kyosei Kiso o Kangaeru: Yuzai Tamerau Saibankan," May 21, p.22.
- Schulz, Kathryn. 2015. "The Really Big One." *The New Yorker*, July 13.
- Segi, Hiroshi. 2014. *Zetsubo no Saibansho*. Tokyo: Kodansha Gendai Shinsho.
- Soeda, Takashi. 2019. "Toden 'Tsunami Sotei' Hikisageru tame Atsuryoku: Tohoku Denryoku no Meru de Akiraka ni." *Aera*, October 7.
- Soltes, Eugene. 2016. *Why They Do It: Inside the Mind of the White-Collar Criminal*. New York: Public Affairs.
- Stone, Christopher D. 1975. *Where the Law Ends: The Social Control of Corporate Behavior*. Prospect

- Heights, IL: Waveland Press.
- Suami, Takao. 2015. "Legal Support to Fukushima Municipality: Law School, Lawyers, and Nuclear Disaster Victims." *Asian-Pacific Law & Policy Journal*, Vol.16, No. 2, pp.158-185.
- Synolakis, Costas, and Utku Kanoglu. 2015. "The Fukushima Accident was Preventable." *Philosophical Transactions of the Royal Society A*, Vol.373, Issue 2053, pp.1-23.
- Takeda, Masahiro. 2019. "Toden moto Kaichora Muzai, Saibankan Tokuyu no Baiasu ka: Saibanin Saiban nara Chigau Hanketsu mo." *Zenkoku Shimbun Netto*, October 4.
- Taleb, Nassim Nicholas. 2007. *The Black Swan: The Impact of the Highly Improbable*. New York: Random House.
- TEPCO. 2011. "Fukushima Daiichi Genshiryoku Hatsudensho Ichigoki no Kokeinenka Gijutsuhyoka (40-nenme) no Motozuku Choki Hoshu Kenrihoshin ni Kakawaru Genshiro Shisetsu Hoshukitei no Henko Kyoka ni Tsuite" [License Permission and Long Term Management of Unit.1 Nuclear Reactor (40th Anniversary) at Fukushima No.1 Nuclear Power Plant Based Nuclear Safety Regulations], February 7.
- TEPCO. 2012. "Important Report from TEPCO." April 24.
- Tetlock, Philip E. 2005. *Expert Political Judgment: How Good Is It? How Can We Know?* Princeton and Oxford: Princeton University Press.
- Thomas, G.A., and P. Symonds. 2016. "Radiation Exposure and Health Effects - Is It Time To Reassess the Real Consequences?" *Clinical Oncology*. Vol. 28, Issue 4 (April), pp.231-236.
- Tocqueville, Alexis de. 1835 (2002). *Democracy in America*. University of Chicago Press.
- Tokyo Shimbun. 2019. "Kyosei Kiso Seido 10nen Hikari to Kage: Umoreta Jijitsu Hanmei Kikkake: Yuzai Shosu Nagaku Hikoku Atsukai," May 21, p.3.
- Toobin, Jeffrey. 1996. *The Run of His Life: The People vs. O.J. Simpson*. New York: Random House.
- Upham, Frank. 2005. "Political Lackeys or Faithful Public Servants? Two Views of the Japanese Judiciary," *Law & Social Inquiry*, Vol.30, No.2 (Spring), pp.421-455.
- Walker, J. Samuel. 2006. *Three Mile Island: A Nuclear Crisis in Historical Perspective*. University of California Press.
- Wallace-Wells, David. 2019. *The Uninhabitable Earth: Life After*

- Warming*. New York: Tim Duggan Books.
- Walters, Glenn D. 2002. *Criminal Belief Systems: An Integrated-Interactive Theory of Lifestyles*. Westport, CT: Praeger.
- Weinraub, Bernard. 1983. "Indictment is Seen Over 3 Mile Island." *New York Times*, October 7.
- West, Mark D. 1992. "Prosecution Review Commissions: Japan's Answer to the Problem of Prosecutorial Discretion." *Columbia Law Review*. Vol.92, No.3 (April): 684-724.
- West, Mark D. 2006. *Secrets, Sex, and Spectacle: The Rules of Scandal in Japan and the United States*. University of Chicago Press.
- Yamaguchi, Tomomi, and Muto Ruiko. 2012. "Muto Ruiko and the Movement of Fukushima Residents to Pursue Criminal Charges against TEPCO Executives and Government Officials." *Asia-Pacific Journal: Japan Focus*, Vol.10, Issue 27, No.2 (July 1), pp.1-22.
- Zimring, Franklin E. 2017. *When Police Kill*. Harvard University Press.

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Notes

¹ More precisely, the three former executives were charged with "causing death or bodily injury through negligence in the pursuit of social activities" (*gyomujo kashitsu chishisho*),

which is defined by [Article 211 of Japan's Penal Code](#) as follows: "A person who fails to exercise due care required in the pursuit of social activities and thereby causes the death or injury of another shall be punished by imprisonment with or without work for not more than 5 years or a fine of not more than 1,000,000 yen. The same shall apply to a person who through gross negligence causes the death or injury of another".

² A discussion of the health effects of radiation is beyond the scope of this essay. For summaries, see Thomas and Symonds (2016) and Hooper (2015).

³ The number of civil lawsuits brought against TEPCO "is far fewer than the number brought in similar cases in the U.S.," such as the Deepwater Horizon BP Gulf of Mexico oil spill of 2010 (Yamaguchi and Muto, 2012, p.5).

⁴ We define white-collar crime as "an illegal act, punishable by law, committed by an individual or organization in the course of a legitimate occupation wherein a public ... trust is violated" (Walters, 2002, p.129).

⁵ On the perils of forgetting past tsunamis and neglecting their implications for the present, see Bonnie Henderson, *The Next Tsunami: Living on a Restless Coast* (2014), about a tsunami that struck the Oregon coast on March 27, 1964, after a magnitude 9.2 earthquake in Alaska. As geologic oceanographer Chris Goldfinger observes in this fine book, "It seems that the more 'advanced' a society becomes, the shorter its memory." Two-and-one-half centuries earlier, on January 26, 1700, another massive tremor in the Pacific Northwest caused a tsunami that devastated coastal regions in Japan, some 5000 miles away. In a fascinating and frightening essay, Kathryn Schulz (2015) has summarized science that shows another earthquake and tsunami - "the really big one" - will sooner-or-later "destroy a sizable portion of the coastal Northwest" of the United States. In her view, the only question is when - and northwestern North America is utterly unprepared for it.

⁶ The story of the nuclear meltdowns at Fukushima is closely tied to Japan's pursuit of rapid economic growth in the postwar period. Indeed, one fundamental cause of this disaster is "the boundless appetite for power needed to drive [Japan's] economy" (Repeta, 2011, p.192).

⁷ A recent review of worldwide nuclear accident data found that "Japan has had more nuclear accidents of greater severity than other countries" (Behling, Williams, and Managi, 2019, p.308).

⁸ Unlike the selection of jurors in the United States and of lay judges in Japan, there is no *voir dire* for selecting PRC members, though some citizens are excluded by law from participating, including ex-convicts and elected officials. Each member of a PRC serves for six months, and a foreperson is selected to lead it. The PRC system is administered by a government office known as the Prosecution Review Commission Office, and each PRC is largely reliant on secretaries (*jimukan*) in the judiciary for assistance in managing and processing its caseloads (Fukurai, 2013).

⁹ In addition to corporate and white-collar crime, at least two other types of crime are under-prosecuted in many societies, including Japan and the United States: sexual assaults, and domestic violence. In the United States, shootings by police are seldom charged as well (Zimring, 2017, ch.9). On the tendency of law ("governmental social control") to more often be directed "downward" (toward persons who lack wealth, power, prestige, and influence) than "upward," see Donald Black, 1976, pp.11-36. On the same tendency in Japan, see David T. Johnson (1999), which echoes Jonathan Swift by noting that criminal laws in Japan "are like cobwebs, which may catch small flies, but let wasps and hornets break through."

¹⁰ One question concerns how much influence legal advisors have on PRC decision-making.

More research is needed on this subject, but three things seem clear. First, the legal advisor's role is important. Second, many legal advisors are unsure how proactive to be in their interactions with PRC members, and some believe they should not lead a PRC to deliberate or vote in a certain way. Third, final authority for making a charge decision rests with the PRC. Note, too, that requests for PRC review come from ordinary citizens (not from legal advisors), and that in high-profile cases (such as TEPCO and Rikuzankai), the citizens who serve on a PRC are often aware of relevant facts and issues. For more on legal advisors, see JFBA (2016).

¹¹ In most cases of mandatory prosecution, the designated attorneys are not well paid. In the TEPCO case, for example, each designated attorney was paid less than 1,000,000 yen per year, which is less than \$10,000 (Nishimura, 2019). In 2016, the Japan Federation of Bar Associations published a 15-page report recommending a number of PRC reforms, including pay increases, "management improvements," and other "system reforms" (see JFBA, 2016).

¹² Japan's PRCs are not the only legal institutions that have failed to produce many criminal convictions. In nearly two decades, the highly publicized International Criminal Court "has won only four convictions, and its caseload has consisted mainly of African leaders" (see Londono, 2019).

¹³ Death and serious injury are common in Japanese judo classes. From 1983 to 2011, at least 118 students died as a result of judo class exercises (an average of 4 deaths per year). In the Nagano trial, Kojima Takeshima, the father of one judo victim (Kojima Musashi) and the vice president of the Judo Accident Victims Association, testified about the frequency of judo deaths and injuries.

¹⁴ The figures for 1949 to 2001 come from unpublished studies by former prosecutor Yamashita Terutoshi. We are grateful for his assistance. For the decade from 2002 to 2011, Yamashita found that the charge rate by prosecutors after a PRC "kicked back" a case was 25 percent.

¹⁵ The five white-collar crime indictments are: (1) professional negligence by the Deputy Chief of the Akashi Police Department in the Akashi Pedestrian Bridge incident; (2) professional negligence by three railway company presidents in the JR West Amagasaki Rail Crash case; (3) insider trading by a company president in the Okinawa Unlisted Stock Fraud case; (4) political funding violations by Democratic Party of Japan (DPJ) leader Ozawa Ichiro in the Rikuzankai case; and (5) corporate and professional negligence by three executives in the TEPCO case.

¹⁶ Article 2 of Japan's Code of Criminal Procedure states that "The territorial jurisdiction of courts is determined by the place where the crime was committed, the place where the domicile or the residence of the accused is located, or the place where the accused is at present." In the TEPCO case, the second and third provisions were deemed to trump the first one, though the process by which this occurred warrants additional study (Articles 17, 18, and 19 of the CCP are also relevant).

¹⁷ More precisely, control of the TEPCO case shifted from Fukushima to Tokyo through *shobun seikun* ("request for instructions as to steps to be taken"), which is "less a form of consultation and approval than a complete 'takeover' of the case by prosecutor executives" (Johnson, 2002, p.131).

¹⁸ Some analysts believe prosecutors did not want to indict TEPCO executives because a former Prosecutor General (*kenji socho*, which is Japan's top prosecutor) had "descended from heaven" ("*amakudatte iru*") to be an auditor (*kansayaku*) for the company (Kawai, 2015).

On this view, corruption and/or old-boy influence caused prosecutors not to charge.

¹⁹ Summaries of each TEPCO trial session and of the judicial decision are available [here](#).

²⁰ Trials before lay judge panels need to be more concentrated in time than trials before panels of professional judges because the citizens who serve as lay judges have work and family responsibilities.

²¹ If the TEPCO executives really believed that a severe nuclear accident was impossible, their belief must have been the product of considerable “confirmation bias” (the tendency to overvalue evidence that supports a pre-existing belief and undervalue evidence that contradicts it). Responsibility for the failure to recognize and resist this bias can be located in many actors and institutions, but much of it surely belongs in TEPCO’s safety-second organizational culture (Diet Report, 2012) and in Japan’s lax system of regulation (Kingston, 2012). The next sub-section suggests that Japanese judges in the TEPCO trial may also have been influenced by confirmation bias in their evaluation of evidence about safety and reasonable care.

²² Of course, even after 3/11, the “myth of safety” was not always acknowledged to be a fairy tale, even in the United States (Pascale, 2017).

²³ A legal “duty of care” is the requirement that a person act toward other people and the public with the watchfulness, attention, caution, and prudence that a reasonable person in the circumstances would use. If a person’s actions do not meet this standard of care, then his or her acts are considered “negligent.”

²⁴ The Tokyo District Court also disregarded evidence that TEPCO had repeatedly concealed nuclear plant safety incidents. As explained in the Timeline in our Appendix, TEPCO admitted in August 2002 that it had submitted false technical data at least 200 times between 1977 and 2002, and in 2007 it announced that an internal investigation had revealed still more unreported safety problems.

²⁵ In civil cases in Japan, nuclear victims “have to overcome high hurdles to make use of judicial remedies,” and most lawyers have not been educated to employ innovative strategies within their practice (Suami, 2015, p.184). More generally, on the consequences of Fukushima in Japanese civil and administrative law, see Matsui (2018) and Jobin (2019).

²⁶ Princeton University philosopher Harry G. Frankfurt believes one of the most salient features of modern cultures is that “there is so much bullshit,” and he argued that “bullshit is a greater enemy of the truth than lies are” (Frankfurt, 2005, pp.1, 61). For similar views, see Michiko Kakutani’s (2018) account of “the death of truth,” “the decline and fall of reason,” and the rise of “propaganda and fake news” in the modern world.

²⁷ The common view is simplistic and misleading. A Japanese criminal justice system that convicts almost all defendants is actually quite protective of the interests of criminal suspects, because many suspects who would get charged in similar circumstances in other criminal justice systems (including those in the USA) do not get charged in Japan (Johnson, 2002, p.214; Foote, 1992, pp.346-350; Bazelon, 2019).

²⁸ The acquittals in the TEPCO trial were not only important to Japan’s nuclear industries and the Abe administration, which has long supported nuclear power. They were also welcomed by proponents of nuclear energy around the world, including GE, Westinghouse, Areva, and the uranium mining industry.

²⁹ For an insightful critique of two contrasting views of Japan’s judiciary (“Political Lackeys or Faithful Public Servants?”), see Frank Upham (2005).

³⁰ A spokesman for TEPCO declined to comment on the acquittals but said the company expressed its “sincere apologies for the great inconvenience and concern that the TEPCO Fukushima nuclear accident has caused on the people of Fukushima prefecture and society as a whole” (quoted in Dooley, Yamamitsu, and Inoue, 2019). He might just as well have said: “Sorry about the radiation, folks. We know it is inconvenient.”

³¹ John G. Kemeny was the President of Dartmouth College. The complete text of the Kemeny Commission’s report (1979, pp.1-178) is available [here](#).

³² There are, of course, other cases that could be compared to TEPCO. One is the Deepwater Horizon (British Petroleum) oil spill of April 2010, which was the largest marine oil spill on record and one of the biggest environmental disasters in American history. The original explosion killed 11 workers, and nearly 5 million barrels of oil (210 million gallons) were spilled in the Gulf of Mexico. In November 2012, British Petroleum and the U.S. Department of Justice settled federal criminal charges, with BP pleading guilty to 11 counts of manslaughter, two misdemeanors, and a felony count of lying to Congress. BP also agreed to four years of government monitoring of its safety practices and ethics, and the Environmental Protection Agency announced that BP would be temporarily banned from new contracts with the US government. In 2014, a U.S. District Court judge ruled that BP was primarily responsible for the oil spill because of its “gross negligence” and “reckless conduct.” As of 2018, cleanup costs, charges, and penalties had cost the company more than \$65 billion (including \$18.7 billion in fines, the largest corporate settlement in U.S. history). By comparison, the Japan Center for Economic Research has estimated that cleanup costs for Fukushima will reach at least \$470 billion.

³³ The most urgent example of the perils of “business as usual” is global warming, which is “worse, much worse” than most people think (Wallace-Wells, 2019). Without major change in how corporations conduct business (and how billions of people conduct their lives), parts of planet earth could well become “close to uninhabitable” by the end of this century, and other parts will surely become “horribly inhospitable” (Wallace-Wells, 2019). We do not claim that solutions to this problem are simple, and we thank *Japan Focus* editor Mark Selden for pointing out the importance of considering the possibility (and necessity?) of “slower growth in a redistributive world economy” (email of December 25, 2019). We also recognize that some analysts believe nuclear energy is a “viable and practical solution to global warming” (Cravens, 2008). Even Adam Higginbotham (2019), author of a terrifying history of the nuclear meltdown at Chernobyl, observes that from a statistical point of view, nuclear power is safer than alternative sources of energy such as coal and oil.