证据理论与科学

——第三届国际研讨会论文集

常林 张中◎主编

中国政法大学出版社

策划编辑：刘海光
文稿编辑：秦向阳　杨璐宁等
封面设计：封面秀

证据理论与科学

——第三届国际研讨会论文集

上架建议 诉讼法

ISBN 978-7-5620-4281-5

9 787562 042815 >

定价：76.00元

证据理论与科学

——第三届国际研讨会论文集

常林 张中◎主编

中国政法大学出版社

2012·北京

图书在版编目（CIP）数据

证据理论与科学：第3届国际研讨会论文集／常林，张中主编．—北京：中国政法大学出版社，2012.5

ISBN 978-7-5620-4281-5

Ⅰ.Φ证… Ⅱ.①常… ②张… Ⅲ.①证据-理论研究-国际学术会议-文集 Ⅳ.D915.130.1-53

中国版本图书馆CIP数据核字(2012)第079045号

书　　名　证据理论与科学——第3届国际研讨会论文集

ZHENGJU LILUN YU KEXUE DISANJIE GUOJI YANTAOHUI LUNWENJI

出版发行　中国政法大学出版社(北京市海淀区西土城路25号)

北京100088信箱8034分箱　邮编100088

http://www.cuplpress.com (网络实名：中国政法大学出版社)

010-58908325(发行部) 58908334(邮购部)

编辑统筹　综合编辑部　010-58908524　dh93@sina.com

承　　印　固安华明印刷厂

规　　格　720mm×960mm　16开本　29.5印张　680千字

版　　本　2012年5月第1版　2012年5月第1次印刷

书　　号　ISBN 978-7-5620-4281-5/D・4241

定　　价　76.00元

Preface

前 言

为促进证据理论与科学的国际学术交流和跨学科研究，中国政法大学证据科学研究院于2007年9月、2009年7月成功举办了第一、二届证据理论与科学国际研讨会。2011年7月16~17日，第三届证据理论与科学国际研讨会在北京召开，来自中国、美国、澳大利亚、意大利、瑞士、匈牙利、日本、韩国、印度、以色列、越南、坦桑尼亚、南非等十几个国家和地区的一百四十余位证据法学和法庭科学专家参加了本次会议。本次国际研讨会由中国政法大学证据科学研究院主办，国家自然科学基金委员会资助，并由美国西北大学法学院（Law school, Northwestern University, USA）、美国杜肯大学赛瑞尔·韦契特法庭科学与法律研究所（Cyril H. Wecht Institute of Forensic Science and Law, Duquesne University, USA）、韩国国立科学搜查研究所（National Forensic Service, Korea）、中国刑事警察学院协办。

第三届证据理论与科学国际研讨会的主题为“证据科学与司法公正——现状与未来”，下设四个专题：①司法改革中的证据法/证据法的未来；②最新刑事证据规定的实施问题；③法庭科学：管理与技术进步；④法庭科学与人文社会科学。本次国际研讨会两天的日程分为两个阶段：第一天上午由4位中外专家就证据法学、法庭科学的最新研究进展作大会主题报告；随后的一天半中，会议分为证据法学和法庭科学两个分会场进行相关主题交流。在每个专题中，均由来自国内外的4~6位学者围绕一个主题进行发言，与会专家再就发言和研讨主题进行深入讨论。

7月16日上午的大会主题发言阶段，美国西北大学威格莫尔（John Wigmore）特座教授、中国政法大学长江学者讲座教授罗纳德·J. 艾伦（Ronald J. Allen）发表了《证据法的未来》（The Future of Evidence Law）主旨演讲，中国政法大学终身教授陈光中先生发表了《论证据裁判原则》的主旨演讲，意大利帕维亚大学米歇尔·塔鲁弗（Michele Taruffo）教授发表了《科学标准在社会和法庭科学证据中的应用》（Applying Scientific Standards to Social and Forensic Evidence）的主旨演讲，美国

加州大学戴维斯分校爱德华·J. 伊姆温克里德（Edward J. Imwinkelried）教授发表了《论表象时代的终结》（The End of the Era of Proxies）的主旨演讲。

7月16日下午，证据法学分会场分为两个专题进行讨论，来自国内外的11位学者就证据制度的发展与证据基本理论问题进行讨论，分别就我国证据制度的新发展、统一证据规定、刑事审判体制的安全性、非法证据与量刑的关系、刑事证据的本质、证明标准、案件事实的认定、刑事证据潜规则、DNA证据等问题进行了主题发言，与会者对相关问题进行了深入的阐释和探讨。法庭科学分会场同样分为两个阶段，在分会场发言人就法医调查、法医毒物动力学、光谱成像、司法鉴定、微波辐射损伤、数字式解剖、刑事植物学、司法精神病鉴定程序等专题介绍研究成果后，与会者展开了热烈的讨论。

7月17日上午，证据法学分会场继续围绕中外学者的最新研究成果展开讨论，非法证据排除规则问题成为第一阶段的讨论焦点，而第二阶段的主题发言涵盖了司法鉴定与证据法、书证的发展脉络、证据裁判原则下的事实等问题。在法庭科学分会场，第一阶段的讨论主要围绕物证技术的相关问题展开，涉及汽车油漆、竹木痕迹、文件、手印等专题；第二阶段的分会场发言包括鉴识科学的发展、水尸软组织生物力学、整体分离痕迹检验、钳具刃侧铣纹特征检验、转轮手枪弹壳击针头痕迹特征等专业问题，相关的研究成果引起了与会者的共鸣和讨论。

7月17日下午，证据法学分会场第一阶段的发言人围绕沉默权制度、共犯或者共同被告人口供、移送审查起诉的证明标准、证明责任分配、民事取证中的偷拍私录、印证规则等与司法实务紧密相关的话题作出报告，第二阶段的发言人则主要围绕司法鉴定中的证据法问题进行探讨，对医疗事故纠纷解决、鉴定结论的证据学属性、精神病鉴定等专业问题发表意见。法庭科学分会场的两个阶段，主要围绕司法鉴定人制度、法庭科学证据、DNA证据、法医学等具体问题进行发言和讨论。

2011年7月17日下午，国际证据科学协会（International Association of Evidence Science）第一届理事会第一次全体会议举行，会议讨论通过了《国际证据科学协会章程》，确定了第一届理事会主席、副主席、理事和执行委员会的人选。根据章程，国际证据科学协会总部设在芝加哥，执行委员会和秘书处设在中国政法大学证据科学研究院。该协会的宗旨为：促进证据法学者、律师、法庭科学家之间的合作，交流有关数据资料、出版物和文件等信息，促进证据科学研究的国际化发展；促进跨学科交流和国际交流；规划、组织和举办会议，促进报告的研究和准备，并实施与这些或相关目的的激励和提升有关的其他项目。在两天的会议中，不同国家、地区的学者对于证据科学领域的前沿问题展开了理论和实践方面的讨论，分享了各自的

经验、知识和思考；不同学科的研究者对相同的问题提供了不同角度的思考路径和研究方法，为问题的深入研究和解决方案提供了更多的参考依据。可以说，证据理论与科学国际研讨会已成长为一个比较成熟的证据科学国际论坛，成为全世界证据法学家和法庭科学家开展跨学科交流的一个重要平台，各国专家通过会议能够达到发现问题、增加共识、协调差异的目的，这既推动了学术和思想的碰撞，也加深了各国学者的相互理解和友谊。论文集出版是证据理论与科学国际研讨会的重要成果，在第一届证据理论与科学国际研讨会后，大会组委会已将会议论文集（王进喜、常林主编：《证据理论与科学——首届国际研讨会论文集》，中国政法大学出版社2009年版）正式出版；第二届证据理论与科学国际研讨会的论文集因故未出。为了让广大学界同仁更多地了解第三届证据理论与科学国际研讨会的会议情况和学术成果，大会组委会决定出版本次国际研讨会论文集。

本次会议共收到投稿论文155篇，其中中文论文131篇（证据法学论文63篇，法庭科学论文68篇），英文论文24篇。大会组委会邀请相关专家对投稿论文进行匿名评审，共录用论文134篇（包括英文论文20篇），其中证据法学57篇，法庭科学77篇。为避免版权争议，并保证论文质量，大会组委会要求已在其他刊物发表的论文，不再收入本论文集；研讨会结束后，组委会逐一与参会者联系，获得作者将论文编入论文集出版的授权，并要求作者根据会议情况修改论文后发回，进行编辑加工，最终呈现在各位读者面前。本论文集共收录证据法学和法庭科学论文59篇，其中英文论文10篇。

本次证据理论与科学国际研讨会的成功举行，有赖于国家自然科学基金委员会的慷慨资助，同时得益于协办方美国西北大学法学院、美国杜肯大学赛瑞尔·韦契特法庭科学与法律研究所、韩国国立科学搜查研究所、中国刑事警察学院的鼎力相助。中国政法大学证据科学研究院的诸多教师，以及该院2009级、2010级法律硕士研究生团队付出的巨大努力，也是本次会议成功举行、论文集顺利出版的重要保障。在此表示感谢！

编 者

2012年1月

Contents

目 录

Ⅱ 法庭科学

The Future of Evidence Law

Ronald J. Allen*

The title of this talk is somewhat daunting and perhaps lacking in humility. As the famous American baseball player and manager, and others, have often reminded us, predictions, especially about the future, are difficult. Thankfully, the scope of my talk can be somewhat narrower than the scope of this conference. The conference and the Key Laboratory of Evidence Science of the Ministry of Education (China University of Political Science and Law) which is its primary sponsor focus on both evidence law and forensic science, but my remarks will focus on evidence law. This is not meant as a slight to forensic science. Quite the contrary, it is in fact praise. It is praise because the forensic scientists of the world are quite clear what their future is, and they are right to pursue it. Their future is to continue the incredible explosion of scientific knowledge that has occurred in particular over the last century and to domesticate that knowledge so that it can be used to advance the primary objective of any sane legal system, which is to facilitate the accurate resolution of disputes.

Many would initially find my emphasis on accurate resolution of disputes as the primary objective of a legal system to be curious, and they would object that instead the primary objective should be the protection of rights and the enforcement of obligations. Let me remind you once again, for the point cannot be emphasized enough, that acts are prior to and determinative of rights and obligations. Without accurate fact finding, rights and obligations are meaningless. Consider the simple case of ownership of the clothes you are wearing. Your ownership of those clothes allows you the "right" to possess, consume, and dispose of those assets, but suppose I demand that you return "my" clothes. That is, I insist that the clothes that you are wearing actually be long to me. What will you do? You will search for a decision – maker to whom you will present evidence that you bought, made, found, or were given the clothes in question, and, if successful in this effort, the decision – maker will indeed grant you those rights and impose upon me reciprocal obligations. The critical point is that those rights and obligations are dependent upon what facts are found and are derivative of them. The significance of this point cannot be overstated. Tying rights and obligations to true states of the real world anchors rights and obligations in things that can be known and are independent of whim and caprice. This is why the ideas of relevance and materiality are so fundamentally important to the construction of a legal system. They tie the legal system to the bedrock of factual accuracy. This point is truly

* John Henry Wigmore Professor of Law, Northwestern University; Chair, International Board of Advisors, Evidence Law and Forensic Sciences Institute, CUPL; Fellow, China University of Political Science and Law.

universal. Neither rights or obligations, on the one hand, or policy choices on the other, can be pursued in the absence of knowledge of the actual, relevant states of affairs.

The forensic scientists have no doubts about what they pursue, and it is indeed truth; thus to me they are a model of what all scholars and practitioners working within the legal system should aspire to. This is not to say that your various tasks are not difficult, and do not pose any difficult conceptual problem, for both are false. In particular, when experimental results pass the test to become knowledge can be highly contested. Similarly, how results of testing should be presented in court is fraught with difficulty. And of course you forensic scientists, like everyone else, may on occasion claim more for your results than the true state of your various sciences justify, and the rest of us must be on guard against such claims. Still, in general you are a role model for legal scholars.

No, the future of forensic science is clear and needs no sustained debate, although the discrete results reached in any particular subfield of forensics can and should be hotly contested precisely on epistemological grounds. But a puzzle arises. If the deepest aspiration of a legal system is to the truth, why isn't that the governing principle of evidence and evidence scholarship, just as it is for forensic science?

To some considerable extent the pursuit of truth is an important organizing principle of the field of evidence, as I have lectured on repeatedly throughout China, precisely because of the relationship between accuracy on the one hand and rights and obligations on the other. Nonetheless, there is one critical difference between the forensic sciences and the law of evidence, and between forensic scientists and legal scholars. Science and scientists are pursuing knowledge about an external reality, whereas the law and legal scholars are creating a man-made system that is a very important part of the larger social fabric and its governing institutions. Forensic science is pulled purely by the pursuit of knowledge; the law and the legal system are pulled in many different directions.

You may recall that the last time I spoke to you, two years ago at the Second International Conference on Evidence Law and Forensic Science, I identified what I referred to as the next three tasks of Chinese Evidence law, and they were:

1. First, it is critically important that the Chinese legal system conform its rules of evidence to the needs and context of China.

2. The second task is to convene a national discussion and to come to agreement on truly uniform evidentiary provisions.

3. Third, evidence scholarship in China needs to advance beyond the discrete issues of individual rules of evidence and deal with what I call the "macro" or larger and more significant issues that evidence law effects, such as:

A. The social implications of juridical proof.

B. The relationship between juridical proof and probability theory.

C. The use of expert testimony.

D. The relationship between procedure and evidence.

There is a common thread running through these three tasks, which is that it is inadequate to simply focus on discrete rules or laws of evidence. This reflects the many different directions in which any legal system is pulled by competing interests. The first, the need to particularize the law of evidence to your own needs in China, reflects that your needs will differ from those of other countries. The second reflects how different people can honestly disagree about what the law of evidence should do, in part because of disagreement about what the pressing social and political needs of the country are. The third generalizes these first two points and highlights that the law of evidence affects and is affected by the larger social and political structures of the country.

The law of evidence, in short, is not concerned exclusively with the pursuit of truth; it is an integral part of a legal system that pursues many different, and often competing, interests simultaneously. Thus, to predict its future is a more difficult task than predicting the future of forensic science. This is an important point, and to appreciate it fully one must consider the complexity of creating a legal system. An enormous number of policy choices face the designer of a legal system. Some are consistent with the pursuit of factual accuracy, but many are in opposition to it. Note that I use the phrase "policy issues" to accompany all interests that society may pursue ranging from moral imperatives to the quite practical and utilitarian. Among the issues that must be accommodated are:

Pursuit of Factual Accuracy. One might reasonably suppose that natural reasoning processes based on innate epistemological capacities work reasonably well, and thus typically should be deferred to in the pursuit of factual accuracy. This means that the law of evidence can be quite brief, and basically just let natural reasoning processes determine the outcome of cases. However, there may be recurring situations that lead people to error. In such a case, rules of evidence may attempt to correct for that systematic error. This explains the authorization to exclude evidence when it may be misleading or unfairly prejudicial. It also underlies other rules, such as limitations on character and propensity evidence, and the requirement that witnesses testify from firsthand knowledge. The important point for present purposes, though, is that the circumstances under which individuals systematically make errors probably is heavily dependent on culture.

The Value of Accuracy. Factual accuracy is surely a very significant desideratum, but it is by no means the only one. It has a cost, and the cost can sometimes be too high. A legal system overly preoccupied with factual accuracy may undermine the very social conditions that the legal system is trying to foster. A dispute worth only a dollar that would take a thousand dollars to litigate to a factually accurate conclusion perhaps should not be litigated. Such litigation may very well reduce overall social welfare and discourage private settlement of disputes. Where the limit is reached is difficult to say, of course, and surely depends on local views.

The Value of Incentives. Factual accuracy competes not just with cost but with other policies that a government reasonably may pursue. The list of such policies is long, and again culturally contingent. The law of privileges may foster and protect numerous relationships (spouses, legal, medical, spiritual, governmental, etc.). Litigation of an accident should not discourage reduction of risk (the subsequent repair rule). Perhaps settlement of disputes is preferred to their litigation, which leads to the exclusion of statements made during settlement talks. The encouragement of settlement is also a reason not to price litigation too low. The more the public subsidizes litigation, presumably the more of it there will be, and the less of private negotiation. There are still other policies that can be pursued. In the United States, we rest a vast body of exclusionary rules on the perceived need to regulate police investigative activities. Rules of evidence also can encourage or discourage certain kinds of law suits from being brought. Again in the United States, we went through a period in which we thought rape victims were being overly discouraged from reporting crimes against them, and one response was to create rules of evidence that reduced the abuse at trial that such individuals may have been exposed to.

*General Considerations of Fairness*may also influence the law of evidence, although the precise effect of this variable is often hard to sort out from more overtly utilitarian motivations. Some think that the limit on unfairly prejudicial evidence reflects not just the concern about accuracy but the concern about humiliation, as is also the case with rape relevancy rules. The limits on prior behavior and propensity evidence reflect in part a belief that an individual should not be trapped in the past. The hearsay rule to some extent reflects the values of the right to confront witnesses against you.

The Risk of Error. A mistake free legal system is not possible. It is critically important to recognize that two types of errors can be made—a wrongful verdict for a plaintiff (including a conviction of an innocent person), which we call a Type I or false positive error, and a wrongful verdict for a defendant (including an acquittal of a guilty person), which we call a Type II or false negative error—and resource allocation and other decisions will affect the relationship between these two types of errors.

Reasonable people can disagree as to the significance of these two types of errors, but both must be taken into account in the construction of the legal system. In the United States, we structure civil litigation to attempt to both equalize the errors made on behalf of plaintiffs and defendants and to reduce the total number of errors. The criminal justice process, by contrast, is designed to reduce the possibility of wrongful conviction at the admitted expense of making more mistakes of wrongful acquittals. Although the matter is complicated, these perspectives explain in large measure the preponderance standard in civil cases and the standard of proof beyond reasonable doubt in criminal cases. In civil cases, an error either way results in identical misallocation of resources. If the plaintiff wrongly wins a $ 500 verdict, a citizen (the defend-

ant) wrongly must part with $ 500. If the defendant wrongly wins a verdict that he or she does not owe $ 500, a citizen (the plaintiff) wrongly will be deprived of $ 500 that rightfully he or she should possess. These two cases are identical analytically. In criminal cases, by contrast, in the United States we view a wrongful conviction as a more serious harm than a wrongful acquittal, and thus make convictions hard to obtain by requiring proof beyond reasonable doubt. We do so even though it is possible (but by no means certain) that a side effect will be increased numbers of false acquittals and an overall increase in the total number of errors.

Again to demonstrate the complex environment within which the law of evidence operates, note how this simple emphasis on errors can be radically inappropriate, for two reasons. The first involves the recognition that a focus on errors alone is inadequate; a legal system also has to be concerned with correct decisions. A legal system that got every decision wrong, but treated plaintiffs and defendants equally, would satisfy the requirement to equalize errors, and a refusal of a legal system to adjudicate difficult cases could very well minimize the total number of errors the legal system makes. Notwithstanding their operationalizing the underlying objectives of error management, both approaches seem quite odd and unacceptable. The reason is that, in addition to errors, the rates of correct decisions matters in deciding how to structure the legal system; the optimization problem, in other words, has four rather than two variables.[1]

In addition to neglecting the implications of correct decisions, the simple concentration on errors neglects the relationship between what occurs at trial and primary behavior. No one doubts that law exists to affect primary behavior by articulating standards of conduct, creating rights, and providing incentives to conform conduct to legal requirements. Correct adjudication of legal disputes is a useful and perhaps necessary condition for those incentives to operate. If a person can disregard legal entitlements with impunity, the rate of such disregard is likely to go up substantially. But this is not the full story. Most cases, both civil and criminal, in the United States settle. Thus, the true rates of correct and erroneous decisions is not just the trial rates, but the overall rates of resolution. And those rates in turn effect whether disputes even arise. All of these variables must be taken into account in appraising the legal system.[2]

As I suggested above, hovering over all of this is the implication of cost. Whatever might be the optimal relationship between trial verdicts themselves, and trial verdicts and primary behavior, in a system of no transaction costs might not be optimal where there are transactions costs. Some correct decisions may not be worth what they cost to achieve, and thus it is possible that pricing some disputes out of the legal market should not be regretted. The market for legal disputes probably operates like other markets, and a decline in cost would probably yield an increase in consumption. That means that the option of a formal dispute resolution will be

---

[1] Ronald J. Allen & Larry Laudan, "Deadly Dilemmas", 41 *Texas Tech. L. Rev.* 65 ~ 92 (2008).

[2] Id.; Larry Laudan & Ronald J. Allen, "Deadly Dilemmas II: Bail and Crime", forthcoming, 85 *Chi. Kent L. Rev.* 23 (2010).

substituted for an informal one, such as negotiation and compromise. If the formal option is too costly to pursue, people would pursue informal ones, such as compromise and negotiation. That may be preferable in many instances.

Miscellaneous Policy Questions. There are many other contingent questions that must be answered by the architect of a legal system. Most importantly are those allocating responsibility over the various actors in the legal drama. These involve such questions as whether trials should be episodic events as is somewhat more prevalent in Europe or single shot events as in the United States, how much discretion should the trial judge have and how much should the parties control the process, what is the relationship between trial judges and appellate judges. Should there be trial de novo in the appellate court or is it limited to review of legal errors? Are small civil cases different from large commercial cases in ways that justify different treatment? What about criminal cases? How do they differ from civil cases in ways that reflect how they should be structured?

In substantial measure, the future of the law of evidence will be determined by the research many of you are doing into the kinds of issues that I have just identified. For the most part, the kind of work done in different countries will be perfectly understandable to scholars and practitioners from other countries. The attributes of human inference and cognition are universal, even though they may have differing implications in differing contexts. You in China, for example, may think that the United States emphasizes too strongly exclusionary rules, whereas we in the United States may think that China's evidentiary process is too lax and discretionary, but what we will both mean by such conclusions is that the position that some country has taken on a particular issue would be suboptimal in a different context. The disagreements will not be a result of conceptual disputes but over the plausibility of one approach or another to a particular social problem in a particular social context.

Note that I have out of my predictions for the future of evidence law and the list of tasks any attempt to regulate in a meticulous fashion the inferential process used at trial. This is not the task of the law of evidence, nor should it be. Evidence law takes natural cognitive practices as they exist, and can at best nudge the inferential process in one direction or another. Indeed, whenever a rule is proposed that is designed to protect the tribunal from reaching a particular result, one should be skeptical. The justification for such a rule can only be the belief that in some particular area there is a high probability of irrationality. But why would the rule makers be systematically more rational than the people who decide cases? This is why the emphasis in my country on keeping evidence from a jury in order not to prejudice the jurors is so fundamentally misguided, and also why, thankfully, in reality it does not occur very much. Evidence is regulated much more to avoid inefficiencies and to forbid a wealthier party from overwhelming a poorer one with legal costs.

One important question that you will face, as we do in the United States, is what the form of evidentiary regulation should be. To what extent should there be detailed rules, and to what