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Safety from Plea-Bargains’ Hazards

By Boaz Sangero*

Abstract

There is a significant risk—in safety terms, a hazard—that the wide gap between the defendant’s anticipated punishment if convicted at trial and the relatively lighter punishment if he confesses in a plea-bargain will lead not only the guilty but also the innocent to confessing. In practice, only 3% of all federal cases go to trial, and only 6% of state cases. In the remainder, conviction is obtained through plea-bargaining. Indeed, plea-bargains are one of the central mechanisms facilitating false convictions.

In other fields, the meaning of a “safety-critical system” is well understood, and resources are, therefore, invested in modern safety methods, which reduce significantly the rate of accidents. This is the case, for example, in the aviation field, which abandoned the “Fly-Fix-Fly” approach and developed more advanced safety methods that generally follow an “Identify-Analyze-Control” model and are aimed at “First-Time-Safe.” Under this approach, there is systematic identification of future hazards, analysis of the probability of their occurrence, and a complete neutralization of the risk, or at least its reduction to an acceptable level.

A false conviction is a system error and accident just like a plane crash. But in criminal law, a Hidden Accidents Principle governs and almost all the false convictions are never detected. Therefore, not enough thought has been given to the system’s safety. Empiric studies based on the Innocence Project’s findings point to a very high false-conviction rate: at least 5%

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for the most serious crimes. Regarding convictions based on plea-bargains, the rate is probably significantly higher since the commission of the offense and the guilt of the accused are not proved by significant evidence.

This article proposes a theory and some initial tools for incorporating modern safety into the criminal justice system. Specifically, I demonstrate how the innovative “System-Theoretic Accident Model and Processes” (STAMP) safety model can be applied in the criminal justice system, by developing constraints, controls, and barriers against the existing hazards in the context of convictions based on plea-bargains.

Additionally, the article suggests an innovative idea, of recognizing defendants’ right to a fair plea-bargain offer. Plea-bargains need not be dependent on the goodwill of a particular prosecutor toward a particular defendant or her defense counsel.

I. Introduction

There is a significant risk—in safety terms, a hazard—that the wide gap between the defendant’s anticipated punishment if convicted at trial and the relatively lighter punishment if he confesses in the plea-bargain will lead not only the guilty but also the innocent to confessing. Plea-bargains in the United States create huge incentives for innocent people to plead guilty. It is generally acknowledged that innocent defendants are offered great enticements to falsely confess. The system also imposes a heavy quasi-fine on those who insist on going to trial—a defendant who maintains his innocence is harshly punished, which impels the majority of defendants to confess regardless of actual guilt or innocence. In practice, only three
percent of all federal cases go to trial, and only six percent of state cases. In the remainder, conviction is obtained through plea-bargaining. Indeed, plea-bargains are one of the central mechanisms facilitating false convictions.

The mistaken assumption of a low false-conviction rate has been challenged in the last quarter of century. This has been primarily a result of the Innocence Project, in which hundreds of cases of false convictions have been exposed through genetic testing, and empiric studies based on the Project’s findings, which point to a very high false-conviction rate—at least five percent for the most serious crimes (rape-murder) and an apparently even higher rate for less serious crimes. Regarding convictions based on plea-bargains, the rate is probably significantly higher since the commission of the offense and the guilt of the accused are not proved by significant evidence—it is sufficient for the case to be closed with a conviction that the defendant confessed. When a defendant waives his right to a full trial and suffices with conviction in a plea-bargain, he is also waiving the requirement to prove guilt beyond reasonable doubt, which is one of the principal mechanisms for preventing false convictions.

In other fields, the meaning of a “safety-critical system” is well understood, and resources are, therefore, invested in modern safety methods, which reduce significantly the rate of accidents. This is the case, for example, in the field of pharmaceuticals and drugs, where in the first half of the twentieth-century, the need for safety was already acknowledged and internalized, and the necessary powers and authorities were granted to the FDA to ensure this. This was also the case in the space field and in the aviation field, which abandoned the “Fly-Fix-Fly” approach in the mid-twentieth century and developed more advanced safety methods that generally follow an “Identify-Analyze-Control” model and are aimed at “First-Time-Safe.” Under this approach, there is systematic identification of future hazards, analysis of the probability of their occurrence, and a complete neutralization of the risk, or at least its reduction to an acceptable level.

Modern safety approaches such as these were implemented in other fields as well, such as engineering and transportation, and later, in medicine and labor. These safety systems are constructed on safety education and training, a culture of safety, a duty to report not only accidents but also incidents (near-accidents), professional risk assessment, a process of perpetual improvement, and the understanding that safety in each component of a system is not sufficient for achieving system safety, which demand overall thinking about the entire system.

In the criminal justice system, too, accidents happen—false convictions. Therefore, this system must also be classified as a “safety-critical system.” Because such systems entail matters of life and death, any system error is likely to cause severe harm to both individuals and society. A false conviction is a system error and accident just like a plane crash, not only from a metaphorical perspective but also in the very realistic terms of economic cost. However, in criminal law, a Hidden Accidents Principle governs—the overwhelming majority of false convictions are never detected, which led to the erroneous assumption that they occur at an almost negligible rate and that the criminal justice system is almost perfect. Therefore, almost no thought has been given to safety in the system, and the criminal justice system lags far behind other areas.

The article proposes a theory and some initial tools for incorporating modern safety into the criminal justice system.

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2. In a coauthored article with Dr. Mordechai Halpert, we have suggested applying the term “safety-critical system” to the criminal justice system. See Mordechai Halpert & Boaz Sangero, From a Plane Crash to the Conviction of an Innocent Person: Why Forensic Science Evidence Should Be Inadmissible Unless It Has Been Developed as a Safety-Critical System, 32 Hamline L. Rev. 65, 70 (2009) [hereinafter From a Plane Crash].

3. See Boaz Sangero & Mordechai Halpert, A Safety Doctrine for the Criminal Justice System, 2011 Mich. St. L. Rev. 1293, 1304–05 [hereinafter Safety Doctrine]. Incorporating into the criminal justice system a modern safety theory that is commonly accepted in other areas, such as aviation, engineering, and transportation, is an idea that was developed jointly by myself and Dr. Mordechai Halpert and presented in the above two coauthored articles. See id.; From a Plane Crash, supra note 2. My current article is intended to expand the preliminary proposition and engage in the application of the modern safety theory in the criminal justice system, specifically regarding plea-bargains.

4. Safety Doctrine, supra note 3, at 1314-16.
Specifically, it demonstrates how the innovative “System-Theoretic Accident Model and Processes” (STAMP) safety model can and should be applied in the criminal justice system, by developing constraints, controls, and barriers against the existing hazards in the context of plea-bargains that end with false convictions. The suggested safety theory and tools presented here are, moreover, universal, rather than being applicable only to certain criminal law systems. I believe that every criminal law system can benefit from adopting it.

Each year the U.S. criminal justice system produces millions of convictions of the guilty but, unfortunately, also tens of thousands of convictions of the innocent. In the present situation, there is a systematic infliction and perpetuation of the greatest injustice that the state routinely causes to its citizens—the criminal conviction of the innocent. Fundamental reforms and changes are needed. Hopefully, this article will contribute to taking significant steps toward safety and to inspiring others to take up the challenge to further develop safety in the criminal justice system.

Until the plea-bargain industry is abolished, or at least becomes less common and safer, the article innovatively proposes recognizing defendants’ right to a fair plea-bargain offer. Plea-bargains need not be dependent on the goodwill of a particular prosecutor toward a particular defendant or her defense counsel. In the absence of such a right, the majority of defendants’ rights are stripped of content, for the majority of criminal proceedings culminate in a plea-bargain rather than after a full trial where, presumably, certain defendants’ rights are upheld.

The article proceeds as follows: Part II connects between modern theory of safety, which has been developed in other areas, and the new theory of safety from false convictions; Part III analyses the hazards and the accidents of convicting the innocents based on plea-bargains; Part IV addresses some possible safety measures, proposed improvements to the existing plea-bargains system, as well as abolition; Part V suggests the main innovative contribution of this article—applying the safety STAMP model to plea-bargains in order to reduce the risk of false convictions; Part VI concludes.
The purpose of this article is threefold: (1) in general, adopting modern safety theory into the criminal justice system; (2) looking for safety measures regarding plea-bargains and, specifically, developing a STAMP model for safety from false convictions based on plea-bargains, and; (3) showing the way to apply this model on other hazards of false convictions.

II. Safety from False Convictions

It is very convenient for us to hold our criminal law system in high regard, to the point of calling it the “criminal justice system.” It is convenient for us to think that everything runs as it should and even if certain doubts creep in at times, we tend to repress them.

The state inflicts no greater injustice on its citizens than systematically falsely convicting innocents. In the past, it was possible to call into question the actual occurrence of false convictions and consider it, at most, a negligible phenomenon. However, today such skepticism likely derives mainly from ignorance. This is principally due to the Innocence Project and the DNA revolution.\(^5\) Other recent studies have shown that false convictions are not rare.\(^6\) These findings demand a renewed and more realistic consideration of the issue.

5. See generally INNOCENCE PROJECT, http://www.innocenceproject.org; see also BRANDON L. GARRETT, CONVICTING THE INNOCENT: WHERE CRIMINAL PROSECUTIONS GO WRONG (2011); BARRY SCHECK ET AL., ACTUAL INNOCENCE: FIVE DAYS TO EXECUTION, AND OTHER DISPATCHES FROM THE WRONGLY CONVICTED (2000). Genetic comparisons are conducted between samples taken from inmates and samples that have been preserved from crime scenes. On the basis of the testing initiated by the original Innocence Project (there are many similar additional projects, both in the United States and elsewhere), at least 350 false convictions have been exposed, regarding the serious offenses of rape and murder, with life imprisonment or capital punishment. Exonerate the Innocent, INNOCENCE PROJECT, https://www.innocenceproject.org/exonerate/ (as of Apr. 16, 2018 the exact number of people exonerated was 356). Moreover, in almost half of the cases, genetic testing led to the identification of the true perpetrators of the crimes who had roaming free due to the false convictions, some of them even continued to commit serious crimes. Id. (as of Apr. 16, 2018 the exact number of real perpetrators found was 153).

Empiric studies point to a very high false-conviction rate. According to Michael Risinger’s research, the rate of false convictions is five percent for the most serious crime—a rape followed by a murder. A very informative study by Samuel R. Gross and Michael Shaffer, entitled *Exonerations in the United States, 1989-2012*, includes 891 exonerations of individuals, of which approximately one-third were based on DNA comparisons, and an additional 1170 individuals cleared in “group exonerations”; altogether these amounted to a total of 2061 official exonerations of wrongly convicted, innocent defendants. In 2014, Gross et al. published a study on “Rates of False Conviction of Criminal Defendants who are Sentenced to Death.” The researchers estimated that if all death-sentenced defendants were to remain under sentence of death indefinitely, at least 4.1% would be exonerated, but concluded this to be “a conservative estimate” of the proportion of false convictions among death sentences in the United States, and that it is almost certain that the actual proportion is significantly higher. Moreover, a fascinating empirical study, initiated and funded by the State of Virginia, supports an even higher estimate of the false conviction rate—about fifteen percent.

Therefore, the false-conviction rate in the most severe offences can be reasonably estimated as somewhere between five and ten percent. And as it is reasonable to assume that courts are less cautious with regard to less serious offenses

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9. These group exonerations were in the framework of twelve different instances of police corruption, where in each case, police officers had deliberately and systematically incriminated innocent citizens with false claims and fabricated evidence in order to gain promotions. *Id.*
11. *Id.* at 7234.
than those examined in the studies reviewed above, it is likely that the false-conviction rate is significantly higher than five percent. As I will show later on, since in the convictions based on plea-bargains the commission of the crime and the guilt of the accused are not proved in a trial with significant evidence, the rate of false convictions is probably much higher.

These numbers remove any doubt as to the occurrence of false convictions. The important question today is what can be done to diminish their incidence. False convictions cause an enormous harm, not only to the innocent defendants, their families, and friends, but also to society. Of course, the falsely convicted individual bears the primary injury in being convicted, the accompanying stigma, and the actual punishment, which can range from a monetary fine, through imprisonment, to loss of life in jurisdictions allowing the death penalty. The harm caused by imprisonment has been studied for many years, but only lately have the particular harms of wrongful imprisonment, some irreversible, been researched.\(^\text{13}\)

There is a moral duty of society and the state to adopt safety measures based on social theories, such as the social contract theory, and legal doctrines, such as the state-created danger doctrine. Convicting the innocent is an enormous injustice.

Many are willing to accept rare occurrence of wrongful convictions as an unavoidable phenomenon. But sooner or later it will become common public knowledge that not only are false convictions not a rarity, but the law enforcement authorities make no significant effort to diminish their rate. This would shake the public confidence and trust in the criminal law enforcement system, which is still referred to as

the “criminal justice system.” Even disregarding due process, if we want to preserve public faith in the criminal justice system so that it can continue to perform its function of crime control, it is vital that safety standards be implemented to decrease the rate of false convictions.

Social contract theory also provides a rationale for a moral duty of the state to institute safety in the criminal justice system: the state was created in order to safeguard the rights of society’s members, not to cause them suffer. Thus the state, as the creator of the risk of false convictions, bears a huge moral duty in the context of criminal justice—as compared to other contexts—to take safety measures to reduce this risk. Yet beyond its theoretical declaration that guilt must be proven beyond a reasonable doubt, the state makes no meaningful attempt to reduce the risk of an innocent person being falsely convicted. Criminal law lacks even the most basic concept of modern system-safety, with not even the most basic and simple safety measures to reduce the risk of false convictions.

On this background, this article offers ways of reducing the false conviction rate. The view advanced here is that the criminal justice system can be categorized as what is termed in safety engineering a “safety-critical system.” Since such systems involve matters of life and death, any system error might likely cause severe harm to both individuals and society. A false conviction is a system error and accident just like a plane crash, not only metaphorically but also in the realistic terms of economic cost. The article argues for the creation

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17. For some groundbreaking articles in this direction, however, see James M. Doyle, Learning from Error in American Criminal Justice, 100 J. CRIM. L. & CRIMINOLOGY 109 (2010); James M. Doyle, An Etiology of Wrongful Convictions: Error, Safety, and Forward-Looking Accountability in Criminal Justice, in Wrongful Conviction and Criminal Justice Reform: Making Justice 56 (Marvin Zalman & Julia Carrano eds., 2014); From a Plane Crash, supra note 2; Safety Doctrine, supra note 3.
18. See From a Plane Crash, supra note 2.
and application of a safety theory in the criminal justice system, specifically regarding plea-bargains.

Modern safety began to develop following World War II. Until then, the safety approach in the field of aviation had been “Fly-Fix-Fly”: (1) an airplane would be flown until an accident occurred; (2) the causes of the accident would be investigated and the defects repaired; and (3) the airplane would resume flight. This method was based on a system of learning from past experience to repair product defects and flaws and prevent future mishaps. But such a system does not safeguard against future mishaps that can be caused by other, undetected defects. This approach became clearly inadequate with the rapid advances in aviation technology and rising costs of airplanes. This made learning from experience too expensive, leading to a shift in approach seven decades ago, and the birth of modern safety.\textsuperscript{20}

The primary safety objective became preventing accidents before they occurred, thereby avoiding the high costs of learning through experience. The “Fly-Fix-Fly” approach was replaced by the “Identify-Analyze-Control” method, with its aim of “First-Time-Safe.” Under the latter approach: (1) there is systematic identification of future hazards; (2) the probability of the hazards occurrence is analyzed; and (3) a complete neutralization of the risk or at least its reduction to an acceptable level.\textsuperscript{21}

Modern safety approaches such as these were implemented in other fields as well, such as engineering and transportation, and later on, in medicine and labor. These safety systems are constructed on safety education and training, a culture of safety, a duty to report not only accidents but also incidents (near-accidents), professional risk assessment, a process of perpetual improvement, and the understanding that safety in each component is not sufficient for achieving system safety.

This First-Time-Safe approach should be adopted in the criminal justice system. The legal system should--and can--learn from the engineering field. For example, there is a duty in engineering safety to report not only accidents but also

\textsuperscript{20} Id. at 1296–97.

\textsuperscript{21} Id. at 1297.
“incidents,” defined as situations in which there was potential for harm to be caused and it was averted by coincidence. Near-miss conditions, if not rectified, most likely will develop into accidents at a later point. In contrast, in criminal law “incidents” are completely ignored and even accidents are not always investigated.22

The three basic stages of the system-safety process are: Identify, Analyze, and Control. Risk assessment is vital, for it produces meaningful data to guide in prioritizing hazards, allocating resources, and evaluating the acceptability of risks associated with these hazards. The most progressive system-safety method currently applied is known as “System-Theoretic Accident Model and Processes” or “STAMP.”23 This article develops a way to use this model regarding plea-bargains. It demonstrates how the fundamentally important Identify-Analyze-Control method can and should be implemented in the system, using Leveson’s STAMP model.

The obvious question that arises is why safety measures have not been implemented in criminal law. Moreover, why has the system never even adopted a Fly-Fix-Fly approach? The answers to these questions are related to the general inability to detect the occurrence of false convictions, which are typically indiscernible. This accounts the optimistic false belief that false convictions are a very rare phenomenon. Despite indications of a high rate of false convictions, policymakers and the public alike are certain and confident that the system performs well and that there is no need to invest resources in safety measures.24 This aspect of criminal law is so fundamental that it amounts to a principle: the “Hidden Accidents Principle” of the criminal justice system.25

According to the Hidden Accidents Principle in criminal law, an effective feedback for the criminal justice system is implausible, even in theory. Therefore, the only way to

22. *Id.* at 1299.
24. Another possible explanation is the erroneous idea that whereas unsafe airplanes pose a risk to all of “us,” an unsafe criminal justice system is a risk only to “them”—that is, potential criminals.
introduce safety into this system is through learning from fields in which mishaps are seen and can be detected. The Hidden Accidents Principle is evidence of the inadequacy of the Fly-Fix-Fly safety method for criminal law, because of the impossibility of learning from the experience of past accidents in the system when they are a hidden phenomenon.

Therefore, after a deep discussion of one of the most serious hazards in criminal law—the hazard of false convictions based on plea-bargains—I shall develop a specific safety model, based on these discussions and on the STAMP model.

III. The Hazard of False Convictions Based on Plea-Bargains

In a plea-bargain arrangement, the defendant agrees to admit to the facts that constitute a particular offense, and in exchange, the prosecution agrees not to charge the defendant with a more serious offense or agrees to a lighter sentence than could be expected following conviction at trial.26

Advocates of plea-bargains27 stress efficiency considerations,28 claiming that the state in this way saves the resources it would spend on conducting a full trial, which can be channeled to law enforcement, thereby increasing deterrence. They further argue that defendants also derive utility from this; under the (not clear-cut) assumption that they act rationally, defendants multiply their chances of conviction by the expected sentence at the end of a trial, compare the


result to the offer made by the prosecution, and decide whether it is worthwhile for them to confess in a plea-bargain or go to trial. Under this argument, the plea-bargain system gives the defendant an additional option and, thereby, works in their favor. In addition, defendants are spared the tension of a trial and the uncertainty as to their future, as well as saving heavy legal representation costs. The premise guiding some of the proponents of plea-bargains is that they are made in “the shadow of the trial” and, therefore, very closely approximate the anticipated outcome at trial, while saving the resources necessary to arrive at that outcome.

However, when a defendant waives his right to a full trial and suffices with conviction in a plea-bargain, he is also waiving the requirement to prove guilt beyond a reasonable doubt, which is one of the principal mechanisms for preventing false convictions. This relates to the risk that the wide gap between the defendant’s anticipated punishment if convicted at trial and the relatively lighter punishment if he confesses in the plea-bargain will lead not only the guilty, but also the innocent, who are unwilling to take the risk of conviction at trial, to confessing.
Thomas described this problematic situation as ultimately deriving from the “failure to screen weak cases, many of which will involve innocent defendants, out of the system” and allowing prosecutors “free rein to offer very favorable plea bargains to get convictions when the case is weak. . . . American plea bargaining thus creates huge incentives for innocent people to plead guilty.”

Thomas noted that society’s “acceptance of this risk” leads to a prioritization of case-resolution over truth-finding. Plea-bargains, he stated, remain “a troubling phenomenon” because they are “covert and informal”; thus there is no way of knowing “how many innocent defendants are ‘sweet talked’ into pleading guilty.”

In a similar vein, the English Royal Commission on Criminal Justice (“Runciman Commission”) Report stated, “it would be naive to suppose that innocent persons never plead guilty because of the prospect of the sentence discount.”

In the past, plea-bargaining was officially prohibited as a practice. This prohibition was the legal expression of the morally questionable light in which many view plea-bargains, seen as distancing the law from justice. On this background,
Rule 11 of the Federal Rules of Criminal Procedure requires that judges ensure the voluntariness of a plea of guilty in the framework of a plea-bargain, by “address[ing] the defendant personally in open court . . . determin[ing] that the plea is voluntary and did not result of force . . . or promises apart from a plea agreement.” 40 In its seminal 1970 Brady decision, 41 the Supreme Court ruled that even consent due to fear of the death penalty is to be considered voluntary, but at the same time, set certain limitations on plea-bargains: a plea-bargain can be made only when the evidence is overwhelming and the defendant unlikely to succeed at trial and can benefit from the opportunity to negotiate for a reduced sentence. Plea-bargaining, the Court further ruled, cannot be used to overwhelm defendants and force them to plead guilty when their guilt is uncertain. Finally, the Court stressed that if these constitutional limitations are not abided by, it would reconsider its approval of the plea-bargaining system. 42

The Brady rule ultimately failed, however. Today, it is generally acknowledged that innocent defendants are offered great enticements to falsely confess. Sometimes, everyone puts pressure on the defendant to confess: the prosecutor, the judge, and even the defense counsel. 43 This problem is further exacerbated by a potential conflict of interest and agency problem with the defense attorney (it is usually in the latter’s best interest to convince her client to agree to a plea-bargain given the extensive work required by going to trial) and with the prosecuting attorney (prosecutors have personal considerations, such as career-advancement, 44 that could divert

40.  FED. R. CRIM. P. 11(d).
42.  Brady, 397 U.S. at 756-58; see also Dervan, supra note 33, at 651-53.
43.  See John H. Langbein, Torture and Plea Bargaining, 46 U. CHI. L. REV. 3 (1978) (claiming that torture and plea-bargaining are the criminal system’s response to the failure of criminal procedure to address the needs of law enforcement).
44.  Susan A. Bandes, Protecting the Innocent as the Primary Value of the Criminal Justice System, 7 OHIO ST. J. CRIM. L. 413, 437 (2009) (reviewing
them from the public interest). As Stephen J. Schulhofer has shown, the agency costs of plea-bargains are significant. Judicial discretion to reject a plea-bargain is too narrow; prosecutorial discretion to make a plea-bargain is too broad and powerful, and is used to pressure defendants into pleading guilty or facing severe sentences. Moreover, the existing mechanisms for preventing unfounded prosecutions—namely, grand juries and preliminary hearings—are ineffective. Grand jury proceedings are not presided over by a judge, and the defendant and counsel are not even present during the proceedings. All the prosecutor has to do is to persuade the grand jury of probable cause, bringing to mind the famous quip (attributed to a judge) that any prosecutor can get a grand jury to “indict a ham sandwich.” Prosecutors also suffer from “self-serving bias.” The nature of their job leads them to conclude that defendants are guilty and to offer plea-bargains that reflect that assessment. This can account for the practice of overcharging as a means of pressuring defendants to agree to a plea-bargain, which is, in essence, blackmail.

In a plea-bargain system, it is sufficient for the case to be closed with a conviction that the defendant confessed. It is quite ironic that a common justification for offering a plea-bargain is that the prosecution lacks strong enough evidence to convict at trial. Consequently, the reality is that false

George C. Thomas III, The Supreme Court on Trial: How the American Justice System Sacrifices Innocent Defendants 12 (2008); Thomas, supra note 34.

45. Schulhofer, supra note 33, at 1987-91.

46. See, e.g., Donald G. Gifford, Meaningful Reform of Plea Bargaining: The Control of Prosecutorial Discretion, 1983 U. ILL. L. REV. 37; see also Thomas, supra note 34, at 204-05.


convictions also occur when defendants confess in the framework of a plea-bargain.\textsuperscript{52} Indeed, plea-bargains are one of the central mechanisms facilitating false convictions. This system is a veritable convictions industry, of both the innocent and guilty. There is, of course, a close correlation between the high rate of convictions\textsuperscript{53} and the rate of plea-bargains, which operates in both directions: on the one hand, as with plea bargains, the outcome is, by definition, conviction and not acquittal, they obviously contribute to the high conviction rate. On the other hand, as the rate of convictions is high, it is not surprising that almost all defendants prefer to confess in a plea-bargain, regardless of actual guilt or innocence, having lost hope of acquittal at trial.

To illustrate, in cases of widespread police corruption, such as the Los Angeles Police Department Rampart scandal\textsuperscript{54} and Tulia scandal,\textsuperscript{55} in which scores of innocent defendants were charged and brought to trial, the majority of the defendants pleaded guilty. In the Rampart scandal, for example, a corrupt police detective revealed how he and his colleagues had incriminated defendants by fabricating evidence and giving false testimony, among other things. Over a hundred defendants were convicted this way, with most pleading guilty to the charges. In the Tulia scandal, thirty-nine defendants were tried for drug offenses based on a single false testimony given by an undercover police detective. Most of these defendants pleaded guilty and were convicted.\textsuperscript{56}

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\textsuperscript{52} Brandon L. Garrett, \textit{Judging Innocence}, 108 \textit{COLUM. L. REV.} 55, 74 (2008). In a study conducted in Virginia, all cases in which DNA samples had been preserved in the laboratory were examined, without distinguishing between cases in which a plea bargain had been reached and those that went to trial. An examination of the DNA samples revealed that of those defendants who had agreed to a plea-bargain, some were also wrongly convicted. \textit{JOHN ROMAN, KELLY WALSH, PAMELA LACHMAN & JENNIFER YAHNER, POST-CONVICTION DNA TESTING AND WRONGFUL CONVICTION} 4 n.6 (2012) (research report submitted to the U.S. Department of Justice).

\textsuperscript{53} Thus, for example, the acquittal rate in 2002 stood at 1%. \textit{THOMAS, supra} note 34, at 204.


\textsuperscript{55} \textit{Id.}

\textsuperscript{56} \textit{Id.}
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The Rampart and Tulia corruption cases prove that a very troublesome situation arises with plea bargains. Eighty-one percent of those convicted confessed in a plea-bargain, despite their actual innocence. Should they have done otherwise? Not necessarily. In the Tulia case, for example, a defendant who falsely confessed in a plea-bargain received, on average, a four-year prison sentence, as opposed to fifty-one years for a defendant who maintained innocence. The system thus imposes a heavy quasi-fine on those who insist on going to trial; a defendant who maintains his innocence is harshly punished, which impels the majority of defendants to confess regardless of actual guilt or innocence. In its recent Frye decision, the Supreme Court noted this phenomenon, citing Barkow: “[Defendants] who do take their case to trial and lose receive longer sentences than even Congress or the prosecutor might think appropriate, because the longer sentences exist on the books largely for bargaining purposes.” Yet for some inexplicable reason, the Court did not express any outrage over this reality of heavy “trial penalties.”

Apart from the exceptional cases that were exposed, such as Tulia and Rampart, usually plea-bargains serve the Hidden Accidents Principle in criminal law, according to which false convictions are usually never detected. Oren Gazal-Ayal and Avishalom Tor conducted an interesting empirical study of the rate of innocent defendants who confess in the framework of a plea-bargain. Using data from the Innocence Project gathered by Gross et al., they compiled and examined a dataset of 466 exonerations based on new information pointing to the defendants’ factual innocence. In 284 of the cases, the conviction was vacated based on DNA evidence, with the actual offender identified in ninety-six of the cases. The authors

60. See Gross et al., supra note 54.
61. Gazal-Ayal & Tor, supra note 59, at 351–52.
arrived at two noteworthy findings. The one was that although the rate of plea bargains during the relevant period for similar crimes was approximately 90%, in only 7.9% of the exoneration cases examined in the study had the defendants originally confessed in a plea bargain.\textsuperscript{62} The authors inferred from this (as well as from two earlier experimental studies)\textsuperscript{63} what they term the “innocence effect,” where in contrast to what is commonly presumed under the “looming shadow of the trial theory,” here innocent defendants emerged as tending not to confess in a plea-bargain and preferring to go to trial.\textsuperscript{64} The authors’ second intriguing finding, which derived from the first, is that as the innocent do not tend to agree to a plea bargain, those who are convicted at trial receive particularly harsh sentences. Thus, according to this study’s findings, although the rate of false convictions caused by plea-bargains is lower than what is generally thought, the plea-bargaining system nonetheless works to the detriment of innocent defendants in that it results in harsh sentences if they are convicted at trial—far harsher than those received by guilty defendants who agree to a plea bargain.\textsuperscript{65}

There is, however, a methodological flaw to this interesting study. It is generally extremely difficult for someone who has been falsely convicted to obtain an exoneration, and even more so if he confessed, regardless of whether in a plea-bargain or not. Given a confession, exoneration will likely require scientific findings supporting the defendant’s innocence,\textsuperscript{66} and at times, even DNA findings will not suffice.\textsuperscript{67} Accordingly, it is reasonable to assume that the rate of exoneration of defendants wrongly convicted in the framework of a plea-bargain is significantly lower than the rate of exoneration for defendants wrongly convicted after a full trial. Therefore, the

\textsuperscript{62} Id. at 352.
\textsuperscript{63} Id. at 359–62.
\textsuperscript{64} Id. at 345.
\textsuperscript{65} Id. at 347–48.
\textsuperscript{66} Garrett, supra note 52, at 91.
\textsuperscript{67} Thus, for example, George Allen was imprisoned for a number of years even after DNA evidence supporting his innocence had been found. See Boaz Sangero & Mordechai Halpert, Proposal to Reverse the View of a Confession: From Key Evidence Requiring Corroboration to Corroboration for Key Evidence, 44 U. MICH. J. L. REFORM 511, 533 (2011).
fact that the exonerations studied by the authors included only a few cases involving a plea-bargain is not an indication that innocent defendants do not tend to agree to plea bargains, nor does it imply that the plea-bargaining system does not lead to many false convictions.68 However, what this study does reveal is a compelling need for additional empirical research of plea-bargains in the criminal justice system as one of the first steps toward making the system safer.

Last, as Oren Bar-Gill and Omri Ben-Shahar have shown, the assumption that without a plea-deal, defendants will be forced to go to trial is completely erroneous, for the prosecution does not have sufficient resources to conduct a trial for every indictment it files, but rather only for a small minority of cases. In practice, only three percent of all federal cases go to trial, and only six percent of state cases.69 In the remainder, conviction is obtained through plea-bargaining. Without this system, and given the level of resources currently available to the prosecution, prosecutors would not be able to indict the majority of suspects and would have to instead do significant prescreening before charging suspects.70 The screening process would likely take into account the severity of the offense in question (applying a standard resembling the \textit{de minimis} doctrine, for example) and the strength of the evidence in each case. It can be assumed that in many cases, the evidence against an innocent defendant will be weaker than the evidence against another defendant; without the option of plea-bargaining, then, many cases against innocent defendants will not go to trial and will be closed. Hence, we can see how the

68. Another argument was raised by Gross. See Samuel R. Gross, \textit{Pretrial Incentives, Post-conviction Review, and Sorting Criminal Prosecutions by Guilt or Innocence}, 56 N.Y.L. SCH. L. REV. 1009, 1019 (2011–2012) ("[T]he individual exonerations we know about consist almost entirely of a subset of the most serious false convictions for rape and murder. Inevitably, they underrepresent guilty pleas because most available resources (of courts as well as innocence projects and other defense attorneys) are devoted to potentially innocent defendants who have been sentenced to death or very long prison terms, and such sentences are much less likely after a plea bargain than after a trial.").


70. Oren Bar-Gill & Omri Ben-Shahar, \textit{The Prisoners’ (Plea Bargain) Dilemma}, 1 J. LEGAL ANALYSIS 737 (2009); see also Gazal-Ayal, supra note 48.
plea-bargaining system is what facilitates the indictment of many defendants, and without this system, it is reasonable to assume that the majority would never be charged. Under this analysis, it seems patently wrong to presume that the plea-bargain system works to the benefit of defendants as a group—although it is possible that it works in favor of specific defendants in specific cases.

IV. Safety Measures

It is important to distinguish between a comprehensive transformation that does away with plea-bargaining altogether, and proposals for specific changes and improvements to the existing plea-bargain system. The article first reviews some of the proposals made for improving the present situation, and will then consider the possibility of completely abolishing the plea-bargain system. I will stress that so long as there is no reporting duty, database, or empirical studies examining the effectiveness of the proposed changes in improving the system, we can only surmise as to whether they attain their goals. Accordingly, even if a particular proposal is adopted, modern safety theory requires that its impact on the system be assessed in order to decide whether to continue in its implementation.

A. Proposed Improvements to the Plea-Bargain System

First, there is an urgent need to strengthen the current prescreening procedures for indictments, with regard to all offenses and not only serious crimes. Indeed, proof beyond a reasonable doubt cannot be expected in the framework of a plea bargain. However, it is, nonetheless, possible to require, in a law, that the police and prosecution investigation files be submitted to the court for review of whether the evidence of the defendant’s guilt meets at least the preponderance of evidence

71. Gifford, supra note 46, at 48. See also Thomas, supra note 34, at 184, 198–202.

Second, so long as the system revolves around plea bargains—ninety-seven percent of convictions in federal criminal proceedings and ninety-four percent of the convictions in state proceedings are obtained through plea-bargaining—the article proposes recognizing defendant’s right to a fair plea-bargain offer. Plea bargains need not be dependent on the goodwill of a particular prosecutor toward a particular defendant or her defense counsel. In the absence of such a right, the majority of defendants’ rights are stripped of content, for the majority of criminal proceedings culminate in a plea-bargain rather than after a full trial, where presumably, certain defendants’ rights are upheld. If a right to a fair plea-bargain offer is not recognized as part of due process, then the right to a fair trial recedes ex ante to apply in only three percent of criminal proceedings in the federal system and six percent in the state system, and the U.S. Constitution becomes virtually irrelevant in all the other criminal proceedings.

73. THOMAS, supra note 34, at 199; Thomas Weigend & Jenia Iontcheva Turner, The Constitutionality of Negotiated Criminal Judgments in Germany, 15 GERMAN L.J. 81, 84-85 (2014) (in German law, “[j]udges receive, even before trial, the investigative file containing all the evidence gathered by the police and the prosecution. . . . Even a full confession made by the defendant in open court does not necessarily relieve the court of the duty to ‘discover the truth.’”).

74. See Frye, 566 U.S. at 134; Lafler, 566 U.S. at 170 (noting “the reality that criminal justice today is for the most part a system of pleas, not a system of trials”).

75. In the Supreme Court case law, the premise is that the accused is not entitled to such a right and that the prosecution has very broad discretion in this context. See Frye, 566 U.S. at 134; Lafler, 566 U.S. at 170.

76. Under current law, the prosecution is not “under any obligation” to engage in any type of bargaining. See Bradley, supra note 48, at 543. For a suggestion of relevant considerations that a prosecutor should take into account, see Aditi Juneja, A Holistic Framework to Aid Responsible Plea-Bargaining by Prosecutors, 11 N.Y.U. J.L. & LIBERTY 600 (2017). See also Alkon, supra note 51.

77. It appears that adopting this proposal would also solve the problem of the anomaly created by the majority opinion, which Justice Scalia pointed out in Lafler and Frye. See Lafler, 566 U.S. at 175 (Scalia, J., dissenting); Frye, 566 U.S. at 151 (Scalia, J., dissenting). On the one hand, the majority justices assumed that the defendant does not have a right to receive any sort of plea-bargain offer from the prosecution, but on the other hand, they held that the Sixth Amendment right to counsel extends also to the negotiations leading up to the plea-deal. Lafler, 566 U.S. at 156; Frye, 566 U.S. at 134.
Third, also necessary, is supervision of the prosecution’s policy for determining the divergence between the punishment offered in a plea-deal and that expected if convicted at trial, so as to prevent the enticement of the innocent to confess. In practice, when the prosecution offers a defendant a much lighter punishment relative to the punishment expected if convicted after a full trial, this is a strong indication that it lacks significant evidence against the defendant (although there are, of course, other possible reasons for a lenient offer), which points to a high likelihood of the defendant’s innocence. In such circumstances, optimally the prosecution should not indict the defendant and try to get a conviction by offering a lenient plea-deal. Given this, Gazal-Ayal suggests a “partial ban on plea bargains,” so that courts will reject overly lenient ones. In his estimation, this would influence prosecutorial screening decisions and lead to a substantial decrease in the number of weak cases that prosecutors pursue.78

In German law, it is accepted that courts supervise the gap between the punishment offered to defendants in a plea-bargain and the punishment he can expect to receive if convicted at trial, and they do not accept overly lenient plea-deals that could serve to entice the innocent to confess.79 Another practical way of achieving such result is to establish an external body to supervise prosecutors, given their tremendous power and the prevalence of false convictions. There should also be adoption of a policy not to make plea-bargains when there is no significant evidence of the

Thus, if this right was violated due to ineffective counsel (as in Lafler), and as a result, the case went to full trial, it is possible that in appeal, the verdict will be vacated and the court will order the prosecution to remake its plea-offer. If the right to counsel was violated due to ineffective counsel (as in Frye), and as a result the defendant was never informed of the prosecution’s lenient plea-offer and later agreed to a harsher deal, it is possible that on appeal the court will vacate the verdict that give force to the harsher plea-bargain. In Frye, the defense counsel failed to inform the defendant of the plea-offer. Frye, 566 U.S. at 134. After the offer lapsed, the defendant still pleaded guilty, but on more severe terms. Id. In Lafler, the client was informed of the favorable plea-offer but, on bad advice from counsel, rejected the offer, and in a full trial before a jury, he received a much harsher sentence than had been offered in the plea-bargain. Lafler, 566 U.S. at 156. See also Lee v. United States, 137 S. Ct. 1958 (2017).

78. Gazal-Ayal, supra note 48, at 2300.
79. See Weigend & Turner, supra note 73, at 84-85.
defendant’s guilt. In addition, Gazal-Ayal and Tor also propose restricting trial penalties,\(^{80}\) that is to say, constraining judges in giving harsher sentences to defendants who chose not to waive their right to a trial. Diminishing this practice will also ex ante reduce the temptation for the innocent to confess in a plea-bargain due to the wide disparity between the plea-bargain punishment and expected punishment if convicted at trial. It will also, moreover, alleviate the injustice caused to innocent defendants who choose to go to trial and are convicted.

Schulhofer has suggested two important proposals for specific improvements to the current situation. The first is to expand pretrial discovery to approximate the civil model, “so that negotiating parties could more accurately estimate ex ante the likelihood of conviction at trial.”\(^{81}\) The second proposal—the more critical one in his opinion—is that the economic relationship between the defense attorney and his or her client be restructured.\(^{82}\) For example, when defense attorneys receive the same fee for a case that ends quickly in a plea-bargain and a case that ends only after trial and requires considerably more work, they have a stronger incentive to reach a plea-bargain and convince the client not to go to trial. This asymmetry in representation in criminal proceedings has been depicted in the literature as “a contest between underfunded (and, too often, ineffective) defense attorneys and prosecutors who tend to believe that their duty to win supersedes their duty to do justice”;\(^{83}\) moreover, “the imbalance is so pervasive in the United States that it might be treated as a structural error.”\(^{84}\) Yet Schulhofer’s most important recommendation does not relate to specific improvements of the system but, rather, the abolition of the system in its entirety.

\(^{80}\) Gazal-Ayal & Tor, supra note 59, at 395.

\(^{81}\) Schulhofer, supra note 33, at 1998; see also Andrew D. Leipold, How Pretrial Process Contributes to Wrongful Convictions, 42 AM. CRIM. L. REV. 1123, 1151–52 (2005); but see Easterbrook, supra note 27, at 1972.

\(^{82}\) Schulhofer, supra note 33, at 1998–99; see also Easterbrook, supra note 27, at 1973–74.

\(^{83}\) Bandes, supra note 40, at 426; see also Thomas, supra note 34, at 170–71.

B. Abolition

Four well-known but very different descriptions of the plea-bargain system have been suggested in the literature. Robert E. Scott and William J. Stuntz have described it as a contract,\(^85\) while Frank H. Easterbrook described it as a compromise.\(^86\) John H. Langbein, in turn, compared it to (modern) torture: just as in medieval Europe, the accused had to choose between confessing and torture, today, defendants have to choose between pleading guilty and receiving a lenient penalty and going to trial and risking a long jail-term or even life imprisonment.\(^87\) Finally, Schulhofer calls the plea-bargain system a disaster.\(^88\) All four of these descriptions are thought-provoking. The first two, however, are applicable only with regard to a guilty defendant, for when an innocent person has been wrongly accused, the plea-bargain is a very unfair contract, and in no way a compromise but rather a terrible submission. When a defendant is innocent (and, probably, also in the case of a guilty defendant), plea-bargaining can be a terrible infliction of psychological torture. The law-enforcement system is unable to distinguish in advance between the guilty and the innocent and, in fact, does not even make a serious attempt at doing so; it therefore, offers plea-bargains to both the guilty and innocent. I thus hold that the plea-bargain system in its entirety is truly a disaster, particularly from the perspective of the need for safety from false convictions. Indeed, it is an anti-safety system.

Because the plea-bargain system is an anti-safety system, I view it as a disaster, like Schulhofer and other scholars.\(^89\) This is a system that should be abolished because, among other reasons, it leads to false convictions and fosters over-criminalization. Schulhofer has distinguished between two

\(^{85}\) Scott & Stuntz, supra note 27.
\(^{86}\) Easterbrook, supra note 27.
\(^{87}\) Langbein, supra note 39.
\(^{88}\) Schulhofer, supra note 33.
possible levels of abolition. The first level is the abolition of concessions, which would eliminate all incentives for defendants to waive their right to trial; the second level is the abolition only of bargaining, so that concessions for pleas could still be offered, but they would be nonnegotiable incentives set in a statute or court rules. Schulhofer compellingly demonstrated that although abolition of bargaining is certainly an attractive, low-cost solution, abolishing concessions altogether is a no less-viable, albeit more costly, strategy.

How is it possible to abolish—either partially or fully—the plea-bargain system? Two possible ways that immediately come to mind are through legislation and through judicial rulings. Internalizing the need for safety in the criminal justice system in order to reduce the extent of false convictions requires that Congress, state legislatures, and judges act to eliminate the plea-bargain system or, at the very least, significantly restrict its scope. But there is also a third possible way of bringing about the abolition of the system: through an alliance of attorneys and defendants. As explained by Bar-Gill and Ben-Shahar, there is a certain paradox in the fact that despite common knowledge of the limited resources available to the prosecution, which means it cannot actually carry out its threat against all defendants and bring them all to trial, this threat nonetheless succeeds in the overwhelming majority of cases: defendants almost always agree to a plea-bargain. The authors explain this with the prisoner’s dilemma model: even though the plea-bargain system worsens the situation of defendants as a population (for without the ability to plea-bargain, the prosecution would be forced due to a lack of necessary resources to forgo the majority of indictments), every individual defendant is still likely to think that in his specific case, a plea bargain is to his advantage.

Bar-Gill and Ben-Shahar address the possibility of defendants

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90. Schulhofer, supra note 33.
91. See Thomas, supra note 34, at 207 (suggesting similarly that a magistrate judge be in control of the process leading to a guilty plea and thereby “the coercion and unequal bargaining power that infects the American plea-bargaining system” will be avoided).
92. Schulhofer, supra note 33, at 2003–09.
94. Id. at 746–65.
and attorneys—particularly public defenders—organizing to take a stand against the system in its entirety, or at least against harsh plea-bargains. In their opinion, however, such an endeavor would likely fail, primarily due to what Bar-Gill and Ben-Shahar describe as a collective action problem.\textsuperscript{95} While I agree with the majority of Bar-Gill and Ben-Shahar’s analysis, I contest their premise that the public defender’s fiduciary duty toward a certain client may preclude such an organized effort. In my view, the public defender owes a fiduciary duty not only to each individual client but also to the entire population of defendants; it is possible, therefore, based on this latter duty, to break the vicious cycle of plea-bargains. The avenues explored by the authors, such as having willing defendants sign a letter of agreement not to accept a plea-deal, are, in my estimation, likely to succeed.\textsuperscript{96} At the very least, they should be attempted. If the current reality in which millions of defendants, in the face of prosecutors’ threats, are compelled to confess to the crimes they are accused of and waive a full trial is seen as an injustice to defendants (at least the innocent ones) by the law-enforcement system, then defense attorneys should not counsel defendants to accept plea-bargains and thereby assist prosecutors.

Finally, it is important to respond to the counterargument that the criminal law-enforcement system would collapse without plea bargains. The relationship between plea-bargains and over-criminalization is a reciprocal one.\textsuperscript{97} On the one hand, plea bargains have allowed for a multiplicity of proceedings; on the other hand, as the system currently conducts too many proceedings, it is now incapable of doing so by determining guilt at trial and without plea-bargains. The criminal law has grown to monstrous proportions: it has taken over our lives. There is an erroneous presumption that every realm of life can be arranged by the criminal law, which was originally intended, of course, to address only the most dangerous antisocial phenomena. When anything can be considered criminal (the Talmudic phrase “tafasta merube lo tafasta” comes to mind—if you have seized too much, you have

\textsuperscript{95} Id. at 758–65.
\textsuperscript{96} Id. at 760–65.
\textsuperscript{97} Dervan, supra note 33.
not seized anything at all), the stigma and shame of a criminal conviction fades: too many people are being deemed criminals.  

With the realization that the plea-bargains enabling millions of easy convictions annually have generated a process of over-criminalization, the threat of the collapse of the system becomes less alarming. Nothing, in my opinion, will collapse if the plea-bargain system is abolished or at least significantly constricted. Prosecutors will be forced to set priorities and focus on enforcing offenses that are genuinely criminal in nature and supported by strong evidence, and they will cease to use the criminal law to hound citizens over trivial matters. At the same time, constraining the plea-bargain industry will mean a return to a proper attempt at conducting full trials of justice. The phenomenon of wholesale convictions without any attempt at verifying defendants’ guilt will come to an end. 

And last, significant progress will be made toward a safer law-enforcement system.

V. Applying the STAMP Model to Plea-Bargains

A. General

If the central recommendation of this article is adopted—namely, the abolition of the plea-bargains system—there will presumably be no need for a safety model for this system. Indeed, abolition of the plea-bargain system is the ultimate


99. See also Kipnis, supra note 31, at 106.

100. An additional possible counterargument is that, in the reality of full trials, defendants—including innocent falsely convicted defendants—will receive more severe sentences, for the courts currently give harsher punishments than those attained in plea-bargains. However, as Schulhofer rightly shows, as correction facility resources are limited, the level of the court-decreed punishments can be expected to drop to the current level of punishments offered in plea-deals. Schulhofer, supra note 33, at 2007–08. Moreover, those who refuse to waive their right to a full trial will no longer be punished for this choice.
safety solution for the criminal justice system. However, the criminal justice system is currently still based on plea-bargains, and moreover, even if at some point, abolition is implemented, it is reasonable to assume that although the rate of plea-bargains will drop, they will not disappear altogether. And regardless, this will certainly be a long process. Thus, in the coming decades, I estimate that the system will continue to be based on plea-bargains to some extent.

As more than ninety percent of criminal proceedings end in plea-bargains today, I will demonstrate how the STAMP safety model can be applied in criminal procedure specifically with regard to the plea-bargain mechanism, which is perhaps the central area of prevailing U.S. criminal law.

B. System-Theoretic Accident Model and Processes

Professor Nancy Leveson has developed a sophisticated safety model, best known by its acronym “STAMP”—System-Theoretic Accident Model and Processes. The model is based on a new systems theory, according to which traditional safety methods are not adequate for complex systems. Leveson proposes shifting the emphasis from the reliability of a system’s components to system control. To begin with, every system must be examined closely to determine what safety constraints are imperative for it to operate without mishap. For example, with regard to metro subway systems, one of the necessary constraints is that “[d]oors must be capable of opening only after train is stopped and properly aligned with platform unless emergency exists.” Likewise, similar constraints can—and should—be devised for the criminal justice system, so as to prevent false convictions.


102. Leveson, supra note 101, at 192
The next stage in Leveson’s model is the setting of hierarchical control structures that will ensure the enforcement of the safety constraints required for the system. Safety, Leveson explains, is a feature throughout the system, in its entirety, and not limited to any one component in the system. She eloquently summarizes her model in her recent book *Engineering a Safer World*:

STAMP focuses particular attention on the role of constraints in safety management. Accidents are seen as resulting from inadequate control or enforcement of constraints on safety-related behavior at each level of the system development and system operations control structures. Accidents can be understood in terms of why the controls that were in place did not prevent or detect maladaptive changes.

Accident causal analysis based on STAMP starts with identifying the safety constraints that were violated and then determines why the controls designed to enforce the safety constraints were inadequate or, if they were potentially adequate, why the system was unable to exert appropriate control over their enforcement.

In this conception of safety, there is no ‘root cause.’ Instead, the accident ‘cause’ consists of an inadequate safety control structure that under some circumstances leads to the violation of a behavioral safety constraint. Preventing future accidents requires reengineering or designing the safety control structure to be more effective.103

103. Leveson, supra note 101, at 100; see also Nancy Leveson, A New Accident Model for Engineering Safer Systems, 42 SAFETY SCI. 237 (2004); Nancy G. Leveson, A New Approach to Hazard Analysis for Complex Systems (formulating the STAMP “recipe” for safety more succinctly as “identifying the constraints required to maintain safety and then designing the system and operating conditions to ensure that the constraints are enforced.”).
As Leveson shows in *Engineering a Safer World*, STAMP has been tested with success—by her and, subsequently, by others—on different types of actual operating systems. Her model has proven to be both efficient and economical for the investigation of accidents as well as safety engineering, which aims to prevent accidents in advance. As she explains,

> The more one knows about an accident process, the more difficult it is to find one person or part of the system responsible, but the easier it is to find effective ways to prevent similar occurrences in the future.

STAMP is useful not only in analyzing accidents that have occurred but in developing new and potentially more effective system engineering methodologies to prevent accidents. Hazard analysis can be thought of as investigating an accident before it occurs. Traditional hazard analysis techniques, such as fault tree analysis and various types of failure analysis techniques, do not work well for very complex systems, for software errors, human errors, and system design errors. Nor do they usually include organizational and management flaws.\(^\text{104}\)

This final point is of particular relevance to our context, as the majority of failures in the criminal justice system are not technological errors but rather stem from human error and organizational and management flaws. Leveson clarifies that although system engineering was developed originally for technical systems, the STAMP approach is just as important and applicable to social systems, “[a]ll systems are engineered in the sense that they are designed to achieve specific goals, namely to satisfy requirements and constraints. So ensuring hospital safety or pharmaceutical safety . . . fall[s] within the

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\(^{104}\) Leveson, *supra* note 101, at 101.
broad definition of engineering.” Accordingly, the article proposes applying and implementing the STAMP model in the criminal justice system.

C. Plea-bargain X STAMP = Safety

Under Leveson’s advanced STAMP (System-Theoretic Accident Model and Processes) safety model, for each of the hazards existing in the plea-bargains system, the safety constraints necessary in the criminal justice system for preventing these hazards must be defined; for each of these constraints, controls (and barriers) must also be defined, whose purpose is to enforce the safety constraints. This will require a process of thorough safety thinking, which can be done by teams of experts, in the framework of a Safety in the Criminal Justice System Institute (SCJSI) that I suggest to establish. As an example, and for the purpose of the current article, I will now focus, of course, on plea-bargains.

If we focus on a defendant’s confession given in the framework of a plea-bargain, using the above detailed theoretical analysis of plea-bargains, it is possible to think of some hazards and the safety constraints necessary to prevent each hazard, as well as the controls (and barriers) needed to enforce these safety constraints, as analyzed in a Table below. It is important to clarify that I do not claim my Table to exhaust all the safety constraints for plea-bargains that are

105. *Id.* at 176; *see also id.* at 198–209 (“Safety Control Structures in Social Systems”).

106. Introducing modern safety into systems lacking a culture of safety requires the establishment of a special institute to carry out this function, and the securing of resources necessary for the new institute to operate in a meaningful way. Thus, for example, in the field of aviation, the Federal Aviation Administration (FAA) was established; in the field of transportation, the National Transportation Safety Board (NTSB) was founded; in the area of food and drugs, there is the Food and Drug Administration (FDA); the Occupational Safety and Health Administration (OSHA) serves the occupational field; and various such bodies were established in the medical field, such as the National Center for Patient Safety (NCPS) and the Center for Patient Safety Research and Practice. In all of these fields, the recognition of safety issues and the need to improve performance led to national focus on safety leadership, the development of a knowledge base, and the distribution of information, an agenda to which substantial resources were devoted.
necessary to make the system safe from the hazard of false convictions, and it certainly does not represent all the controls (and barriers) needed for enforcing these safety constraints. This will all be determined following comprehensive groundwork by the Safety in the Criminal Justice System Institute (SCJSI). My main goal is to demonstrate what general direction systematic safety thinking should take in order to develop safety in the criminal justice system and reduce the risk of wrongfully convicting innocent defendants based on plea-bargains. The following is my Table of Analyzing Plea Bargains According to the STAMP Safety Model:
<table>
<thead>
<tr>
<th>Hazards</th>
<th>Safety Constraints &amp; Controls</th>
</tr>
</thead>
</table>
| 1. A plea-bargain leads to a false confession. | Safety Constraints:  
(a) A confession (in the framework of a plea-bargain) must be *voluntary*.  
(b) A confession (in the framework of a plea-bargain) must be *credible*.  
(c) *A temptation to confess must not be created* by offering a considerably lighter sentence to a defendant if he confesses (in the framework of a plea-bargain) than the expected sentence if convicted at trial.  
(d) The defendant *must not be pressured to confess* (in the framework of a plea-bargain).  

Controls (and Barriers):  
(e) A plea-bargain must not be made with a defendant if there is no *significant evidence* against him.  
(f) A plea-bargain must not be made with someone prior to *deciding to indict* him.  
(g) A charge must not be included in the indictment as solely a *negotiations tool*.  
(h) A plea-bargain must not be made with a defendant who has no *legal representation*.  
(i) *All of the evidence* gathered by the prosecution must be *disclosed* to the defendant and his attorney, so that they can arrive at an informed decision.  
(j) The various stages of the plea-bargain negotiations and agreement must be *documented*.  
(k) *Prosecutors must be taught* about the hazards of violating Guidelines (a)–(j).  
(l) *A supervisory mechanism* must be instituted to ensure that prosecutors act in accordance with Guidelines (a)–(j). |
### 2. Hazard: A defendant is convicted based on a false confession attained through a plea-bargain.

<table>
<thead>
<tr>
<th>Safety Constraints:</th>
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<tbody>
<tr>
<td>(a) Judges must determine whether a confession was made voluntarily. They must hear a detailed explanation from defendants as to why they confessed.</td>
</tr>
<tr>
<td>(b) Judges must not accept a confession if there are significant indications that it is false. Judges must instruct defendants to describe in detail the reasons for committing the crime they have confessed to.</td>
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<tr>
<td>(c) A conviction must not be based on a confession if it is the sole piece of evidence (because the confession could be false).</td>
</tr>
<tr>
<td>(d) A conviction based on a confession must have strong corroboration (not only with respect to corpus delicti but also with regard to the identification of the defendant as the perpetrator of the crime).</td>
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<thead>
<tr>
<th>Controls (and Barriers):</th>
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<tr>
<td>(e) Judges must not accept a confession obtained through a significant violation by the prosecution of any of the above guidelines directed at the prosecution (1(a)–(j)).</td>
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<tr>
<td>(f) Judges must receive from the prosecution a detailed written description of the negotiations process preceding the plea-bargain.</td>
</tr>
<tr>
<td>(g) Judges must receive for review all of the prosecution's evidence materials so as to ensure that the additional pieces of evidence—aside from the confession—significantly implicate the defendant as the perpetrator of the crime.</td>
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<tr>
<td>(h) Judges must be instructed in training</td>
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workshops on the hazards of violating Guidelines (a)–(g).
(i) In an appeal of a conviction, there must be close scrutiny of whether all the guidelines relating to the above two hazards were followed.
(j) Following conviction, a plea-bargain must not be seen as a barrier to filing an appeal or moving for a retrial, and any new piece of evidence that is likely to indicate that the conviction was false must be examined.
VI. Conclusion

There is a significant risk - in safety terms: a hazard - that the wide gap between the defendant’s anticipated punishment if convicted at trial and the relatively lighter punishment if he confesses in the plea-bargain will lead not only the guilty but also the innocent to confessing. American plea bargaining creates huge incentives for the innocent people to plead guilty; it is generally acknowledged that innocent defendants are offered great enticements to falsely confess.

At present, following the findings of studies throughout the world, it is already clear that there is a significant phenomenon of wrongful convictions based on plea-bargains. More than 90% of the convictions are decided without proof by significant evidence, but on the basis of plea-bargains. Plea-bargains are one of the central mechanisms facilitating false convictions.

There have always been, and always will be, accidents. In some aspects of our life, this appears to be an inevitable reality. However, a high rate of accidents is not an unavoidable fact of life, but rather the product of human negligence; or even indifference—when we are aware of the danger but do not act purposefully to reduce it.

Since safety theory and safety measures are not developed in the criminal justice system, we have to learn it from other areas, such as aviation, transportation and engineering. For this purpose, the article uses the advanced STAMP safety model to develop an innovative model of safety from false convictions based on plea-bargains, in which after the hazards are identified, safety constraints, controls and barriers are suggested.

It is my hope that this article succeeds to convince of the need to “THINK SAFETY” and to establish safety requirements with the power to generate a truly positive change and to significantly reduce the terrible phenomenon of false convictions based on plea-bargains.

In tandem with making plea-bargains safer, the article also proposes a new rule, recognizing defendant’s right to a fair plea-bargain offer. Plea-bargains need not be dependent on the goodwill of a particular prosecutor toward a particular defendant or her defense counsel.