Quaestio facti. Revista Internacional sobre Razonamiento Probatorio
Quaestio facti. International Journal on Evidential Legal Reasoning
Sección: Conjeturas y refutaciones
2025 I 8 pp. 1-61
Madrid, 2025
DOI: 10.33115/udg_bib/qf.i8.23112
Marcial Pons Ediciones Jurídicas y Sociales
© Jacopo Della Torre
ISSN: 2604-6202
Recibido: 08/01/2025 | Aceptado: 15/01/2025 | Publicado *online*: 31/01/2025
Editado bajo licencia Reconocimiento 4.0 Internacional de Creative Commons

TAKING THE EVOLUTION OF THE STANDARDS OF PROOF FOR A CRIMINAL CONVICTION SERIOUSLY*

Jacopo Della Torre
Associate professor of Criminal procedure
University of Genoa, Italy
jacopo.dellatorre@unige.it

ABSTRACT: The article offers a diachronic and comparative analysis of different standards of proof for a criminal conviction. The first part focuses on the attempt of medieval and early modern Roman-canon systems to clarify this type of rule through a network of legal proofs. The second part analyses the origins of the main standards for a criminal conviction used today: moral certainty, beyond reasonable doubt and *intime conviction*. The final part looks to the future, asking whether traditional decision-making criteria should be maintained or replaced by new ones based on the principles of contemporary epistemology.

Keywords: standard of proof; reasonable doubt; moral certainty; *intime conviction*; legal proof.

* I presented an earlier version of this work in Milan (Bocconi University, 7 March 2024). I also presented some of the ideas in this article at an online conference organised by the University of Nottingham on 28 November 2024. I am grateful to all the participants at these events who commented on my work. In particular, I would like to thank Diego Dei Vecchi, Paul Roberts and Giovanni Tuzet. I am also grateful to Paul Roberts for his hospitality at the University of Nottingham, which was essential for the English and US parts of the research. A previous version of this article appeared as Della Torre 2023a. Finally, I thank the reviewers of this journal for their constructive comments on the submitted draft.

1. INTRODUCTION

In recent years, the issue of standards of proof has received increasing attention in both common law and civil law jurisdictions[1]. As we shall see (§ 7), the reasons for this transversal interest are manifold. In some countries, the phenomenon has been encouraged by legislative attempts to explicitly codify evidentiary thresholds that were previously only implicit. In other cases, it has been the case law that has sought to better define the rules of decision-making. Finally, certain supranational institutions—such as the European Court of Human Rights—have also played an important role.

However, despite the wide range of the debate that has developed on this subject, it should be noted that the results obtained are rather heterogeneous and not without ambiguities. Suffice it to say that there is no unanimity even on some fundamental aspects, such as the definition of the concept of "standard of proof"[2], or on the real capacity of this type of rule to contribute to the proper functioning of legal systems. While there are those who are in favour of the primary importance of this category (Ferrer Beltrán and Tuzet, 2018, p. 455 ff.), there are also those who are of the opinion that standards of proof are nothing more than a relic of the past that we could well do without (Nieva Fenoll, 2020, p. 119 ff.). As we shall later see (§ 2), at the heart of these opposing visions lies a bitter dispute between those who, for legal and moral reasons, consider it possible and/or desirable to establish objective or intersubjective thresholds of proof, and those who, for various reasons, oppose this thesis.

The aim of this article is to take a step forward through a diachronic and comparative analysis dedicated to a particularly problematic category of standards: those aimed at determining the *quantum* of proof required for a criminal conviction. To understand the delicate nature of this issue, it is enough to recall that one of the most

[1] See Allen (2013, p. 43 ff.); Ambos (2023, p. 167 ff.); Clermont (2013); Ferrer Beltrán (2021b); Id. (2007, p. 149 ff.); Laudan (2006); Poli (2023); Nance (2016); Nieva Fenoll (2010, 85 ff.); Stella (2003, p. 116 ff.); Summers (2023, p. 264 ff.); Taruffo (2009, p. 218 ff.); Tuzet (2023, pp. 226-247 and 264-274).

[2] As Roberts and Zuckerman (2022, p. 267) point out «what, exactly, is a criminal standard of proof? This question is more complex, and its answer more controversial, than widely appreciated».

authoritative European scholars admitted that «*la degré de certitude qui conditionne la décision de culpabilité est une des questions les plus obscures du droit pénal*» (Delmas-Marty, 1996, p. 59).

The structure of the essay is as follows: after some introductory clarifications on the concept of "standard of proof", which are intended to show how these rules fulfil several essential roles for the proper functioning of legal systems (§ 2), the first part focuses on its use in pre-modern and early modern Roman-Canon legal systems (§ 3). This part of the analysis has a specific purpose: to draw attention to one of the most ambitious attempts to make standards of proof less subject to the arbitrary power of adjudicators, perpetuated by the creation of a complex network of legal proof rules[3]. This was an experience that proved unsuccessful in the long run, but not for that reason unable of providing valuable lessons for the present day.

The second part of the article (§§ 4-7) contains a diachronic analysis of the origins and development of the principal standards of proof still used today for the imposition of punishment: moral certainty, beyond any reasonable doubt (hereafter BARD) and, finally, *intime conviction*. This will show that not only do these rules have very distant origins in time, but that they are also closely connected. And it is also because these rules are the fruit of cultural and legal changes that took place centuries ago that, as we shall see, interpreters today struggle so much to identify a minimal meaning of them.

Awareness of this fundamental historical fact will be the starting point for the last part of the work (§8), which will be devoted to understanding whether it is appropriate in contemporary legal systems to continue to maintain the traditional rules of decision-making, or whether, as some scholars argue, they should be replaced by new ones based on the principles of contemporary epistemology.

2. CONCEPTUAL AND TERMINOLOGICAL PREMISES

It is well known that the factual assertions made by the parties in legal proceedings are mere hypotheses which, as such, may be true or false (Taruffo, 2009, p. 218). Reducing this background uncertainty is one of the most delicate tasks of the law of evidence. By supporting «the factual claims made by the parties and the findings of fact made by the decision-makers» (Tuzet, 2021, p. 90), evidence ensures that the truth remains the point of reference that guides the direction in which the judicial process must move[4]. But when can a hypothesis about a fact be said to have reached such a level of corroboration that it can be considered sufficiently proven? To provide

[3] For a recent English-language overview of the Roman-canon system of legal proof, see Damaška (2019).

[4] On this point, see Caprioli (2017, p. 317 ff.); Ferrer Beltrán (2004); Summers (2023, p. 249 ff.); Taruffo (2009b); Ubertis (2021, p. 2).

a consistent and predictable answer to this question, legal systems have developed a specific set of rules: the standards of proof. To appreciate the long tradition of this type of rule, it is enough to remember that the medieval Roman-canon systems already used the category "*gradus probationis*", which bears strong similarities to the modern concept of "standard of proof" [5].

Having clarified this, it is possible to give an initial definition of the concept, which is necessarily broad because it aims to reconcile heterogeneous opinions: "standards of proof" are rules, either explicit or implicit, that specify the minimum threshold that must be reached for a hypothesis to be accepted as sufficiently proven by the trier of fact. Despite the vagueness of the proposed definition, it is useful for understanding the main functions of this category of rules in the legal context.

The first is to oblige public authorities to verify that a hypothesis has a certain degree of corroboration before it can justify the adoption of a measure that may affect a person's legal sphere (Ferrer Beltrán, 2021b, 112 ff.). It follows that such rules act as a shield against the arbitrary restriction of individual rights by the authorities, protecting the most fundamental rights of the individual, such as the presumption of innocence, individual liberty, the right to property and, in some legal systems, even the right to life. Indeed, where there is a standard, the factfinder must operate within a "constrained discretion", having to consider whether the prescribed threshold has been met [6].

Secondly, standards also serve as an essential means of justifying the choices made by the decision-makers. Thanks to these legal rules, the fact-finders should be able to choose logically *ex ante* and, if necessary, to justify *ex post* why, among the hypotheses supported by the compendium of evidence, one should be accepted rather than another. It is therefore not by chance that many scholars have stressed the privileged relationship that exists between the standards of proof and the motivation of judgments (Damaška, 2019, p. 143; Ferrer Beltrán, 2021b, p. 109 ff.).

Thirdly, the decision-making rules act as an incentive for the parties, whether public or private, to seek and provide sufficient evidence to meet the individual thresholds set at the various stages of the procedure. This "driving force" of standards is particularly important for investigating authorities: these rules can indeed favour the conduct of complete investigations, both in terms of quantity and quality. And this clearly shows, from a privileged perspective, that there is a close link between the efficiency of justice and standards of proof (Della Torre, 2023b, p. 327 ff.). However, it should not be overlooked that these provisions also play an important role from a perspective more closely linked to the defence of the accused: indeed, knowing how much evidence the prosecution will have to produce in order to obtain a decision in its favour is essential information for making a rational decision on whether to

[5] We find the Latin expression *gradus probationis*, for example, in Bartolo da Sassoferrato (1562, Comment on Book XII of the Digest., tit. II, *lex* XXXI, f. 564, § 20 et ff.).

[6] On this point, see Iacoviello (2023, p. 300 f.).

articulate the defence strategy passively or actively, for example by agreeing to enter into a plea bargain (Ferrer Beltrán, 2021b, p. 113).

What has been observed illustrates how standards of proof are related in two ways to the rules that allocate the so-called risk of failure to prove the alleged facts between the parties[7]. On the one hand, they allow to know when the burden of proof can be considered to have been met. This makes it easy to understand why Anglo-Saxon systems use the concept of "burden of persuasion" in addition to the concept of "burden of production": the former refers to the burden of persuading the trier of fact to the extent required by a standard of proof. At the same time, standards provide the material conditions for the application of so-called "decision rules" in the strict sense, i.e. those rules which resolve procedural uncertainty—i.e. the absence of the *quantum* of evidence required by the standard—in a manner favourable to one party or the other[8].

However, it should be made clear that nothing requires the existence of a single standard of proof within a given jurisdiction or even within the same judicial procedure[9]. In this respect, it should be noted that standards of proof are applicable not only when the final judicial decision on the disputed facts is to be taken, but at all stages of the proceedings when it is necessary to verify, even provisionally, whether a minimum level of support for a given fact has been reached. From this point of view, standards can be divided into at least three macro-categories (Della Torre, 2023b, p. 333). There are: a) "propulsive standards", which set out the evidentiary requirements that must be met in order to decide whether to prosecute or to proceed from pre-trial to trial[10]; b) "incidental standards", which are used to decide whether or not to accept a case as proven at a particular sub-stage of the procedure (e.g. at the pre-trial detention stage[11]); and, finally, c) "decision-making standards in the strict sense", which are intended to guide the trier of fact in assessing whether there is sufficient evidence to support a conviction[12].

---

[7] On the relationship between burdens and standards of proof, see Allen (2014, p. 195 ff.) and Stein (2005, p. 118 ff.).

[8] The link between these categories of norms is that standards of proof determine the evidential requirements for the application of "decision rules". And it is precisely because of this inextricable link that the terms "standard of proof" and "decision rule" are often used synonymously, even though they focus to a greater or lesser extent on different regulatory profiles.

[9] See Ferrer Beltrán (2021b, p. 100 f.) who rightly insists that standards of proof should be built on an ascending scale, becoming more and more demanding. For a contrary view see Ferrua (2020, p. 2639 ff.).

[10] Consider, for example, the "reasonable" or "realistic prospect of conviction" standard applied in various jurisdictions (England, Canada and, following a recent reform, in a very similar form in Italy) at the moment when the prosecutor has to decide whether or not to charge. On this point, see Della Torre (2024, p. 19).

[11] Consider, for example, the standard of "serious indications of guilt" required by Article 273 of the Italian Code of criminal procedure for the application of a precautionary measure.

[12] This is the case with BARD, moral certainty and *intime conviction*, which will be the focus of this study.

The recognition that there may be different standards of proof leads to the question of where one should be placed. Traditionally, the answer to this question has been that the level of these rules depends on the severity of the legal consequences of adopting a particular procedural choice. And it is precisely because rights and interests of fundamental importance to the accused are at risk of being compromised in the criminal sphere that the standards to be attained for the judgment at the end of criminal proceedings have historically been considered the most demanding compared to those used in other branches of law and, in particular, compared to those used in civil proceedings[13].

This draws attention to another important function of such rules: their contribution to the distribution of the risk of erroneous judicial decisions[14]. To understand this better, it is useful to make a preliminary clarification. We can call: a) "false negative", a decision that considers a true hypothesis unproven; b) "false positive", one that considers a false hypothesis proven. Now, it is easy to see that as one decides to raise the level of a standard of proof, it becomes physiologically more difficult to achieve it in practice. This has two consequences: on the one hand, it increases the risk of a "false negative" (i.e. of failing to sufficiently prove a hypothesis that is in fact true) and, on the other hand, it reduces the risk of a "false positive" (i.e. of believing that a false hypothesis has been proved). Bearing this feature in mind, it is useful to understand, from another perspective, why the standard of proof set for the final decision in criminal proceedings is configured as the most demanding. This is because, with this type of rule, the systems do not seek so much to minimise the total number of errors in the reconstruction of the facts, but rather to limit the risk of occurrence of the category of error considered to be the most serious: the conviction of an innocent person (false positive)[15]. And it is clear that—as we shall see below—this asymmetrical nature of the standard of proof for a criminal conviction represents one of the law's most important commitments to the presumption of innocence (Roberts and Zuckerman, 2022, p. 275 ff.)[16].

---

[13] For a recent study on this aspect, see Poli (2023).

[14] It should be recalled that there is a complex debate about what exactly is distributed by standards of proof: is it the errors or the risk of errors? For a complete reconstruction of this debate, see Ferrer Beltrán (2021b, p. 115 ff.). In my view, the second of these alternatives is preferable for a fundamental reason: it is not only the standard of proof that influences the likelihood of the correctness of the decision on the facts, but also many other procedural rules (such as those governing the admissibility, gathering and evaluation of evidence). If this is the case, then logically the setting of a more or less demanding standard of proof has no effect (except very indirectly) on the reduction of the overall number of errors. Rather, they directly distribute the risk of error among the parties.

[15] See Broun *et al.* (2014, p. 724) and Taruffo (2005, p. 117). For this very reason, the argument that a high standard of proof would help to reduce the overall number of factual errors is unconvincing. Indeed, this observation overlooks the fact that even wrongful acquittals are, strictly speaking, errors. In essence, setting high standards only leads us to favour one type of risk of error over the other. On this point, see Ferrer Beltrán and Tuzet (2018, p. 458).

[16] As Iacoviello (2023, p. 301) reminds us, the presumption of innocence fixes the epistemological status of the hypothesis of innocence, stating: at the moment when the decision phase begins, the hy-

If this is true, the next step is to ask how many false acquittals a system is willing to tolerate in order to avoid a wrongful conviction. This is a question that has received mixed answers over the centuries. One of the best-known positions in this regard is that of William Blackstone, who stated: «the law holds [...] that it is better that ten guilty persons should escape, than that one innocent should suffer» (Blackstone, 1770, p. 352) But others have gone further, arguing that it's better to acquit more guilty people than to condemn an innocent one (Ferrer Beltrán, 2021b, p. 126). Beyond the rhetoric, it is clear that behind these divergences are different visions, influenced by political and moral choices, of the threshold at which we must set the level of evidence required for a criminal conviction.

It should be noted, however, that if one were concerned solely with the objective of protecting the innocent, one would be inclined to set a standard of absolute certainty for the imposition of a sentence. However, such a rule would create serious problems for the functioning of criminal justice systems (Ferrer Beltrán and Tuzet, 2018, p. 460). The most important of these is the fact that, given the nature of evidential reasoning, which is not logically deductive, but inductive and abductive, and therefore subject to margins of error (Taruffo, 1992, p. 166 ss.), such a decision rule «would result in acquittals in all cases, since there is no case without doubt» (Wharton, 1880, p. 2). It follows that such a policy option would only exponentially increase the number of wrongful acquittals, thereby preventing criminal justice systems from achieving two of their other inalienable objectives: ensuring the effective repression of crime and, consequently, the adequate protection of the community and victims from criminal behaviour. It is therefore no coincidence that, at the end of the 18th century, the eminent jurist Gaetano Filangieri warned against such a choice, stating that «five degrees more security in the courts would cost a hundred degrees less security in society» (Filangieri, 1806, p. 157).

Once we recognise the functions entrusted to standards of proof, we can see how crucial this type of legal rule is for the overall good functioning of a procedural legal system, and how important it is that they are designed to be easily applied in practice. Indeed, it is clear that the more the parties and the adjudicators are able to understand clearly whether or not the individual threshold of sufficiency of the proof has been reached, the better the functions assigned to the decision-making criteria will be fulfilled. But there is a serious impasse. There is no agreement on the best strategy to follow to create truly "efficient" standards of proof, i.e. capable of fulfilling the purposes assigned to them in an appropriate manner. In this respect, there is indeed a "great divide" between "subjective" and "objective" conceptions of standards of proof (Della Torre, 2015, p. 387 ff.; Haack, 2014, p. 52 ff.).

---

pothesis of innocence and the hypothesis of guilt are not on the same level, because the hypothesis of innocence has a privileged status. In fact, unlike the guilty hypothesis, the innocent hypothesis enjoys an initial plausibility derived directly from the law, without the need for proof.

Among the adherents of the first category are those who believe that it is possible to construct standards of proof as norms indicating the "*degree of persuasion*" [17] or "*degree of conviction*" [18] that the evidence must produce in the mind of the fact-finder in order for him to regard a hypothesis as proven. Essentially, according to the proponents of this interpretation, which, as we shall see, has been dominant in recent centuries, they should be constructed by referring to a graduated scale of individual belief, determined by the evidence, which rises progressively from the lower levels—complete uncertainty, suspicion and doubt—to the highest degree of conviction, which is never really attainable: absolute certainty as to the truth of a hypothesis [19].

In recent decades, however, many authors, both in common law and civil law systems, have severely criticised the conception of these rules as "*standards of persuasion*" [20]. In particular, it has been pointed out that the standards of proof, if conceived in this way, would be incapable both of adequately limiting the arbitrariness of the decision-makers and of enabling the parties to know with sufficient reliability when they would be able to obtain a decision in their favour. This is all the more true as the standards, if based on a certain level of conviction to be achieved, would end up depending on an often unpredictable fact: the ability of the adjudicator to be more or less easily persuaded by the evidence. Ultimately, there would be a risk of an exponential multiplication of the range of standards applied in practice, depending on the sensitivity of the fact-finder. As will be seen in more detail below, heterogeneous approaches have been taken to address this problem. On the one hand, there are those who have tried to interpret traditional rules in a more "objective" perspective, linking them to epistemic parameters rather than to the more or less fixed beliefs of the adjudicator (§ 7). A more radical approach, however, was to propose the total replacement of the classical standards by new ones, purified of references to subjective beliefs (§8). Whichever of these options is chosen, the common effect is to emphasise a more "objective" approach to standards of proof. That is, to see them as rules based not on a given degree of belief, but on a "*degree of rational justification*", or a "*degree of warrant*" (Haack,

[17] See, for instance, the position assumed by Bentham (1827, p. 71 ff.); Clermont (2013, p. 4); Broun et. al. (2014, p. 724 s.) and Wigmore (1940, p. 325). On closer inspection, it is precisely in the light of this subjective conception of the phenomenon of evidence that the terms "burden of persuasion" or "standard of persuasion", which are prevalent in common law countries, could be explained.

[18] As we shall see in § 5, this view has become widespread in continental Europe, mainly due to the success of the subjective standard of *intime conviction* of French origin.

[19] As Haack (2014, pp. 48 ff.) recalls, in *In re Winship*, 397 U.S. 370 (1970), Justice Harlan wrote that the function of the standard of proof is to instruct the factfinder as to the "*degree of confidence*" our society thinks it should have in the correctness of factual conclusions for a particular type of adjudication. But for a similar construction, already see Bartolo da Sassoferrato (1562, Comment on Book XII of the Digest., tit. II, *lex* XXXI, f. 564, § 20 et ff.

[20] See Ferrer Beltrán (2021a, p. 40 ff..); Id. (2021b, *passim*); Haack (2014, p. 48 ff.); Laudan (2005, p. 95 ff.); Taruffo (2009a, 310).

2014, p. 56 ff.), that evidence must provide for a hypothesis about a fact in order for it to be accepted as proven [21].

Having reached this point, it is worth noting that the clash between more subjective and more objective notions of the standards of proof is not a contemporary novelty, but rather a historically unresolved issue. It is true that there have been periods in time when one or the other of these views has prevailed. To understand this, it is essential to adopt a diachronic-descriptive approach, which aims to examine more closely the evolution of the main standards of proof used in Western legal systems to support a criminal conviction.

3. THE (SHATTERED) DREAM OF PRE-MODERN ROMAN-CANON SYSTEMS: THE RATIONALISATION OF STANDARDS OF PROOF THROUGH LEGAL PROOF RULES

3.1. The standard of *luce meridiana clariores* and its functional connection with the legal proof rules

A rule of the Codex of Justinianus states that a public accusation should not be made unless it was based on «suitable testimony, clear documents, or unquestionable circumstantial evidence, clearer than light itself» [22]. This rule was an important point of reference for the Roman-canon systems of the late Middle Ages, which used it as a benchmark to determine the "*gradus probationis*" for a criminal conviction [23]. The general rule, repeated by criminalists in European countries until the end of the *Ancien Régime*, was that, in order to condemn an accused person, his guilt had to appear "clearer than the midday sun" ("*luce meridiana clariores*") [24]. This formula was intended to indicate a situation in which the evidence was particularly strong

[21] However, some authors have questioned the possibility of formulating truly objective standards of proof: see in this respect the positions of Dei Vecchi (2022, p. 337 ff.) and by González Lagier (2020, p. 79 ff.). For a defence of "objectivist" positions, see, instead, Ferrer Beltrán (2021b, p. 203 ff.) and Aguilera (2021, p. 403 ff.).

[22] The reference goes to C. 4.19.25, which reads: «*sciant cuncti accusatores eam se rem deferre debere in publicam notionem, quae munita sit testibus idoneis vel instructa apertissimis documentis vel indiciis ad probationem indubitatis et luce clarioribus expedita*».

[23] See, for example, Bianchi (1554, f. 264, § 10), who says: «*alius gradus probationis, quando procedendum est ad sententiam, & condemnationem, nam tunc luce meridiana clariores requiruntur*». In contemporary literature, see Alessi Palazzolo (1979, p. 3-6); Daniele (2009, p. 72); Garlati (2004, p. 395 f.); Picinali (2022, p. 19); Rosoni (1995, p. 70 f.).

[24] See, for example, Baldo degli Ubaldi (1578, tit. *De Probation.*, *lex* XV*, Sciant cuncti*, f. 45, § 1) ; Bossi, (1564, tit. *de Oppositionibus contra testes*, f. 449, § 90); Claro (1586, *Liber* V. § *Fin. pract. Crim.*, *quae*. XXIIII, f. 251, § 3); Carpzov, (1684, *pars*. III, *quae.* CXX, f. 178, § 12-14)); Deciani (1613, cap. XXXV, tit. *De probationibus*, f. 358 § 20); Poullain-Duparc (1771, p. 112, § 41); Farinacci (1616, *pars*. III, *quae*. LXXXVI, f. 78); Le Brun de La Rochette (1611, p. 109); Mascardi, (1585, *conclusio* 459, f. 284, § 2 and 14).

or, depending on the terminology used by the various authors, "*plena*", "*indubitata*", "*apertissima*" or "*liquidissima*" (Allard, 1868, p. 244).

Another important point of reference in this field, taken from the Roman law, was a rule of the Emperor Trajan, which is collected in the Digest of Justinian[25]. The reference is made to the so-called *lex absentem*, which enshrined the principle of «*satius enim esse impunitum relinqui facinus nocentis quam innocentem damnari*» (it is better to let the guilty go free than to condemn the innocent)[26]. The strong valorisation of this rule makes it possible to understand how even the Roman-canon systems felt the need to structure the criminal standard of proof for a criminal conviction in such a way as to favour false acquittals over false convictions[27].

But the similarities do not end there. Roman-canon jurists also used the phrase "*luce clarioribus*" to emphasise the higher evidential threshold required to convict a subject in the criminal sphere than in the civil sphere (Alessi Palazzolo, 1979, p. 4). Let us take, in this regard, as an example one of the most famous Italian jurists of the 14th century: Baldus de Ubaldis. Well, it's no coincidence that he felt the need to devote space to this issue in his commentary on the constitution *sciant cuncti*, concluding that criminal evidence must surpass civil evidence, not only in terms of the method by which it is obtained, but also in terms of its greater "demonstrative" value[28]. Baldus was developing a line of thought that had been used before and after him, and which was a constant for Roman-canon lawyers who believed that «*ubi maius est periculum ibi cautius est providendum*»[29]. This suggests that continental medieval systems had already established a proportional relationship between the value at stake in a given type of proceeding and the more or less demanding nature of the standards of proof. In criminal justice, especially when it came to imposing "ordinary punishment" (*poena ordinaria*), i.e. the punishment prescribed by law or custom, usually consisting of severe corporal punishment or the death penalty (*poena sanguinis*), the general rule was that the standard of proof for conviction should be as high as possible: *luce meridiana clariores*[30].

Having established these premises, we can now focus our attention on what, for the present analysis, turns out to be the main point of the experience of the Roman-canon systems: the attempt to rationalise the standard of *luce meridiana clariores* by establishing a rich set of legal proof rules, i.e. rules determining *a priori* the value to be given to a piece of evidence if it has certain quantitative or qualitative characteristics[31]. Refer-

[25] See D 48.19.5.

[26] On this point, see Dezza (2013, p. 41).

[27] See de Coras (1568, obs. CXI, 373, § 11); Farinacci (1607, cons. XX, f. 100, § 10); Gail (1613, ob. CXL, f. 253, § 11), who wrote: «*in dubio melius est nocentem absolvere, quam innocentem codemnare*».

[28] Baldo degli Ubaldi (1578, tit. *De Probation*., *lex* XV, *Sciant cuncti*, f. 45, § 8).

[29] See Bartolomeo da Saliceto (1578, tit. *De probationibus,* f. 134, § 1).

[30] On this point see Bentham (1827, p. 93 ff.).

[31] According to Ambos (2023, p. 170) «a system of legal proof consists of formal rules of evidence which instruct the adjudicator to take a certain fact as evidence only if this finding is in compliance with

ence is made to the development of the more general Roman-canon "system of legal proof"[32], conceived at a doctrinal level from the late Middle Ages[33], later crystallised in a number of important legal texts of the sixteenth century[34], and then maintained in the main European legal systems until the time of the codifications[35]. It was a system of rules designed to predetermine the character and value to be attached to each piece of evidence according to a complex "hierarchical" scheme (Levy, 1939). It is worth remembering that one of the main purposes for which this model was created was precisely to act as a counterweight to the power of judges and, in this sense, to constitute a respectable attempt to remove arbitrariness from the assessment of facts[36].

At a structural level, legal proof rules presented a recurring pattern, consisting of two distinct and interrelated elements (Daniele, 2009, p. 72). These rules indicated, on the one hand, the numerical and/or qualitative characteristics that a given piece of evidence had to possess and, on the other hand, the evidential value to be attached to it if the judge considered that the conditions prescribed by the rule were met. The bridge between these two elements was formed by an inference predetermined at the legal level, based on the generalisation of elements considered, according to the logic of the time, to be a valid gnoseological basis for legal knowledge, such as religious principles or Roman fragments.

Let us take, for example, one of the most classic rules of legal proof: the two-eyewitnesses rule, i.e. the rule which states that the testimony of two direct, concurring and credible witnesses is sufficient to prove a certain assertion about a fact[37]. Now, such a rule could be divided into two parts. The first part specifies the number and quality of the witnesses (e.g. that they should be more than one, that they should have directly witnessed the commission of the crime and that they should not be in one of the numerous situations of incapacity to testify established by the sources of the time).The second specifies the value to be attached to their testimony if all the conditions set out in the first part are met (i.e. the fact that two unimpeachable eyewitnesses constitute "full proof"). Finally, it should be noted that the normative

---

the respective rules». He also recalls that there can be both positive rules—which positively indicate to the judge the value to be given to a piece of evidence if certain conditions are met—and negative rules, which prohibit the judge from reaching a particular conclusion if it does not have certain characteristics.

[32] As Damaška (2019, p. 92 ff.) recalls, it should not be overlooked that the system of legal proof included not only rules of evaluation but also rules of admissibility of evidence.

[33] On this point see Alessi Palazzolo (1979, p. 8).

[34] The articulated *corpus* of Roman-canon legal proof rules is codified, for example, in the *Constitutio criminalis carolina* of 1532, an English translation of which can be found in Langbein (1974, p. 259 ff.).

[35] See, on this point, Damaška (2019, p. 7), who recalls that in some continental countries the theory of legal proof persisted throughout the twentieth century.

[36] See, on this point, Damaška (2019, p. 25) and Nobili (1974, p. 108-110).

[37] See art. 67 of the *Constitutio criminalis carolina*. For a comprehensive analysis, see Damaška (2019, p. 59-65).

inference linking these elements was based both on a maxim contained in the Bible[38] and on indications contained in Roman sources[39].

Having said this, it is now possible to focus attention on the close relationship that existed between the standard of proof of the *luce meridiana clariores* and the traditional legal proof rules. In this regard, it should be noted that this standard established a threshold that had to be reached in order to convict, without, however, specifying the characteristics and the quality that each piece of evidence had to have in order to reach such a result. Well, one of the main purposes for which Roman-canon legal proof rules were developed was precisely to create a regime of "legal certainty"[40] on this point. By creating a system of rules on the value of evidence, an attempt was made to determine *ex ante* which and how much evidence could lead to the situation of evidential clarity required by the constitution *sciant cuncti*[41]. In other words, the aim of the positive criteria for the evaluation of evidence was to solve the problem of the indeterminacy of the threshold of evidence to be reached in order to convict by the «compass of the law»[42]. Let's take again the example of the traditional rule of two-eyewitnesses: it was a rule about the quality and quantity of the testimony, and at the same time it set a threshold of full proof that was considered to meet the relative standard of the *luce meridiana clariores*. This is useful for understanding how, in the Roman canonical system of fact-finding, the standard of proof for a criminal conviction and the set of legal rules of proof, although strictly speaking different rules, were inextricably linked at a functional level[43]. Indeed, the latter served to understand when there was sufficient evidence for a conviction.

3.2. The operational difficulties of the Roman-canon system of legal proof: the rise of the confession and the problem of the *indicia indubitata*

What we have seen so far should not lead us to conclude that the Roman-canon system of proof worked «by virtue of a rigid automatism» (Nobili, 1974, p. 113). In this respect, important studies (Alessi Palazzolo, 1979, p. 7; Damaška, 2019, p. 113; Rosoni, 1995, p. 40) have indeed disproved the traditional idea, resulting from the criticism of the Enlightenment reformers of the 18th century, according to which the legal proof rules obliged the judge to convict independently of his own convictions[44].

---

[38] *Deuteronomy*, 19:15-17.

[39] The reference is to Constantine's constitution, contained in C Th. 11.39.3.1 and repeated in C. 4.20.9.

[40] On this notion, widespread above all in nineteenth-century treatises, Mittermaier (1850, p. 100 s.).

[41] See de Damhouder (1556, ch. 49, f. 144, § 6-8).

[42] The expression comes from Arrivabene (1814, p. 24).

[43] On the functional connection between standards of proof and legal proof rules, see Tuzet (2021, p. 107).

[44] See Touret, speech of the 11.1.1791, in Mavidal and Laurent (eds.) (1885, p. 132). In this respect, Esmein's (1882, p. 260) image of the Roman canonical judge as «*un clavier qui répond inévitablement lorsqu'on frappe certaines touches*» remains famous.

More specifically, these studies have argued that the normative inference underlying the legal proof rules was only triggered when judges considered that the evidence obtained met several requirements, both formal and substantive, which ultimately left them with a not inconsiderable margin of discretion ("*arbitrium*")[45].

In so far as it is relevant here, it should be noted that there is one aspect in which the Roman canonical system was characterised by a certain rigidity: the attempt to establish *ex ante* what and how much evidence was necessary to condemn the accused to severe corporal or capital punishment (*poena sanguinis*). This recalls the famous division between the standard of "full proof" (*probatio plena*), i.e. that which «*tantam fidem facit, quantam ad finiendum controversiam sufficit*» (Mascardi, 1585, quae. IV, f. 4, § 16) and the standard of "half proof" (*probatio semiplena*) [46], i.e. that which remains incomplete[47]. This distinction had important legal consequences: only the former were considered equivalent to the standard of the *luce meridiana clariores* and thus justified the application of the most severe criminal sanctions (Alessi Palazzolo, 1979, p. 43).

It should be noted, however, that the Roman-canon system tended to limit the qualification of "*plena probatio*" to a limited range of types of evidence[48], capable of directly establishing the fact of the offence, such as the rule of two eyewitnesses, or judicial confession[49]. By contrast, direct evidence that did not meet certain requirements, or evidence that was only circumstantial, was classified as "weak" [50]. For this reason, it was classified as "half proof"[51] or in an even lower category[52] and was generally considered inappropriate as a basis for applying the most severe penalties[53].

However, it is not difficult to see that this hierarchical construction could give rise to considerable practical problems. Indeed, since it is not always easy to obtain evidence that meets all the requirements of full proof, such a system, if rigidly understood, would risk preventing the application of ordinary punishment in a significant number of cases, even in the presence of serious evidence of guilt[54]. With all that this would entail in terms of a loss of the repressive capacity of penal systems and an

---

[45] See Damaška (2019, p. 59-81). See, in support of this thesis, the words of Farinacci (1607, *concl.* 70, f. 336): «*probationes omnes sunt judici arbitrariae*».

[46] On this subject, see Mascardi (1585, quae. IV, f. 4, § 17), who defines the half-proof as follows: «*per quam rei gestae fides aliqua fit iudici, non tamen tanta, ut iure eam debeat sequi in sententia dicenda*».

[47] On this distinction, see Rosoni (1995, p. 73 ff.).

[48] On this point see the authoritative opinion of de Damhouder (1556, cap. 49, f. 143 f.), who included in this category only the cases of two-eyewitnesses, judicial confession and *evidentia facti*.

[49] For the characteristics that the confession had to have to be classified as full proof, see Damaška (2019, p. 69 ff.).

[50] See again de Damhouder (1556, cap. 49, f. 144, § 4-7).

[51] See Rosoni (1995, p. 81).

[52] See, for example, Claro (1586, *quae*. XX, f. 240, § 1): «*et hoc credo proprie in hac materia appellari posse indicium, quod silicet sit plus quam simplex preasumptio, et minus quam semiplena probatio*».

[53] On this subject, see Alessi Palazzolo (1979, p. 14); Rosoni (1995, p. 124 ff.).

[54] See, in this regard, Alessi Palazzolo (1979, p. 55) and Rosoni (1995, p. 81).

increased risk of the propagation of revenge spirals by victims or their families. And it was also the desire to limit these risks that led the Roman-canon systems to rely more and more on a category of full proof that was considered more easily available than the others: the confession, which in time became the *regina probationum*. As is well known, the desire to obtain many confessions led to a cascade of poisoned fruits. In particular, it contributed to the spread of that unacceptable method of extracting statements against one's will which was used, with varying degrees of success, by continental systems until the Enlightenment: judicial torture[55].

To these problems were then added other delicate theoretical questions arising from the difficulty of reconciling the above-mentioned devaluation of circumstantial evidence with some opposite indications coming from Roman law (Alessi Palazzolo, 1979, p. 55). In this regard, it is sufficient to recall once again the constitution *sciant cuncti*, which, as we have seen, not only attributed to circumstantial evidence, provided that it was unquestionable circumstantial evidence (*indicia indubitata*), the qualification of *luce clarioribus* evidence, but also equated it with two categories of full proof, namely testimony and documentary evidence. This obviously made it difficult to justify the tendency to deny even decisive value to this category, since it was valued by the same source from which the main criminal law standard was derived. In view of this, it is not surprising that the question of the role of *indicia indubitata* was one of the most debated issues in Europe up to the time of the codifications[56].

One of the first problems was the definition of the concept. It was a question that was as crucial as it was difficult to resolve[57], partly because the attempt to settle it by listing all the typical hypotheses of unquestionable circumstantial evidence did not provide satisfactory answers (Alessi Palazzolo, 1979, p. 56). As we shall see in the next paragraph, the discussion on this point was enriched by new positions in the 17th and 18th centuries, when an attempt was made to solve the problem by using the concepts—important from late medieval and modern theological reflection—of moral certainty and reasonable doubt. Whatever the case, one fact is clear: as the writers of the time recognised, the decision as to whether or not to classify circumstantial evidence as "*indubitata*" could ultimately only depend on the decision of the individual adjudicator[58]. In the end, this gave the judges a further (and even more important) margin of discretion in the assessment of evidence, capable of making the Roman-canon system much more flexible than it might appear in the abstract.

---

[55] See Mittermaier (1859, p. 291), who recalled that «the more widespread the use of torture became, the more the value of the confession increased». On this point, see Fiorelli (2023).

[56] For a detailed reconstruction, see Raynaldi (1735, cap. XXI, § IV & V, f. 259, § 27 ff.). In contemporary literature, see Rosoni (1995, p. 135 ff.).

[57] It is no coincidence that Raynaldi (1735, cap. XXI, § IV & V, f. 260, § 32) remarked that this question «*diversimode a Doctoribus definiuntur*».

[58] See Basilico (1691, f. 2) who stated that «*quae sint indicia indubitata melius arbitrio iudicis relinquendum*».

The above consideration is even more evident in the light of the debate that has developed as to whether or not it is possible to convict in criminal cases on the basis of this type of evidence[59]. A representative picture of the heterogeneous answers given to this question over time can be drawn by an author belonging to the mature period of Italian criminalistics: Giulio Claro. After admitting that «*in hoc articulo Doctores multum varie loquuntur*» (Claro, 1586, Liber V. § *Fin. pract. Crim., quae*. XX, f. 241, § 6), he summarised the main positions that had developed on the subject up to the 16th century. A first strand of interpretation, Claro recalls, proved to be particularly conservative: it took the general devaluation of circumstantial evidence described above to its extreme, concluding that even in the presence of genuine, *indicia indubitata*, no criminal conviction could be obtained. A second group of authors, however, took the opposite view. Relying on the equivalence established by the *sciant cuncti* constitution between the *indicia indubitata* and the standard of *luce meridiana clariores*, the exponents of this current of thought considered that this category could justify the imposition of the ordinary penalty, even if it was the death penalty. It should be noted that this type of approach has been particularly successful where certain types of crime have been prosecuted, including those which are judged to be "atrocious", "hidden" or "difficult to prove"[60].

Claro's work is also useful because it allows us to see that, among the extreme opinions we have described, other, more middle-of-the-road positions emerged and gradually prevailed, which were able to find more flexible solutions. The awareness that the Roman-canon system could not afford to abstain from conviction even on the basis of circumstantial evidence led to the search for a way out of the narrow dichotomy between acquittal on the one hand and the application of ordinary punishment on the other. To this end, a strategy was planned based on the following idea: if the evidence gathered during the trial did not allow the standard of "full proof" to be reached, but elements suitable for reaching the threshold of *indicia indubitata* had been gathered, a lesser punishment, chosen at the discretion of the judge, could be applied instead of the death penalty[61]. This compromise solution became known as *poena extraordinaria* (extraordinary punishment)[62]. A phenomenon that began in the Middle Ages and crystallised over the following centuries, reaching European proportions at its height.

What we have just seen shows how continental jurists responded to the practical difficulties caused by the rigidity of the Roman-canon system of proof, not only by insisting on confession, but also by establishing a proportional relationship between the degree of proof and the punishment to be inflicted (Alessi Palazzolo,

---

[59] On this point, see Rosoni (1995, p. 138 ff.).

[60] See Rosoni (1995, p. 140).

[61] Claro (1586, *Liber* V. § *Fin. pract. Crim*., *quae*. XX, f. 241, § 6) where he stated: «*alij dicunt, quod ubi ex preasumptionibus procedicitur multum debet iudex temperare suam sententiam, & maxime ne condemnet nisi raro, & modice ad poenam*».

[62] In contemporary literature, on this point see Alessi (1979, p. 19 ff.); Damaška (2019, p. 106-111); Picinali (2022, p. 20).

1979, p. 21), which ultimately determined a substantial doubling of the standard of proof for conviction. If it is true that the general standard remained formally that of the *luce meridiana clariores*, it is also true that in practice it was divided into two quantitative and qualitative thresholds which, for the same offence committed, led to different results in terms of punishment. The optimal threshold was reached only when full proof was obtained; and since it was considered that such evidence could establish a situation of "legal certainty" as to the guilt of the accused, the imposition of the most severe penalties, in particular the death penalty, was considered justified. The second threshold was that of *indicia indubitata*: this category, which presupposed the judge's belief in the guilt of the accused, but not the existence of evidence that could be classified as full proof, was considered less reliable and justified only the imposition of penalties milder than the death penalty. It is useful to note, moreover, that when the Roman-canon system sought to prohibit the imposition of the *poena sanguinis* in the absence of full proof, it proved to be more protective from this point of view than those contemporary legal systems which still allowed the death penalty to be applied on the basis of the BARD standard; that is, a criterion which, as we shall see shortly, is at a level comparable to that of the *indicia indubitata*[63].

The problem was that the standard of "full proof" turned out to be so demanding that it was often impossible to meet in practice, which favoured the development of creative solutions, one of the most important of which was precisely that of extraordinary punishments[64]. Although this stratagem had its advantages, both practical and religious[65], it was not without its costs. Such an operation further increased the power of the professional judiciary body, both at the procedural level and in the overall assessment of the evidence and, above all, at the level of the choice of the sanctions. This helps us to understand how the attempt of the Roman-canon system of fact-finding to make the standard of proof for a criminal conviction objective, by establishing a rigid set of evidence assessment criteria, proved to be a failure long before its final crisis in the Enlightenment. Over time, the mechanism of legal proof was no longer able to satisfy the need for "legal certainty" that was its *raison d'être*, confirming the ancient rescript of the Emperor Hadrian, according to which «*quae argumenta ad quem modum probandae cuique rei sufficiant, nullo certo modo satis definiri potest*»[66]. It is not difficult to see how the gradual realisation of this ultimately favoured the implosion of the system, from an epistemological rather than a moral point of view. It should be noted that as the demands for exemplarity and repressiveness typical of the states of the *Ancient Régime* grew, some legal systems tried to

[63] This is pointed out by Damaška (2019, p. 108).

[64] For further examples, see Damaška (2019, p. 111 ff.), who also includes in this category the so-called "intermediate judgments", on which see Picinali (2022).

[65] In effect, this instrument protected judges from the ethical-religious responsibility of pronouncing a death sentence on the basis of a decision that depended entirely on their inner convictions. This was a very significant advantage, since taking the life of an innocent person risked becoming a mortal sin. For more detailed reflections on this topic, see Damaška (2019, p. 91) and Whitman (2008, p. 3).

[66] The passage is included in D. 22.5.3.2. In curiously similar terms, see Ambos (2023, pp. 177 f.).

find ways of limiting the practice of extraordinary punishment. And it is precisely in the context of these authoritarian reactions that the concepts of moral certainty and BARD began to take their first steps in the legal field, at least for some civil law systems. However, instead of revitalising the traditional system of legal proof, these experiments contributed to its final collapse.

4. THE ORIGIN OF MORAL CERTAINTY AND REASONABLE DOUBT

4.1. The theological background

As is well known, in the Middle Ages there was a widespread belief that in human affairs, unlike in logic or mathematics, the absolute certainty of the truth of a proposition was unattainable[67]. In the wake of this awareness, the notion of certainty was conceived as a graduated scale: one of the most important classifications «was a sequence of three steps [...] that led down from mathematical (or metaphysical) over physical to practical certainty» (Shüssler, 2009, p. 453)[68]. As far as is relevant here, it should be noted that such a tripartite division had a decisive influence on the development of the standards of moral certainty and BARD, the origins of which will be examined in this section.

The first element to be clarified is the fact that these criteria do not originate in the world of law, but in the Christian theological-moral field. To understand this, it is useful to recall that the paternity of the concept of "moral certainty"—from which the BARD has been derived over the centuries—is attributed to the French theologian Jean Gerson (Franklin, 2001, p. 69), who lived at the time of the great Western Schism at the end of the 14th century. He developed this concept to address one of the most important concerns of societies at the time, which were particularly troubled by moral doubts due to the conflict between the Roman and Avignon papacy: to determine when a person could be said to be sufficiently certain to act without committing a sin (Schüssler, 2009, p. 453). In terms of content, even in Gerson's original construction, moral certainty would have implied only a high probability of the truth of a hypothesis[69]. Consequently, this standard would have allowed for the theoretical possibility of the contrary and would have been attainable even if some (unspecified) residual scruple of uncertainty had remained in the human soul[70]. Nevertheless, such a standard would still have been an indication of a sufficiently firm conviction for the individual's salvation from sin[71]. It is not difficult to see that in

---

[67] See Thomas Aquinas (1265-1274), *Summa Theologiae*, II- II, 70, art. 2, n. 1, who concluded that in human affairs there can be no "demonstrative" certainty, but only a "*probabilis certitudo*".

[68] An updated version of this tripartite division appears in Baron (2022).

[69] See, on this point, Jerson (1706, *De consolatione theologiae*, lib. IV, *prosa secunda*, p. 171 f.).

[70] See Biel (1574, *distinctio* XVI, *quaest*. III, f. 515).

[71] See Jerson (1706, Gersoniana, lib. IV, cap. III *De Morum Disciplina*, CXLIX).

choosing such a rule to indicate «a very high but not complete degree of persuasion» (Franklin, 2001, p. 69), Gerson was trying to strike a balance between widespread scrupulousness in moral matters on the one hand, and vigorous action on the other.

Thanks in part to its flexibility, the concept of moral certainty was an immediate success. Used by some of the most influential thinkers of the late Middle Ages[72], this idea was able to spread as early as the fifteenth century and, in the course of modernity, became an indispensable point of reference for all those who wanted to answer the question of what faith was necessary in human affairs in order not to risk making a wrong decision[73].

After the Lutheran Reformation, efforts to clarify its meaning were intensified[74]. From this point of view, an important contribution came from the clash between "casuistry" theologians that took place between the 16th and 18th centuries[75]. In fact, it was in this context that one began to describe as "reasonable" or "rational" the hesitation that could prevent one from arriving at moral certainty[76]. This makes it possible to understand how, originally, the standard—subjective because it refers to a state of mind—to be reached in resolving cases of conscience was that of moral certainty, which could only be said to be satisfied when a subject succeeded in eliminating all reasonable hesitation about the goodness of a solution (Shapiro, 1991, p. 21). From that time on, such theories were constantly used, even to the point of being endorsed by the leadership of the Catholic Church (§ 4.2).

However, the concept of moral certainty, understood as the highest possible certainty about past events, did not remain confined to the theological sphere, but quickly spread to many other fields of knowledge[77], including law[78]. This is hardly surprising, as it was a very valuable criterion in a context where the fact-finders had to make decisions about past events that were extremely delicate from both a legal and an ethical-religious point of view. It is therefore easy to understand why it was decided to transfer this criterion to criminal justice. On the one hand, the opportunity was seized to use as a decision-making rule a standard capable of protecting the individual from the risk of a wrongful conviction, in accordance with the old adage

---

[72] See Antonino da Firenze (1740, p. 204).

[73] See Shüssler (2009, p. 453).

[74] See Suarez (1741, p. 319), who said «*certitudo moralis omnem propriam dubitationem excludit*».

[75] On this point, see Shapiro (1991, p. 13 ff.) and Shüssler (2019, p. 60 ff.).

[76] See, among many others, Angles (1587, *concl.*V, f. 73); Concina (1761, p. 25); Caramuel Lobkowitz (1675, p. 255); de Lugo (1696, p. 72); Martinon (1663, p. 263); Medina (1580, p. 624); Patuzzi (1790, p. 291); Sanchez, (1622, p. 405); Verricelli (1653, p. 66). For the English experience, see Smith (1748, p. 42), who explicitly linked "moral certainty" with the absence of any "reasonable doubt".

[77] For example, the concept of moral certainty was used by some of the fathers of modern scientific thought, such as Descartes (1667, p. 483), who defined such certainty as that which «*est aussi grande que celle dont nous n'avons pas coutume de douter touchant la conduite de la vie*». For many other examples, see Shapiro (2022, p. 127 ff.).

[78] See Shapiro (2009, p. 268 f.) and Ead. (2012, p. 19 f.).

of *in dubio pro reo*, but not so high, given its probabilistic nature, as to sacrifice the repression of crime. On the other hand, an instrument has been introduced—approved by the most authoritative theologians as the best criterion for resolving cases of conscience—which could relieve the adjudicators of the fear of committing a mortal sin, given the ever-present risk of condemning an innocent person (Whitman, 2008). It is worth noting that this process of introducing moral certainty and reasonable doubt into the field of law took place in the late modern period, both in the accusatory systems of the common law and in the galaxy of inquisitorial systems of the Roman-canon tradition. Let us see how it happened.

4.2. The Anglo-Saxon experience

As far as the Anglo-Saxon legal systems are concerned, the historical development of the modern standard of proof for a criminal conviction has been the subject of extensive studies, the main results of which are worth mentioning here[79].

In this regard, the common law literature has highlighted how, until the 15th century, juries were given summary instructions which merely emphasised the need to decide «according to the evidence and your conscience» (Shapiro, 2009, p. 262). However, it was not until the 16th and 17th centuries that the need was felt to specify the threshold that had to be reached for an offence to be considered proven. The English jurist Matthew Hale, for example, worked in this direction, and his works helped to consolidate concepts that were already widespread in theological debate, such as the idea that in doubtful cases one should avoid acting and take the decision most favourable to the accused[80]. And it was in this context that, through a process of gradual linguistic refinement that did not affect the substance of the norm, it began to be affirmed that the triers of fact could not convict unless they had a "satisfied conscience", a "satisfied understanding" or even a "moral certainty" of the guilt of the accused (Shapiro, 2014, p. 261 ff.).

It should be added, however, that scholars agree that the last formula to appear in court would have been that of BARD, which only began to be used in the 18th century[81]. Suffice it to say that the first documented practical use of reasonable doubt in the Anglo-American context can traditionally be traced back to the Boston Massacre trial of 1770[82]. In that trial, Robert Treat Paine addressed the jury in the following terms: «if therefor in the examination of this Cause the evidence is not sufficient to convince you beyond reasonable doubt of the guilt of all or of any of the prisoners

[79] See Langbein (2003, p. 261 ff.); Morano (1975, p. 507 ff.); Shapiro (1991); Ead (2012, p. 19 ff.); Whitman (2008).

[80] See Hale (1778, p. 300).

[81] On this point, see Langbein (2003, p. 261 ff.); Shapiro (2009, p. 274 f.); Whitman (2008, p. 192 ff.).

[82] See Morano (1975, p. 507); Shapiro (2014, p. 23); Whitman (2008, p. 193).

by the benignity and reason of the law you will acquit them. But if the evidence be sufficient to convince you of the guilt of all or of any of the Prisoners by the benignity and reason of the law will require you to declare them guilty»[83]. On this point, however, it should be noted that there is nothing in the record of the Boston cases to suggest that the reference to the standard was intended by the parties as a particular novelty; this is hardly surprising, precisely because the use of similar phrases «was consistent with the notions of "belief", "satisfied conscience" and "moral certainty" used in and out of the courtroom» (Shapiro, 2014, p. 22).

Finally, as Langbein has shown, at the end of the eighteenth century the BARD standard had not yet become a rule of law in the sense that it was invariably applied, which is why we still find different judges formulating the standard of proof differently (Langbein, 2003, p. 264). Indeed, an analysis of the case law of the time shows that there were cases in which such a rule of law had not yet been established, or in which reference was still made to criteria that were not capable of satisfying the "beyond reasonable doubt" requirement. As we shall see in § 6, it was only later, thanks in particular to the treatises and case law of the 19th century, that the BARD rule became firmly established in Anglo-Saxon theory and practice.

4.3. The Roman-canon experience

In continental legal systems, the origins of modern standards of proof for a criminal conviction are more complicated and therefore need to be reconstructed in more detail. First of all, it should be remembered that the concept of moral certainty was disseminated in the culture of the *ius commune* not only through the numerous legal studies written by members of the clergy, but also through the works of a number of great philosophers, including the great German jurist Samuel Pufendorf. In his *De Jure Naturae et Gentium*, he adapted the concept of *certitudo moralis* to the legal context, defining it as a «*firma [...] presumptio, valde probabilibus rationibus subnixa, & quae nisi rarissime fallere possit*» (Pufendorf, 1759, p. 27 § 11).

These concepts were soon applied in practice to solve complex problems of Roman-canon criminal justice and especially those concerning the role of the *indicia indubitata*. The experience of some late modern Italian jurisdictions is particularly instructive in this respect. Faced with a particular crime wave, some countries reduced the *gradus probationis* for the imposition of a sentence to an "ordinary penalty" under the traditional standard of full proof. They did so by enacting a series of exceptional rules that empowered judges to impose the *poena sanguinis* on the basis of the lower standard of unquestionable circumstantial evidence. And precisely to compensate for

[83] The quotation is from the book *The Trial of the British Soldiers*, William Emmons (1824, p. 118). Scholarship is divided as to whether or not the use of the BARD in this case resulted in a lowering of the standard of proof compared to previous practice: for a summary of the various positions, see Sheppard (2003, p. 1191 f.).

this lowering of the standard of proof, reference was made not only to the concept of moral certainty, but also to criteria very similar to those of the BARD.

The 17th century legislation of the Kingdom of Naples is one of the earliest examples. On 20 September 1621, Viceroy Zapata issued Pragmatics XII, in which he not only ordered the courts to «follow the opinion of giving the ordinary penalty for unquestionable circumstantial evidence», but also expressly stated that this concept should be understood as evidence capable of «inducing the mind of the judge to firmly believe that the crime has been committed by the suspect, calming his intellect in this firm belief»[84]. As could be expected, this reform raised a new problem: understanding what "firmly believe" means[85]. As the jurist Tommaso Briganti recalls[86], there were many answers to this question, including two of great interest for the present analysis. Firstly, it is worth noting the opinion of those who considered that the standard could only be reached if the judge was able to exclude all "actual" (i.e. arising from the evidence obtained *ex actis*) and, in some cases, even "virtual" (i.e. even merely theoretical) doubts as to the defendant's innocence[87]. A second group of authors, led by Carlo Antonio de Rosa, echoing the positions of several theologians of the time, drew a less demanding standard from the law, arguing that the concept of "firm belief" should be understood precisely as a synonym for "moral certainty"[88].

In the 18th century, the debate spread to other parts of the Italian peninsula. This was the case, for example, in the Church State, where Pope Benedict XIV, noting an increase in certain types of crime, issued a chirograph on 2 January 1743, not only authorising his courts to sentence certain crimes to death, even on the basis of *indicia indubitata*, but also identifying with this category circumstantial evidence that «removes from the mind of the judge any reasonable hesitation that the crime might otherwise have been committed»[89]. Given the above theological and moral origins of reasonable doubt, it is not surprising that Pope Benedict XIV explicitly codified this standard in his legislation. In doing so, the Pope showed himself to be in agreement with what some of Christianity's most authoritative thinkers had affirmed in their works. But there is more. Given the close link that has always existed between the BARD and the *certitudo moralis*, it is not surprising that this expression too was soon used to interpret Benedictine chirograph. In this regard, it may be useful to refer, for example, to the thought of the criminalist Giovan Battista Gallucci, who, a few years

[84] Prammatica XII, in *Pragmaticae, edicta, decreta regiaeque sanctiones regni Neapolitani*, t. II, Jacobi Raillard, 1682, p. 836. On the context in which this Neapolitan law was developed, see Alessi Palazzolo (1979, p. 192 ff.).

[85] It will not go unnoticed that the expressions used here are very similar to the English expression satisfied belief.

[86] See Briganti (1842, p. 152 s.).

[87] In this sense, see, for example, Rovito (1634, f. 312, § 9 f.).

[88] See De Rosa (1680, f. 18, § 32) and Briganti (1842, p. 152 s.).

[89] See Benedict XIV, *Bullarium*, t. I, Ioannis Gatti, 1778, p. 104. On this measure, see *amplius* Ala (1829, p. 214-221).

later, not only reflected on the concept of moral certainty, but also argued that such a state of mind could only be reached when the judge was able to exclude *omnem rationabilem haesitationem* regarding guilt[90]. Moreover, it should not be forgotten that it was later the ecclesiastical authorities themselves who combined the two locutions in a single provision. This was the case, for example, in an Edict of 1805, in which the absence of any reasonable hesitation was expressly equated with «moral certainty as to the guilt of the accused»[91].

Finally, the Grand Duchy of Tuscany has also adopted a law with a similar tenor. We are referring to article II of the law of 15 January 1744, which states that «in criminal cases the evidence resulting from *indicia indubitata* […] from which a moral certainty arises against the accused […] is and shall be full proof and sufficient for the punishment of death»[92]. This rule was so successful in Tuscany that the judiciary sought to reassert its power even after the approval of Grand Duke Peter Leopold's famous reform of the penal system in 1786[93], article 110 of which seemed to reinstate the prohibition of sentencing to death on the basis of circumstantial evidence[94].

This early codification of the standard of moral certainty and "*beyond any reasonable hesitation*" in some Italian states contributed to a general circulation of these concepts in the continental procedural literature of the time, to the point of making them, as we shall see, one of the workhorses of Enlightenment thinkers. It is equally undeniable, however, that this phenomenon, at least from the perspective of the standards of proof, marked a step backwards with respect to the classical structure of the Roman-canon systems of proof. In fact, as we have seen, the threshold of *indicia indubitata* was traditionally considered lower than that of full proof and, for this very reason, was usually not considered sufficient to justify the imposition of the *poena sanguinis*[95]. Nevertheless, the difficulty of reaching the standard of full proof was such that, in order to meet the greater repressive demands of modern absolute regimes, a downward adjustment of the decision-making rules for a criminal conviction was imposed. In this way they were brought down to the admittedly lower but more realistic level at which they still stand today. In short, it can be said that rules such as those of Naples, Rome or Tuscany were an important step that helped the Roman-canon criminal justice system to make the definitive transition from a law of evidence based on "legal certainty" to one based on the "moral certainty" of the decision-maker, reached after a free evaluation of the evidence by the fact-finder (Nobili, 1974, p. 117-119).

---

[90] See Sinistrari (1754, p. 506 f., § 42 ff.).

[91] See *Diario ordinario*, Rome 1805, no. 80, p. 3.

[92] See *Ordini diversi da osservarsi nelle cause criminali. Pubblicati sotto dì 15 Genn. 1744,* Firenze 1745.

[93] Reference is made here to the *Legge criminale Toscana* (the so-called "Leopoldina") of the 30th of November 1786.

[94] On this point, see Carmignani (1852, p. 354 ff.).

[95] It is for this very reason that Carmignani (1852, p. 293) criticised these rules.

Finally, it should be noted that the examples given so far refute the idea that the BARD standard is historically typical only of common law accusatory systems[96]. As we have seen, from a historical perspective, it is a theological standard designed to better explain the concept of moral certainty, which entered the field of law in modern times. And it does not matter that, strictly speaking, the standard of "beyond any reasonable hesitation" was codified in a papal chirograph several decades before the earliest recorded occurrences of the BARD in Anglo-American jurisprudence; an element which in itself would end up attributing primacy in this respect to continental law. It is interesting to note that in the eighteenth century, despite the residual survival of the general system of legal proof on the European continent and the innumerable differences between the Anglo-Saxon accusatory model and the continental inquisitorial one, the problems of the standard of proof were in many ways the same, as were the lexicon, the positions and the solutions. This reinforces the idea that moral certainty and the BARD are concepts that have deep transversal roots in the culture—theological, philosophical and, later, legal—of the entire West[97].

5. THE COLLAPSE OF THE SYSTEM OF LEGAL PROOF AND THE EMERGENCE OF THE *INTIME CONVICTION*

5.1. The Enlightenment criticism of legal proof rules

During the 18th century, the reform of criminal procedure became one of the central concerns of the Enlightenment (Nobili, 1974, p. 117 ff.). The thinkers of the time identified the inquisitorial model of criminal justice as an instrument incompatible with the theory of the natural rights of the person, which had begun to develop in the 17th century. As a result, all the pillars of the Roman-canon criminal justice system were criticised, especially by the Italian and French Enlightenment[98]. The written and secret procedure, the presence of professional judges with wide *ex officio* powers, torture, cruel punishment and, finally, the rules of legal proof were considered ruins to be overcome by the light of reason. On the contrary, the English accusatorial system, based on the opposite principles of orality, cross-examination, publicity, free evaluation of evidence and, above all, the presence of a jury trial, was seen as a model to be followed (Damaška, 2019, p. 118).

Insofar as it is of interest here, it is worth noting how, in this context, the standard of moral certainty also made a qualitative rise on the Continent, from being an exceptional rule relevant mainly to circumstantial evidence to being adopted as a general

[96] Even the great Italian jurist Cordero (2012, p. 995), called the BARD standard an "Americanism".

[97] For a similar perspective, see Whitman (2008, p. 5).

[98] On the heterogeneous path taken by the German Enlightenment in this respect, see Ambos (2023, p. 171 ff.) and Nobili (1974, p. 135 ff.).

criterion «*nécessaire et suffisant pour émettre la décision judiciaire*» (Padoa-Schioppa, 1999, p. 122). In other words, moral certainty was conceived as the new ideal criminal justice standard for a criminal conviction, capable of indicating when evidence was suitable for achieving the still remembered ideal of the *luce meridiana clariores.*

It should be noted, however, that two factors in particular favoured the rise of the "moral criterion" and the gradual disintegration of the standard of full proof, associated with a set of legal proof rules: on the one hand, the Enlightenment's renewed faith in "common sense" and human reason, and on the other, the great favour shown to the institution of the jury, understood as the "palladium of liberty"[99]. In other words, the Enlightenment thinkers wanted to replace the professional judges linked to central power, who decided by applying the complex network of Roman-canon rules for evaluating evidence, with ordinary citizens who were called upon to decide, according to their common sense, whether the evidence was sufficient to establish in their minds a full "moral certainty" of the guilt of the accused. It is therefore clear that, in this perspective, moral certainty also took on the role of a criterion aimed at "democratising" the law of evidence[100].

The manifesto of this way of thinking is Cesare Beccaria's *On Crimes and Punishments*. In this book, a special place is given to moral certainty, which is not only qualified as a high probability, but is also compared to that kind of conviction «that determines everyone in the most important actions of his life» (Beccaria, 1880, p. 135). These are, of course, expressions similar to those that have been used for centuries in the language of Christian theologians or by philosophers such as Descartes, traces of which, thanks to Beccaria's worldwide success, still persist in some legal systems[101].

Beccaria did not stop there, however, and drew a link between moral certainty and the institution of the jury. After admitting that «this moral certainty of proofs, however, is easier to feel than to define with exactitude», he described as excellent that law which provides for trial by jury, because there is «more safety in the ignorance which judges by sentiment that in the knowledge which judges by opinion» (Beccaria, 1880, p. 136). According to him, all that is needed to evaluate the evidence is «a simple and common good sense, a faculty which is less fallacious than the learning of a judge, accustomed as he is to wish to find men guilty» (Beccaria, 1880, p. 136). Clearly, the great Italian jurist was doing nothing more than taking the Enlightenment belief in reason and human judgement to its logical extreme.

Notwithstanding the breaches that moral certainty and reasonable doubt had opened up in the traditional structure of the Roman-canon model of fact-finding, the reversal of perspective thus theorised was nevertheless marked. Such was the distrust of the traditional system that it led to the idea of the need to abandon altogether the regime of "legal certainty" in matters of evidence in favour of one based

[99] See, on this point, Nobili (1974, p. 131).
[100] See Leclerc (1995, p. 206).
[101] See, in this respect, following the note n. 131.

entirely on human "moral certainty". Thus, on the European continent, there was a definitive shift from a system based primarily on "objective" standards of proof, because they were linked to a network of criteria for evaluating evidence, to one based entirely on standards linguistically conceived as degrees of persuasion, because they were linked to the stability of the decision-maker's beliefs.

It should be noted, however, that some Enlightenment thinkers were aware of the side effects of such a complete reversal of perspective. In this regard, it is worth quoting Voltaire, who, while severely criticising the system of legal proof, concluded: «*on serait tenté de souhaiter que toute loi fût abolie, et qu'il n'y en eût d'autres que le conscience et le bon sens des magistrates. Mais qui nous répondra que cette conscience et ce bon sens ne s'égarent pas*?» (Voltaire, 1818, p. 229). These words allow us to understand how conscious the thinkers of the time were of the fact that the moment the judges of fact were completely freed from the system of legal proof, this freedom could degenerate into a "despotic arbitrariness" [102].

It will come as no surprise, then, that an Enlightenment current advocated less radical reforms to the law of evidence. In this perspective, for example, the idea of creating a mixed system of legal proof and free evaluation of evidence emerged. One of the first proponents of such an idea was Gaetano Filangieri, who proposed the creation of an evidentiary model in which the judge would not be able to convict without the existence of a certain amount of evidence prescribed by law, while he would still have to acquit if the evidence did not produce in his mind a moral certainty of the suspect's guilt (Filangieri, 1806, p. 149 ff.) [103]. Such a mixed system was driven by a clear logic: it aimed to exploit the strengths of both the Roman-canon and the Enlightenment systems of evidence.

In this respect, it should be recalled that the idea of building systems based entirely on a synthesis of legal proof and moral certainty was indeed successful in certain areas of continental Europe, especially in the first half of the 19th century. Reference is made to certain German-speaking states, such as the Austrian Empire, where this approach—also known as the theory of negative legal proof ("*negative Beweisregeln*")—has found its way into important legal texts [104]. Despite its compromising nature, the experience with these completely mixed systems of evidence did not last long and was finally abandoned in the middle of the 19th century, or at least in the following decades (Nobili, 1974, p. 197 ff.) [105].

In actual fact, voices in favour of such a mixed model of evidence were heard in the French Constituent Assembly when it debated the *Décret concernant la police de*

---

[102] See Barbacovi (1820, p. 44).

[103] See also Pagano (1824, p. 79 ff.). In the German literature see Feuerbach (1813, p. 132 ff.) and Mittermaier (1834, p. 83).

[104] See Ambos (2023, p. 174 f.); Daniele (2009, p. 121-123); Glaser (1883, p. 10 ff.); Mittermaier (1859, p. 94 f.); Nobili (1974, p. 189 ff.).

[105] However, for rules of this kind, which are still inherited from the German system, see Ambos (2023, p. 180). For Italy, see Daniele (2009, p. 123 ff.).

sûreté, la justice criminelle et l'établissement des jurées; i.e. the law that, by replacing the old *Ordonnance criminelle* of 1670, marked a historical turning point in continental criminal procedure and created a «unique meeting point between Anglo-Saxon procedure and the ideals of the French Revolution» (Nobili, 1974, p. 151). During the drafting of this law, one of the main points of contention between the progressive ideas of the Enlightenment and the opposition of a reactionary section of the Assembly was precisely whether to retain the classical rules of legal proof or to replace them with the standard of the jury's "intimate conviction" (*intime conviction*) [106], a concept which, in the French language of the time, was essentially synonymous with the idea of "moral certainty" [107]. In this context, the theory of "negative legal proof" was supported by one of the main faces of the Revolution: Maximilienne de Robespierre. In fact, despite his distrust of the traditional legal system, he was convinced that it was necessary to «*réunir et la confiance qui est due aux preuves légales et celle que mèrite la conviction intime des juge*», so that the accused could not be convicted on the basis of the former «*si elles sont contraires à la connaissance et à la conviction intime des juges*» (Robespierre, speech of the 4.1.1791, in Mavidal and Laurent (eds.), 1885, p. 11).

In France, however, this proposal was rejected in the very session in which it was formulated by the rapporteur of the bill: Adrien Duport [108]. The decisive factor was the idea that the system of negative legal proof would have been incompatible with the institution of the jury, which, as we have seen, was a pillar of the Enlightenment ideal of the criminal process. Indeed, according to Duport, even such a model of fact-finding would have produced «*de très mauvais juges au lieu d'excellents jurés*» (Duport, speech of the 4.1.1791, in Mavidal and Laurent (eds.) (1885, p. 12), thus preventing the system from functioning properly from the outset.

5.2. The rise of the two-faced rule of *intime conviction*

The critics of the traditional Roman canon were ultimately successful. The *Décret* of 16-29 September 1791 abolished indeed the old system of legal proof and replaced it with the formula of the "intimate conviction" [109] of the jury. This expression was, in fact, enshrined both in the oath formula of the new law («*vous jurez [...] de*

[106] For a detailed study see Padoa-Schioppa (1994, p. 102 ff.).

[107] See, for example, Duport, speech of the 4.1.1791, in Mavidal and Laurent (eds.) (1885, p. 12); Robespierre, speech of the 2.2.1791 (*ibidem*, p. 718); Thouret, speech of the 11.1.1791 (*ibidem*, p. 132); Tronchet, speech of the 5.1.1791 (*ibidem*, p. 34), who used this or similar expressions, including that of "*conviction morale*" or "*preuve morale*". On the other hand, even in later literature, the concepts of *intime conviction* and *moral certainty* were considered by many to be synonymous, see, for example, Brugnoli (1846, p. 24); Hélie (1867, p. 14); Id. (1870, p. LXX); Lucchini (1895, p. 167). For contemporary literature, see Guérin (2015, p. 610 ff.) and Richard (2017, p. 20).

[108] See Duport, speech of the 4.1.1791, in Mavidal and Laurent (eds.) (1885, p. 11-13). But in defence of the old system of legal proof, see Goupil de Préfeln, speech of the 5.1.1791, (*ibidem*, p. 25).

[109] For a general discussion of this point, see Nobili (1974, p. 151-155).

vous décider d'après les charges et les moyens de défense et suivant votre conscience et votre intime conviction») and in the explanatory instructions on their duties issued in the following weeks[110]. In this way, the centuries-old division between full proof and half proof was abolished in the heart of Europe, where the reformist ideas of the most progressive current of the Enlightenment were effectively implemented. From here, these ideas were transplanted, albeit with some adaptations and differences, into the mixed model of Napoleon's *Code d'instruction criminelle* of 1808 and have spread throughout the European continent to this day (Ambos, 2023, p. 171 s.).

Having clarified this, we can now look more closely at the twofold function of the formula *intime conviction* for the French Assembly of 1791[111].

From a first perspective, it constituted the standard of persuasion, indicating the degree of conviction that the jury had to reach at the end of the criminal trial in order to reach a guilty verdict[112]. In this respect, the instruction explaining the duties of the jury, linked to the *Decree* of 1791, was particularly explicit, asking whether the impression «*ont fait sur le raisonnement les preuvées apportées contre l'accusé et les moyens de la défense*» was such as to determine «*une intime conviction*» of the guilt of the accused. It should be noted, however, that the choice of the expression "*intime conviction*" rather than the more classical "moral certainty" has given rise to problems of no less importance, which go far beyond creating an apparent terminological distance between this parameter and those used in Anglo-Saxon countries, overshadowing their common origin. We are referring to the fact that, while the first term, especially thanks to its secular theological-Christian background, assumed a more easily definable scope, the second, especially when read in isolation, ended up being affected by a greater dose of vagueness. This is because, unlike other standards of persuasion, the formula of "intimate conviction" does not contain any words—such as the concept of certainty—that would clarify how firm the belief must be in order to be able to consider the accusatory hypothesis as sufficiently proven. On the contrary, the adjective "*intime*" merely draws attention to the internal forum of the individual. In so far as it is relevant here, these considerations are useful for understanding how, among the different standards of persuasion examined here, the *intime conviction* is the one that is affected by the greatest dose of linguistic vagueness, precisely because it does not contain any terms aimed at directly specifying the degree of solidity that the belief must assume in order to be considered proven. In view of this, it is not

---

[110] See the *Instruction sur la procédure criminelle, en annexe de la séance du 29 septembre 1791*, published in Mavidal and Laurent (eds.) (1885, t. XXXI, p. 642 ff.), which states: «*la loi ne […]leur prescrit point de règles auxquelles ils doivent attacher particulièrement la plénitude et la suffisance d'une preuve; elle leur demande de s'interroger eux-mêmes dans le silence et le recueillement, et de chercher, dans la sincérité de leur conscience, quelle impression ont faite sur leur raison les preuves […]. La loi […] ne leur fait que cette seule question […]: avez-vous une intime conviction?*».

[111] On this point, see Delmas-Marty (1996, p. 59).

[112] In this sense, see Ferrer Beltrán (2021b, p. 19); Esnard *et al.* (2015, p. 133); Damaška (2022, p. 197 f.); Pradel (1985, p. 579); Thaman (2016, p. 82).

surprising that this rule is today strongly criticised by the advocates of the "objective" theory of the standards of proof[113].

A second function assumed by the *intime conviction* in its original context was that of a general criterion for the evaluation of evidence according to the common sense of the jury, conceived in contrast to the classical system of legal proof[114]. From this point of view, the concept of *intime conviction* symbolised the freedom of decision-makers from the old-fashioned system of legal proof, which determined the value of evidence *a priori*. The above-mentioned instruction of 29 September 1791, which states that the law «*ne [..] prescrit point des règles auxquelles ils doivent attacher pariculièrement la plénitude et la suffisance d'une preuve*», is also valuable for understanding this. Nevertheless, it is useful to note how, in the legal tradition of some countries, autonomous expressions have developed over time to refer to this second function of *intime conviction*. This is the case, for example, with Italian and German expressions such as "*libero convincimento*", "*freie Beweiswürdigung*" or "*freie Überzeugung*" [115].

While this is true, it must be pointed out that the rule of intimate conviction has given rise to significant exegetical problems, partly due to its semantic polyvalence. In fact, the formula in question has led both to restrictive interpretations (for example, it has been read only as a criterion for evaluating evidence and not as a standard of proof[116]) and to far much more dangerous expansive exegesis. This is the case, for example, in the Italian system, where the principle of *libero convincimento* has long been used by the judiciary as a caveat to overcome even certain limits set at the stage of admitting evidence, not at the stage of assessing it[117]. Obviously, in hypotheses such as these, the principle of free evaluation of evidence has been transformed from a rule created solely to close the door to the system of legal proof, into a formula that seeks to free the decision-makers from any kind of regulatory limitation imposed in order to circumscribe their discretionary power with regard to the establishment of the facts.

Given these problems, it is easy to understand why even one of the greatest European jurists of the nineteenth century, Carl Joseph Anton Mittermaier, considered the concept of intimate conviction to be «imprecise and confusing» (Mittermaier, 1851, p. 480). The reason for this opinion was the fact that this criterion, partly because of its explicit reference to the internal forum of the individual, ended up being perceived by a school of thought as an "oracular" rule that left the fact-finders so much room for autonomy that they could decide on the basis of their intuitions

---

[113] See, for instance, Ferrer Beltrán (2021b, p. 19) and Laudan (2005, p. 98 ff.).

[114] See Ambos (2023, p. 168).

[115] For a recent study from the German perspective, see Ambos (2023, p. 168 ff.). In Italy it is still essential to read Nobili (1974). More recently, see Carlizzi (2018) and Nobili (2003, p. 33 ff.).

[116] See, for instance, Lucchini (1895, p. 167); Taruffo (2003, p. 666) and Ubertis (2013, p. 332).

[117] See Nobili (1974, p. 270 ff.).

and feelings (Damaška, 2019, p. 197; Glaser, 1883, p. 18). As Massimo Nobili has pointed out, this reading of the criterion of intimate conviction is, on closer examination, anti-historical: in fact, the very terms used in the 1791 instruction show how the French Constituent Assembly, for its part, inextricably linked the jury's intimate conviction to the impressions left in the minds of the jurors by the evidence (Nobili, 1974, p. 97 f.), thus attributing to it, in any case, an objective anchorage (Delmas-Marty, 1996, p. 60).

However, this interpretation of the formula was soon opposed by an antithetical one, which is now dominant on the European continent. We are referring to the "rationalist" interpretation of *intime conviction* (i.e. "*conviction raisoné*"), which took root in the progressive wave of reflux that the institution of the jury experienced in many European countries, including France, after the splendour of the late eighteenth and nineteenth centuries (Damaška, 2019, p. 121 ff.)[118]. And then, as was to be expected, when systems based on professional judges or mixed courts broke the original link between intimate conviction and the jury, the need gradually arose to structure a theory of evidence, free from legal proof, but nevertheless based on respect for the rules of logic, science and reason. At the procedural level, the main legal institution that has been devised to pursue such an outcome is that of the *de facto* grounds of judgment (Thaman, 2016, p. 94 ff.). The existence of the duty to give reasons for a judicial decision, which has become a general pillar of European criminal law, means that judges must always be able to explain, in a way that is intersubjectively comprehensible and verifiable, both inside and outside the trial, why a factual hypothesis was or was not put forward. This system, which favours the use of solid criteria of inference in accordance with the state of scientific knowledge at the time, and at the same time with the indications given by the jurisprudence of the higher courts, obviously constitutes an essential safeguard against irrational attitudes on the part of judges towards the evidence[119].

Looking more closely, there are early examples in Italian Restoration law of how some nineteenth-century legal systems went a step further by creating a mixture of rules concerning the standard of proof and the duty to give reasons for a judgement. One such example is the Regulation of Criminal Procedure of 5 November 1831, dictated by Pope Gregory XVI. Although it was marked by considerable inquisitorial and authoritarian incrustations (Contigiani, 2007, p. 189 ff.), this text could only appear very modern in terms of decision-making criteria. In fact, it was not limited to the obligation to give reasons for judgments[120], but also stated in Article 442, that at the end of the trial the professional judges must decide «according to the deep conviction of their conscience and according to the impression made on their minds by the

[118] For Germany, see Ambos (2013, p. 176). For Italy, this reading was soon developed thanks to the thought of Romagnosi (1874, p. 665 ff.). On this point, see Nobili (1974, p. 53).

[119] See *Taxquet v. Belgium*, nº 926/05, ECtHR,16 November 2010. On this judgment, see Roberts (2011, p. 213 ff.).

[120] See Arts. 450, 452 and 465 of the Regulation.

evidence [...], on the gathering of which [...] must depend that fullness of moral certainty which removes all reasonable hesitation from their minds»[121]. These rules were an attempt to reconcile one of the main innovations of the French model of criminal procedure, namely the standard of *intime conviction*, with rationalist considerations aimed at preventing oracular drifts of this criterion and, finally, with the desire not to abandon the traditional "Christian" rules of "moral certainty" and the BARD. In short, it was an embryonic attempt to regulate, by means of procedural safeguards different from the classical rules of legal proof, norms that appeared subjective at the linguistic level.

It should be noted that in the history of Italian criminal procedure, more than a century and a half had to pass before a rule comparable to Article 442 of the Gregorian Regulation was codified again. In fact, after the unification of the country, the Italian codes of criminal procedure were for a long time strongly inspired by the French model of the *Code d'instruction criminelle*, which, if it favoured a definitive normative crystallisation of the standard of *intime conviction*[122], on the other hand led to the disappearance of other references to moral certainty or reasonable doubt from the legal text for a long time. Nevertheless, it must be acknowledged how the formula of moral certainty has managed to survive for a long time, both in academic works[123] and in jurisprudence[124], thanks also to the historical link with French intimate conviction, gradually losing its theological-Christian background. After the Second World War, however, references to this criterion gradually diminished, although they never disappeared completely[125]. In any case, both the notion of moral certainty and that of *intimo convincimento* have been undermined in the last half of the twentieth century by another "fossil" from the ancient past: the standard of beyond any reasonable doubt, which has been increasingly used both in theory[126] and in practice[127]. This was the beginning of a long journey[128] that led to the codification of the BARD as a standard of proof for criminal convictions by the Italian Parliament in 2006[129]. However, as we shall see below, this new codification cannot come

---

[121] On this provision, see Ala (1839, p. 254 f.) and Giuliani (1840, p. 541 f.).

[122] For the codes of 1865 and 1913, see respectively arts. 487/498 and 440 of the Code of Criminal Procedure, which were modelled on the old French system of 1791. Lastly, the *intime conviction* formula has remained unchanged and is still referred to in Article 30 of law 287 of 30 April 1951 on the *corte d'assise* (a mixed court composed of both ordinary citizens and professional judges).

[123] See Lucchini (1895, p. 167) and Saraceno (1940, p. 9).

[124] See Court of Cassation, judgment of 6 October 1883, n. 1368, p. 978.

[125] For a more recent use, see Court of Cassation, judgment of 26 May 2016, n. 42056, in *DeJure*.

[126] See Carnelutti (1963, p. 33).

[127] See Court of Cassation, judgment of 22 October 1984, Mattia and Court of Cassation, judgment of 24 February 1981, Pressi, p. 697 s.

[128] Two milestones along this path were the book by Stella (2003), and the judgment of the Joint Chambers of the Court of Cassation, of 10 July 2002, Franzese, p. 1133 ff.

[129] As a result, Article 533(1) of the Italian Code of criminal procedure now states: «the court shall deliver a judgment of conviction if the accused is proven to be guilty of the alleged offence beyond a reasonable doubt». On this reform, see Catalano (2016); Dalia (2018) and Pierro (2011).

as a surprise, since it is set in a historical context in which the BARD has gradually become a globally recognised standard of proof. In order to understand how this came about, however, it is appropriate to conclude our diachronic analysis by examining the evolution of the rule in question in common law countries.

6. THE US EXPERIENCE AND THE ENGLISH DIVERGENCE

Without the need to overturn a centuries-old system of legal proof applied by professional judges, or to compete with the formula of *intime conviction*, moral certainty and BARD have had less difficulty taking root in the Anglo-American model of trial by jury than on the European continent. In particular, a series of nineteenth-century treatises on the law of evidence, which had the merit of "secularising" these concepts, ensured their widespread dissemination (Shapiro, 1991, p. 25 ff.). A prominent role in this respect must be given, for example, to an influential work, both in England and in the United States: Thomas Starkie's *Practical Treatise on the Law of Evidence* (1826). In this volume, the author took up the traditional distinction between "metaphysical certainty" and "moral certainty" and concluded that, in the criminal sphere, evidence should provide the trier of fact with «moral certainty to the exclusion of all reasonable doubt» (p. 514). But Starkie did not stop there, he also provided a definition of the standard of proof for a criminal conviction similar to that of Beccaria. For Starkie, a jury could not convict «unless [...] they were so convinced by the evidence that they would dare to act on that conviction in matters of the highest concern and importance to their own interest» (p. 514). In the United States, Simon Greenleaf (1842) agreed, saying that «the circumstances must be sufficient to satisfy the mind and conscience of the common man, and so convince him that he would dare to act on that conviction in matters of the highest importance and importance to his own interests» (p. 4 f.). What we have just seen shows how the ideas of the Enlightenment were also disseminated among Anglo-American lawyers. It was through the mediation of works such as those of Starkie, Greenleaf and others that these ideas were finally crystallised[130]. To prove this point, suffice it to say that in both the United States and England, some of the explanations of the standard of proof for a criminal conviction still follow the tradition of Descartes and Beccaria, describing it as the state of mind in which a person «would act in his most important affairs»[131] .

---

[130] See, for example, Best (1849, p. 100), who, in order to demonstrate the universal recognition of the rule of moral certainty and beyond any reasonable doubt, made numerous references both to common law cases and to classical continental authors and sources, such as Art. 342 of the *French Code d'Instruction Criminelle*, which codified the rule of *intime conviction*. This shows how these concepts were perceived as equivalent.

[131] For England, see *Mohammad* [2022] EWCA Crim 380 and *J.L.* [2017] EWCA Crim 621. For the US, see Supreme Court of Minnesota, *State v. Mitchell*, 16 April 1998, 577 N.W.2d 481, 485 (Minn. 1998) and Court of Appeals of Georgia, 23 June 1994, *Roura v. The State*, 214 Ga. App. 43

It was also thanks to this dogmatic background that the standards of reasonable doubt and moral certainty were established in American jurisprudence as early as the mid-nineteenth century (Laudan, 2006, p. 33). To facilitate their use, some judges began to develop articulate definitions of these terms, which gradually became enshrined in official instructions read to juries before deliberations. One of the most famous explanations of the BARD to emerge from this period is found in the 1850 Massachusetts Supreme Court case of *Commonwealth v. Webster*. In this case, Chief Justice Shaw, after admitting that the language of the rule was difficult to understand, sought to clarify its scope, stating that «reasonable doubt is not a mere possible doubt; because everything relating to human affairs, and depending on moral evidence, is open to some possible or imaginary doubt. It is that state of the case which, after the entire comparison and consideration of all the evidence, leaves the minds of the jurors in that condition that they cannot say they feel an abiding conviction, to a moral certainty, of the truth of the charge» [132].

Insofar as it is relevant here, it is useful to note how this definition, which was so successful in some US jurisdictions that it is still used today, albeit with some adjustments [133], inverted the relationship between moral certainty and reasonable doubt. Whereas in the original theological and philosophical context, and still in Starkie's work, the state of mind to be attained was that of moral certainty, explained by the term reasonable doubt, in Shaw's instruction the situation was reversed: the standard had now become the BARD, which in turn was made explicit only by reference to moral certainty. This was a change, initially linguistic rather than conceptual, which was never subsequently challenged. In time, the BARD formula, which was preferred to the original lexicon also for terminological reasons - since it did not contain direct references to "morality" but to human "reasonableness" - was used to indicate the level to be reached for a criminal conviction.

In this respect, it is useful to recall that *Commonwealth v. Webster* is of particular importance, also because it established a link between the presumption of innocence and the BARD standard that has remained unchanged over time. According to Justice Shaw, precisely because everyone must be presumed innocent until proven guilty, it is not enough «to establish a probability, however strong [...] that the fact charged is more probable than not, but the evidence must establish the truth of the fact to a reasonable and moral certainty». At the end of the 19th century, this view was even accepted by the Supreme Court of the United States in the famous case of *Coffin v. United States*: at the end of a long historical excursus, full of cross-references to both the continental and common law traditions, this judgment consecrated the

(1994). In contrast, such instructions have been discouraged in New Zealand (*Wanhalla* [2006] NZCA 229) and Canada (*Lifchus* [1997] 3 SCR 320).

[132] *Commonwealth v. John W. Webster*, 59 Mass. 295, 320 (1850). On this point, see Wharton (1880, p. 2).

[133] See Supreme Court of Massachusetts, *Commonwealth v. G. Russell*, 3 November 2014, 470 Mass. 464. For a critical analysis, see Welch (2013, p. 31 ff.).

link between the standard of reasonable doubt and the presumption of innocence, establishing that the former was legally derived from the latter[134]. In this way, the BARD was able to anchor itself in a principle that «lies at the foundation of the administration of [...] criminal law»[135].

It is worth noting, however, that a similar link between the reasonable doubt standard and the presumption of innocence was also developed for a time in England, both doctrinally and jurisprudentially. In James Fitzjames Stephen's *History of the Criminal Law of England* (1883), for example, we read that the BARD rule is derived precisely from the presumption of innocence. On this point, the author - while openly admitting that «the word "reasonable" is indefinite» - did not fail to give the rule a specific function and meaning to the standard. Indeed, he stated, on the one hand, that «its real meaning [...] is that it is an emphatic caution against haste in coming to a conclusion adverse to a prisoner» and, on the other hand, that it could only be satisfied, justifying a man's conviction, if «every supposition not in itself improbable which is consistent with his innocence ought to be negatived» (p. 438) .

At a jurisprudential level, the most prominent English case that highlights the link between the standard of proof derived from the presumption of innocence and the BARD is *Woolmington v DPP*. In this landmark case, Justice Viscount Sankey uttered the famous words: in «English criminal law one always notes a golden thread: the prosecution has a duty to prove guilt [...]. If, at the end and as a whole of the case, there is reasonable doubt, created by the evidence given by the prosecution or the accused, [...] the prosecution has not proved guilt and the prisoner is entitled to acquittal»[136] .

As regards the United States, it should be noted that the link between the reasonable doubt standard and fundamental principles of criminal justice has been further strengthened over time. In this respect, the famous *In re Winship* case is relevant, in which the Supreme Court held that the Due Process Clause, which can be derived from Amendments V and XIV of the Constitution, «protect[s] the accused against conviction except upon proof beyond a reasonable doubt of every fact necessary to constitute the crime with which he is charged»[137] . In doing so, the Supreme Court established a direct link between the BARD and the US Constitution, elevating the standard to the top of the hierarchy of sources of US law[138].

In the decades that followed, it was once again the US Supreme Court that favoured a further step forward in the evolution of the standard for criminal conviction, helping to set some limits on the use of the ancient concept of "moral certainty", the terminology of which has come to be perceived by many as archaic and, in some cases, even misleading (Laudan, 2006, p. 34 f.). In this respect, the 1990 *Cage*

---

134 *Coffin v. United States*, 156 U.S. 432 (1895).
135 *Coffin v. United States*, 156 U.S. 453 (1895).
136 *Woolmington v D.P.P.* [1935] AC 462.
137 See *In re Winship*, 397 U.S. 358 (1970).
138 On this point, see Dripps (1987, p. 1665 ff.).

v Louisiana judgment is particularly relevant, which ruled against the use of the term "moral certainty" when combined with terms such as "grave uncertainty" or "actual and substantial doubt"[139]. And while it is true that in the subsequent case of *Victor v. Nebraska*, the Supreme Court nevertheless confirmed that the use of instructions using the concept of moral certainty was not unconstitutional, it is also true that in the same judgment it recognised that «"moral certainty" standing alone, might not be recognised by modern jurors as a synonym for proof beyond a reasonable doubt»[140]. These critiques provide a clear demonstration of how, in the American system, while moral certainty and BARD were originally two formulas used to refer to a single standard of decision-making, over time the latter concept gradually separated from its original core and took on an autonomous scope and meaning, not least because it was seen as more easily adaptable to contemporary society.

This is evidenced by the fact that, partly as a result of the Supreme Court's decision not to endorse a single definition of reasonable doubt[141] , there has been a proliferation of other official definitions of reasonable doubt, many of which no longer refer to moral certainty, which, while not entirely abandoned[142], has suffered a significant setback. In fact, depending on the state or federal district, judges give juries even very heterogeneous instructions on BARD: it is now conceived as a doubt for which a reason can be given; now as a high probability; now as a firm conviction; now as an achievable standard in the absence of alternative hypotheses about the subject's guilt; now as a state of mind related to important decisions in one's life; now as a state of mind that would cause a prudent person to hesitate to act, and so on (Laudan, 2006, p. 36-51; Shapiro and Muth, p. 57-59).

It will not go unnoticed that the choice of one or the other of these definitions is not without consequences, since, as even the US Supreme Court has recognised, the way in which a standard is explained can make it more or less demanding in practice[143]. And it is precisely for fear of doing more harm than good by providing inadequate guidance on this point[144], that some American jurisdictions have taken the extreme step of banning the definition of BARD at the official level[145]. It is worth recalling that this «sceptical point of view» (Tillers and Gottfried, 2006, p. 149) is linked to the thought of one of the most important American scholars of evidence:

---

[139] *Cage v. Louisiana*, 498 U.S. 39 (1990).

[140] *Victor v. Nebraska*, 511 U.S. 14 (1994). On this judgement, see Fortunato (1996, p. 365 ff.).

[141] Indeed, in *Victor v. Nebraska*, 511 U.S. 5 (1994), the Supreme Court held that the Constitution neither prohibits trial courts from defining reasonable doubt nor requires them to do so as a matter of course.

[142] But the formula still has its supporters: see Shapiro and Muth (2021, p, 69).

[143] See *Sullivan v. Louisiana*, 508 U.S. 275 (1993) and *Cage v. Louisiana*, 498 U.S. 39 (1990).

[144] It is worth noting that the US Supreme Court itself has stated that attempts to define reasonable doubt generally fail to make its meaning clearer to the jury: see *Holland v. United States*, 348 U.S. 140 (1954), and *Miles v. United States*, 103 U.S. 312 (1880).

[145] In this sense, see, for example, the Illinois Supreme Court in its decision of 18 June 2015, *People v. Downs*, 2015 IL 117934, 32.

John Henry Wigmore, who, starting from the assumption that «the truth is that no one has yet invented or discovered a mode of measurement for the intensity of human belief», concluded that «there can be yet no successful method communicating intelligibly to a jury a sound method of self-analysis of one's belief» (Wigmore, 1940, p. 325)[146]. The problem is that Wigmore's criticism of attempts to verbalise reasonable doubt clashes with the fact that it is difficult to treat the BARD standard as a "self-evident" concept[147], because, as empirical studies have also shown, jurors end up attributing very different meanings to it (Smith, 2022, p. 294 ff.; Solan, 1999, p. 119 ff.).

Having reached this point, it is worth pointing out that it is precisely in order to remedy this set of problems that the legal system in England and Wales has, since the late 1940s, attempted to make an important departure in this respect (Keane and McKeown, 2019, p. 512 ff.; Roberts and Zuckerman, 2022, p. 275 ff.). It is an allusion to the fact that, although the reasonable doubt standard had been both ratified by the House of Lords on several occasions[148] and used in English criminal legislation[149], a movement developed to abolish it and replace it with a new phrase that was considered easier to apply and understand: the rule that the jury must be "sure" of the defendant's guilt. Chief Justice of the House of Lords Goddard played a crucial role in this turn of events, stating on a number of occasions that he preferred the use of the term "sure" to the old phrase "beyond any reasonable doubt"[150]. And while it is true that this proposal failed to eliminate BARD from legal practice (McKeown, 2022), it must be acknowledged that since this pronouncement the standard of "sure" has indeed been endorsed by the majority of case law[151] and by soft law. Indeed, since the late 1980s, the Judicial Studies Board (now the Judicial College) has also supported this view (Roberts and Zuckerman, 2022, pp. 275 ff.). It is no coincidence, therefore, that the latest edition of the *Crown Court Compendium* still refers to the "sure" standard rather than the BARD[152].

However, it should be noted that the same Guide states that if a lawyer still refers to the criterion of reasonable doubt, «the jury should be told that this means the same as being sure» (Judicial College, 2023, § 5 n. 3). This makes it clear that the use of this term is not so much intended to change the level of the standard of proof with regard to the past (which would not have been permitted by a mere act of soft

---

[146] Already Bentham (1827, p. 74) wrote that «the language current among the body of people is, in this particular [context], most deplorably defective».

[147] But see the United States Court of Appeals for the Fourth Circuit in *Murphy v. Holland*, 776 F.2d470, 28 October 1985, which stated precisely that «the term reasonable doubt itself has a self-evident meaning comprehensible to the lay juror».

[148] See *Miller v. Minister of Pensions* [1947] 2 All ER 372.

[149] See PACE 1984, s. 76 (2).

[150] See *Kritz* [1950] K.B. 82, 88-90, as well as *Summers* [1952] 36 Cr. App. R. 14, 15.

[151] See *Desir* [2022] EWCA Crim 1071, 198; *Mohammad* [2022] EWCA Crim 380; *Bogdanovic* [2020] EWCA Crim 1229; *Boaden* [2019] EWCA Crim 2284; *Miah* [2018] EWCA Crim 563.

[152] See Judicial College (2023, § 5 ff.).

law such as the one in question), but rather to use a locution that is considered easier for juries to understand[153]. The problem, however, is that the new English-language formulation of the standard of proof for a criminal conviction is no less vague than its predecessors (Keane and McKeown, 2019, p. 512 f.). This is confirmed not only by empirical studies showing that jurors find even this phrase difficult to understand[154] , but also by the Court of Appeal of England and Wales itself, which finally admitted that «to define what is meant by "reasonable doubt" or what is meant by "being sure" requires an answer difficult to articulate and likely to confuse»[155]. In the light of this, it is not surprising that some English scholars have suggested an even more radical route: abandoning both the reasonable doubt standard and the reference to the term "sure" and replacing them with entirely new instructions aimed at explaining to jurors in detail the standard of proof that must be achieved in order to convict a defendant (Keane and McKeown, 2019, p. 516 ff.). However, this theoretical position runs up against a significant practical problem: the fact that the view that judges should spend as few words as possible on the standard of proof, in order to avoid confusing the jury with poorly formulated definitions, is even more entrenched in England than in the US[156]. This approach is further confirmed at an official level by the Crown Court Compendium, which states that «it is unwise to elaborate on the standard of proof» (Judicial College, 2023, § 5 n. 3). However, as Roberts and Zuckerman have rightly pointed out, it is impossible not to notice how this solution ultimately leads to an «abdication of judicial responsibility» (Roberts and Zuckerman, 2022, p. 279), making defendants pay for the system's inability to provide a common minimum definition of the standard for a criminal conviction.

7. THE BARD'S AGE

The above-mentioned English attempt to abandon the reasonable doubt standard, at least linguistically, contrasts with an opposite trend that emerged globally in the second half of the twentieth century: it alludes to the fact that since then the BARD formula has met with increasing success in a growing number of legal systems.

At the European level, in order to have a quantitative dimension of the phenomenon, it is useful to refer to an empirical study published in the early 2000s by the Law Society of England and Wales, which shows that at that time fourteen

---

[153] See, on this point, Roberts and Zuckerman (2022, p. 278).

[154] See the interesting empirical studies made by Zander (2000) 1517 and Id. (2020, p. 18). See also Keane and McKeown (2019, p. 512).

[155] *Majid* [2009] EWCA Crim 2563.

[156] This view also goes back to Goddard: see *Hepworth and Fearnley* [1955] 2 QB 600, 603. See also *Yap Chuan Ching* (1976) 63 Cr App Rep 7, 11, where it was said that «if judges stopped trying to define that which is almost impossible to define there would be fewer appeals».

legal systems had already started to apply the beyond reasonable doubt rule in their criminal justice systems, while in most of the others standards linked to the *intime conviction* formula continued to be used[157]. But BARD's success has become even more pronounced in the last twenty years: It should be noted that this phenomenon has occurred in two different ways. In a few countries, such as Belgium[158] and Italy, the legislator has codified this standard directly in the rules of criminal procedure. In most cases, however, this standard of proof has only been established by case law: this is the case, for example, in Spain[159] , Portugal[160] and Germany[161] , where the courts have expressly used this formula in many decisions.

This new extension of the reasonable doubt standard in continental Europe has a twofold effect. On the one hand, it contributes to the fact that, in several countries, the formula of intimate conviction is losing one of its original functions, namely that of a standard of persuasion. On the other hand, this phenomenon helps to clarify the scope of the *in dubio pro reo* rule, which is derived from the presumption of innocence. As the German Federal Court of Justice points out, the introduction of the BARD makes it clear that only "reasonable doubt" and not every category of doubt can be used in favour of the accused[162]. And this is an advantage because it reflects the inherently fallible nature of evidential reasoning.

Having reached this point, it should be noted that such a European development of the BARD standard has been favoured by several factors, including not only the cultural influence that the American procedural model (of which, as we have seen, this standard is a pillar) has had on the continent since the end of the Second World War, but also the work of certain supranational institutions. Reference is made in particular to the position of the European Court of Human Rights, which in recent years has

---

[157] See Ede and Ford (2004, p. 37 f.).

[158] The reference here is to the law of 21 December 2009 reforming the court of assises, which removed from the *Code d'instruction criminelle* the references to the notion of *intime conviction* and replaced them with a double reference to the standard of *au-delà de tout doute raisonnable* (Articles 327(2) and 326(2)). It is interesting to note that even in France, some authors have stated that the *intime conviction* standard must be interpreted as equivalent to the BARD: see, for example, Pradel (2016, p. 414).

[159] See, for instance, Tribunal Constitucional, Sala Primera, 129/1988, of 16 June 1998 or Tribunal Supremo, Sala de lo Penal, n. 2254, of 21 September 2023. For a comprehensive analysis, see Alcácer Guirao (2021, p. 14 f.), who interestingly points out that the projects for reform of the Spanish criminal procedure system presented in recent years also make explicit reference to the BARD standard.

[160] See *Supremo Tribunal de Justiça*, proc. no. SJ200801100041985, of 10 January 2008. On this point, see Penim Pinheiro (2021, p. 15).

[161] See *Bundesgerichtshof,* judgment of 16 February 2022, 2 StR 399/21; *Bundesgerichtshof*, judgment of 12 July 2017, 1 StR 535/16; *Bundesgerichtshof*, judgment of 12 January 2017, 1 StR 360/16; *Bundesgerichtshof*, judgment of 11 May 2017, 4 StR 554/16; *Bundesgerichtshof*, judgment of 21 November 2017, 1 StR 261/17. See Ambos (2023, p. 184).

[162] See *Bundesgerichtshof*, judgment of 16 February 2022, 2 StR 399/21, which states that «*nur solche Gründe, die zu vernünftigen Zweifeln in einer für den Schuldspruch relevanten Frage Anlass geben, einer Verurteilung entgegenstehen; nur dann ist „in dubio pro reo" zu entscheiden*».

clarified its traditional jurisprudence on Article 6(2) of the ECtHR (1950). Indeed, the European Court has no longer confined itself to deriving from this provision the "old rule" that the burden of proof is on the prosecution[163], but clarified this concept by explicitly referring to the BARD[164]. It will therefore come as no surprise to learn that, precisely in the wake of the Strasbourg case-law, some countries have decided to abandon the old standard of *intime conviction* and replace it with the BARD[165].

Looking beyond Europe, it is even clearer that the BARD has now taken on a global dimension. Indeed, this standard has been codified in the criminal procedure codes of many national legal systems[166] and has been endorsed by many other supranational institutions, both regional (such as the Inter-American Court of Human Rights)[167] and universal. With regard to the latter, it should indeed be recalled that this standard was not only been proclaimed by the UN Human Rights Committee (2007) in its General Comment on Article 14 of the International Covenant on Civil and Political Rights[168] , but is also crystallised in Article 66 of the Statute of the International Criminal Court (ICC, 2021). It is not difficult to see how this series of recognitions has entrenched the idea that this standard is a "natural" and "universal" human right. All this seems to prove that the present is the age of the BARD.

In contrast to this "triumphal march" is the difficulty that interpreters around the world have in attributing a precise meaning to the rule. It is no coincidence, for example, that the New Zealand Court of Appeal has explicitly referred to the «frustratingly indeterminate nature of the concept of proof beyond reasonable doubt» (Wanhalla [2006] NZCA 229), or that it has been suggested that the formula under consideration results in a fuzzy decision rule because «we are unable to provide precise and uncontroversial probabilities of any kind to associate with it» (Anderson *et al.*, 2005, p. 260). Or, again, that Wigmore described this standard as an «elusive and indefinable state of mind» (Wigmore, 1940, p. 317).

On closer examination, these opinions cannot come as a surprise, not only because of the complete break between the formula in question and the theological and moral context in which it was born, but also because of the linguistic vagueness of

---

[163] See *Barberà, Messegué and Jabardo v. Spain*, nº 10590/83, ECtHR, 7 December 1988, § 77.

[164] See *Kerimoğlu v. Turkey*, nº 29600/10, ECtHR, 6 December 2022, § 67 and *Ajdarić v. Croatia*, nº 20883/09, ECtHR, 13 December 2011, § 51, which qualified the circumstance that «the prosecution has to prove its case beyond any reasonable doubt» as a «basic requirement of criminal justice».

[165] This is the case in Belgium, in the context of *Taxquet v Belgium,* nº 926/05, ECtHR, 16 November 2010.

[166] An example of such a trend line is the People's Republic of China, where a 2012 reform introduced BARD in Article 53 of the Criminal Procedure Code (following a further reform in 2018, this provision was moved to Article 55). This phenomenon has also been particularly pronounced in South America: see Article 340 of the Chilean Code of Criminal Procedure and Articles 359/402 of the Mexican Federal Code of Criminal Procedure.

[167] See *Manuela et al. v. El Salvador*, IACtHR, 2 November 2021, § 149.

[168] See Human Rights Committee (2007, p. 9, § 30).

the words that make it up. The term "doubt" is indeed ambiguous[169], while "reasonable" is even "contestable", since «it is clear that it embodies a normative standard, but different users disagree about the detailed contents of that normative standard» (Waldron, 1994, p. 526 f.). And it is easy to see how the association of an ambiguous term with a contestable one can only make it more complex to assign a precise meaning to a proposition.

At this point it will become clear why, as mentioned at the beginning of this paper, a transversal movement of thought has developed in parallel with the worldwide diffusion of the BARD, with the aim of reducing its conceptual vagueness. Although this is true, it should be noted that the solutions proposed to rationalise the standard of proof for a criminal conviction are very heterogeneous, and only the two main approaches can be briefly discussed here[170].

A first line of thought, developed particularly since the 1970s in the context of the so-called New Evidence Scholarship[171], attempts to solve the problem by using mathematical methods to calculate quantitatively the degree of "subjective probability" that a disputed fact is true, given the evidence gathered[172]. I am referring, in particular, to the proposal to use of the so-called "Bayes theorem"[173] to test whether the threshold for a criminal conviction has been reached[174]. In short, proponents of this approach maintain that any evidential inference should be based on the application of Bayes' rule, which is a useful tool for determining the rationality of changing one's subjective belief in a hypothesis. Specifically, the fact-finder should use this theorem to convert his prior subjective probability (i.e., the degree of rational belief he has in a hypothesis before considering a particular piece of evidence) into the posterior probability (i.e., the probability of the same hypothesis after considering the evi-

[169] In fact, this term can be understood as: a) a subjective state of uncertainty, i.e. a belief or an opinion that is not sufficiently determined, or the hesitation to choose between an assertion and its negation; b) the insufficiency of reasons to believe in a certain fact - combined with an insufficiency of reasons to believe in an incompatible fact. On this subject, see Abbagnano (1998, p. 331).

[170] For further discussion see Pardo (2023, p. 431 ff.) and the special issue edited by Prakken, Bex and Mackor (2020, p. 1053 ff.).

[171] On this point, see Lempert (2003, p. 91 ff.) and Twining (1991, p. 295 ff.).

[172] On this notion, see Ferrer Beltrán (2007, p. 107 ff.), who reminds us that "subjective probability" is an epistemic notion of probability that measures the strength of our rational belief in a hypothesis in the light of some element of judgement.

[173] In short, Bayes' theorem makes it possible to assess the impact of an evidential datum E on a fact-finder's personal degree of belief in a given reconstructive hypothesis. In other words, the Bayesian method is used to understand whether and to what extent the presence of a given element strengthens or weakens a subject's rational belief in the truth of a hypothesis. For a clear explanation of the application of the Bayesian method in the legal field, see: Taroni *et al.* (2023, p. 656 ff.).

[174] For a defence of the Bayesan approach to legal decision-making, see Eggleston, R. (2004, p. 169 ff.); Finkelstein and Fairley (1970, p. 489 ff.); Friedman, (1997, 276 ff.); Id. (2000, p. 873, ff.); Lempert (2003, 91 ff.); Garbolino (2014, 98 ff); Kaye, D.H. (1999, p. 1 ff.); Nance (2016); Picinali (2022). For a practical application of Bayes' theorem to check that the standard of proof in criminal cases is satisfied, see: Tribunal of Milan, judgment of 18 June 2015.

dence). At the end of this process of updating the degree of rational belief, the trier of fact arrives at the probability of the hypothesis given all the available evidence and should thus be able to consider whether the probability of the prosecution's hypothesis meets the level required by the standard for a criminal conviction [175].

The greatest strength of the Bayesian interpretation lies precisely in its claim to eliminate the vagueness inherent in the classical subjective language of standards of proof by relying not on legal rules, as in the continental tradition of legal rules of proof, but on the formal nature of mathematical calculation. Understood in this way, the standard of proof can indeed be made to coincide with a certain numerical "quantitative" threshold, which can be set at different levels depending on different normative choices (e.g. 99%) [176], beyond which the fact-finder is entitled to believe a hypothesis to be proven. This has an obvious theoretical advantage in terms of verifying *ex post* whether or not a certain threshold of evidence has been reached.

If this is true, it should be noted that this interpretation of the standard of proof for criminal convictions, even in its most sophisticated form based on Bayesian networks [177], is itself not free from several criticisms [178]. Its main weakness is that the calculation on which it is based requires the establishment of a positive subjective probability of guilt *a priori* [179], a requirement which, apart from causing friction with the principle of the presumption of innocence [180], raises, above all, a serious problem of practical feasibility, since Bayes' theorem says nothing about how to assign one's degree of belief in the truth of the hypothesis of guilt before evaluating any evidence [181]. Nor, it should be pointed out, is this value usually identifiable in any other unambiguous way [182], except perhaps in those rare cases in which the entire compendium of evidence itself to statistical analysis of the frequency of certain events that serve to circumscribe an initial "reference population" [183]. And it is precisely because each proposed solution to the prior question in criminal trials raises serious theoreti-

---

[175] See on this point the clear analysis of Dahlman and Kolflaath (2021, p. 287 f.).

[176] For an interesting attempt to identify the appropriate percentage for identifying this threshold, see Cherubini (2024, p. 391 ff.), who, however, insists on the importance of using the Bayesian method to check the consistency of the evidentiary argument, but not to calculate the final probability of the defendant's guilt (p. 348).

[177] For a presentation of this method, see Taroni *et al.* (2014).

[178] In this regard, in addition to the essential work of Tribe (1971, p. 1329 ff.), see Allen and Pardo (2007, p. 107 ff.); Cohen (1977); Ferrer Beltrán (2021b, p. 80 ff.); Haack (2014, p. 56 ff.); Laudan, 2006, p. 100 ff; Taruffo (1992, p. 168 ff.).

[179] For a detailed analysis of the problem of the prior, see Cherubini (2024, 346 ff.); Dahlman (2018, p. 15 ff.) and Dahlman and Kolflaath (2021, p. 287 ff.).

[180] See Cherubini (2024, p. 357 f.) and Dahlman and Kolflaath (2021, p. 289 f.).

[181] See Makor *et al.* (2021, p. 456).

[182] See, in particular, the convincing conclusions of Dahlman and Kolflaath (2021, p. 299).

[183] On this point, see Ferrer Beltrán (2021b, p. 82), who points out that in these cases the problem of «*adecuación al utilizar datos frecuenciales como modo de determinar probabilidades de proposiciones referidas hechos individuales*» remains.

cal and practical problems of its own, that the Bayesian methodology does not seem to be a good candidate for solving the problems of the BARD standard[184].

Given this, it is not difficult to understand why other approaches have been developed to rationalise the BARD, using qualitative rather than quantitative methods[185]. One of the most promising theories proposed in this respect is based on a different and non-mathematical probabilistic reasoning: the so-called "Baconian" approach. This concept, which became popular in the legal field thanks in particular to the works of Laurence Jonathan Cohen (1977 and 1998), has as its fundamental characteristic that it focuses not on the degree of belief of the fact-finder, but on the degree of support that the evidence provides—objectively—for a hypothesis and, more specifically, on the idea of the "induction by elimination", i.e. the progressive elimination of hypotheses that do not pass certain tests of evidential support[186]. This is a fundamental aspect: «the weight of evidence in Baconian terms is related […] both to the number of evidential tests a hypothesis survives and to the number of tests that might have benne performed but were not» (Schum, 1994, p. 244). It is precisely because of this "objective" dimension that this theory is considered by many scholars to be one of the most suitable for rationalising evidential reasoning in a general way[187].

It should be recalled that the BARD, understood from an inductive probability perspective, is not to be interpreted as a numerically quantifiable (or cardinal) standard, but rather as a qualitative (or ordinal) threshold[188]. This requires, on the one hand, a specific consideration of the extent to which the evidence fully covers the issues recognised as relevant and, on the other hand, the application of a progressive eliminative reasoning, discarding rival hypotheses in order to verify that the only

---

[184] It should also be pointed out that denying that Bayes' theorem can be used as a useful tool for solving the problems of the criminal standard of proof does not mean that it cannot serve other important functions in the criminal process. One important example is to ensure that the assessment of the evidence is consistent with the premises of rational reasoning (Cherubini, 2024, p. 347), which can help legal fact-finders to avoid some common fallacies and biases in the evaluation of legal (and especially forensic) evidence (see, on this point, Dahlman, 2020, 1115 ff. and Makor, 2024, p. 101). In this respect, I agree with those who have argued that pluralistic approaches to the relationship between probability and evidence can be adopted, depending on the different objectives at hand: see, for example, Schum (1994); Kadane and Shum (1996, p. 152) and, more recently, Jellema (2023). See also Tillers (2011, pp. 167 ff.), who insists on the need to focus on the purpose for which formal methods are used in the process context.

[185] Alongside the Baconian method based on eliminative induction, which we will discuss in the text, there is a heterogeneous group of explanation-based/storytelling accounts of criminal evidence. For an analysis of these, see Makor ed al. (2021, p. 431 ff.).

[186] On this point, see Anderson, Schum and Twining (2005, p. 257 ff.); Ferrer Beltrán (2021b, p. 88 ff.); Schum (1994, p. 243 ff.); Taruffo (1992, p. 199 ff.); Tuzet (2023, p. 127 ff.); Twining (2006, p. 125 ff.).

[187] See, for instance, Ferrer Beltrán (2021b, p. 88 ff.); Caprioli (2009, p. 66 ff.); Taruffo (2009a, p. 308); Tuzet (2003, p. 225 ff.).

[188] See Ferrer Beltrán (2007, p. 124).

one that can adequately explain the known elements is the hypothesis indicating the guilt of the accused. Indeed, it should be remembered that, according to a prevailing interpretation, the application of this theory to the BARD rule requires the fact-finder, before reaching a verdict of guilt, to eliminate every hypothesis that is consistent both with the evidence and with the innocence of the accused[189].

This theory, like other explanation-based methods of reasoning about evidence, does not clearly allow us to achieve a level of precision analogous to that of Bayesian cardinal proposals[190]. But it has other virtues. Among these is the fact that it allows us to avoid the conceptual and operational problems that characterise the subjective concept of probability, including that of assigning probabilities *a priori*, since it is not necessary to establish such a value as the starting point of a calculation[191]. The most important advantage, however, is that the method of eliminative induction makes it possible to rank competing hypotheses according to a graded scheme based on intersubjectively verifiable criteria: in particular, the internal consistency of a hypothesis, its consistency with background knowledge, the greater or lesser support it receives from the evidence, and, above all, its ability both to explain existing data and to predict new data, integrating them according to a coherent scheme[192]. And this is obviously a great advantage for rationalising the judgement phase, since such criteria allow a preponderant focus not on the beliefs of the adjudicators, but on how complete the evidential coverage of competing hypotheses is[193].

Having reached this point, it is now time to consider whether strategies such as these are sufficient to address the long-standing problems of standards of proof for criminal convictions, or whether more complex approaches are needed.

---

[189] See, for example, Accatino (2011, p. 507 f.); Cohen (1977, p. 249 f.); Mazza (2012, p. 366 f.); Roberts and Zuckerman (2022, p. 281 f.); Taruffo (2009a, p. 308). It is worth noting, however, that even non-probabilistic proposals for clarifying the standard of proof, such as the so-called relative plausibility theory based on the method of inference to the best explanation, arrive at results that are not too far off. See, for example, Allen and Pardo (2019, p. 16) who state that BARD would be satisfied only if the prosecution's explanation is plausible given the evidence, while there is no plausible defence explanation.

[190] It must be admitted that even after such a reinterpretation, given the merely ordinal rather than cardinal nature of the method of eliminative induction, it may be difficult in practice to know when one is faced with an alternative hypothesis that is sufficiently well-founded to leave the question of acquittal open. For a proposed solution to this seminal problem, see Roberts and Zuckerman (2022, p. 282 f.), who state that the hypothesis of innocence can be discarded if it can be said to be "inert", i.e. if it cannot reasonably be assigned even minimal probative value.

[191] See Ferrer Beltrán (2007, p. 124 ff.).

[192] See Tuzet (2023, p. 134 ff.) for a detailed analysis of these parameters.

[193] Schum (2009, p. 220) points out that, according to Cohen, evidentiary completeness is the most important factor associated with the weight of evidence.

8. CONCLUSIONS: WHAT STANDARD OF PROOF FOR A CRIMINAL CONVICTION FOR THE FUTURE OF CRIMINAL JUSTICE?

This essay has shown how different approaches to structuring an efficient standard of proof for a criminal conviction have evolved over the centuries. The "objective" approach typical of the continental Roman-canon system, based on reliance on a set of legal proof rules, was contrasted in the late modern period with a "subjective" approach, oriented towards the valorisation of common human reason. And it was precisely in the transition from the first to the second perspective that three of the standards that are still most used were definitively imported into the field of law: moral certainty, the BARD, and *intime conviction*. As we have seen, they find an original common extra-legal core in the *certitudo moralis* of the theological-Christian ascent: a standard developed in the Middle Ages to resolve cases of conscience. From this point of view, it is fair to say that these rules are in fact living "fossils" of an ancient past (Whitman, 2008, p. 203). But it was not until the Age of Enlightenment that they became firmly established in the field of law. This is no coincidence, since it was a particularly favourable period for such criteria, which are strongly linked to a belief in the ability of ordinary people to make reasonable decisions on controversial issues.

The problem is that while such rules were initially easy to understand, partly due to their familiarity with the language of the time, over the centuries they have become increasingly difficult to read. And it is precisely to resolve this impasse that various solutions have been proposed. The most radical one is to abandon the classical standards of proof for a criminal conviction in favour of new ones, structured at the semantic level, so that they no longer depend on the degree of persuasion of the fact-finder, but on the level of epistemic confirmation that the evidence provides for the hypothesis of the accusation [194]. In other words, according to this interpretation, the era of decision-making rules based on the common sense of the Enlightenment should definitively come to an end and a new era marked by the creation of entirely new rules should begin.

---

[194] Reference is made to the proposals of Ferrer Beltrán (2021b, p. 208 ff.) and Laudan (2006, p. 82 ff.). The former, for his part, provided a list of seven standards of proof that could be applied in different areas of law, of which the one relating to criminal matters should be worded as follows. «*Para considerer probada unsa hipótesis […] deben dares conjuntamente las siguientes condiciones: a) La hipótesis debe ser capaz de explicar los datos disponibles, integrándolos de forma coherente, y las predicciones de nuevos datos [...] deben resultado confirmadas y aportadas como pruebas al proceso. b) Deben haberse refudado todas las demás hipótesis plausibiles explicativas de los mismos datos que sean compatibles con la inocencia del acusado [...], excluidas las meras hipótesis ad hoc*». Laudan, on the other hand, proposed three alternative formulations of a criminal standard: a) if there is credible, inculpatory evidence or testimony that would be very difficult to explain if the defendant were innocent, and there is no credible, exculpatory evidence or testimony that would be very difficult to explain if the defendant were guilty, then convict. Otherwise, acquit. b) If the prosecutor's story about the crime is plausible and you can conceive of no plausible story that leaves the defendant innocent, then convict. Otherwise, acquit. c) Figure out whether the fact established by the prosecution rule out every reasonable hypothesis you can think of that would leave the defendant innocent. If they do, convict; otherwise, acquit.

Unfortunately, it should be noted that this proposal also has serious limitations. In the first place, in its own time, it clashes with the inherent vagueness of verbal language in being able to identify a threshold of evidential sufficiency[195]. Indeed, there is a danger—denounced by other scholars—that even the new standards will be no more determined on the linguistic level than the previous ones, creating only new theoretical and practical problems[196]. What makes such an approach very difficult, however, is above all the success that the standard of reasonable doubt in particular is enjoying at the political and jurisprudential level in many legal systems; a success which, if it can lead one to predict a further retreat of the other standards, makes it prohibitive to think that it too can really be abandoned, at least in the short term, in favour of another formula. Finally, I would add to these considerations the fact that many of the most advanced proposals for new standards are very similar to the rational reinterpretations of the BARD standard actually used in some legal systems[197]. This raises the question of whether it is really worth taking the difficult political step of abandoning traditional decision-making criteria in order to adopt others that should have approximately the same meaning.

This leads me to prefer a less theoretically ambitious but in the short term more realistic approach, which is to maintain the traditional standards of proof for a criminal conviction, especially in countries—such as Italy and the United States—where the BARD rule has been given constitutional status[198]. At the same time, however, it is necessary to try to reduce the risk that the classical standard of proof ends up being understood as a mere rhetorical invitation to the triers of fact to be particularly cautious when they are called upon to decide whether or not an accused is guilty of a crime[199].

To this end, I find particularly useful the opinion of those who have pointed out that, in order to solve, at least in part, the problem of the linguistic vagueness of the

---

[195] Ferrer Beltrán (2021b, p. 203) admits that the problem of linguistic imprecision in standards cannot be completely eliminated, but only marginalised.

[196] See Allen (2013, p. 55); Garbolino (2014, p. 484 f.); Tuzet (2023, p. 270 f.); Ubertis (2013 p. 332 f.).

[197] I am referring to the fact that both Ferrer and Laudan insist on the need to exclude alternative hypotheses in which the accused might be innocent, as in the Baconian reinterpretations of BARD.

[198] In any case, I want to stress that I think the BARD is a better formulated standard than the others that have evolved historically. There are three reasons for this. First, it does not refer linguistically to potentially absolute mental states (such as moral certainty or the English sure standard), and this fits well with the fallible nature of evidential reasoning. Second, it does not contain explicit references to the internal forum or to morality, but to human reason. Finally, by requiring the "exclusion" of reasonable doubt, it lends itself to interpretation from a perspective related to eliminatory induction, i.e. the elimination by progressive evidence of the possibility that there are elements capable of founding a hypothesis on the disputed facts for which the defendant may be considered innocent. For a recent defence of the standard, based on a pragmatist understanding, see Tuzet (2024, p. 398 ff.).

[199] On this point, see Ho (2008, p. 185 ff.). In any case, this function alone is valuable because it is able to neutralise the negative impression created by the mere fact of the accusation: see Robert and Zuckerman (2022, p. 285).

standards of proof for a criminal conviction, the most important thing is to clarify the reasoning procedure to be followed in order to understand whether or not the standard of proof has been met in a particular case[200]. While, in fact, a threshold of proof can only be defined in general terms at the linguistic level, the method to be followed in order to reach this threshold can be specified much more precisely[201]. To sum up, I think it is important to focus on the fact that the threshold of evidential sufficiency set by the BARD rule can only be said to have been reached if a certain method of reasoning is actually followed in the judgement. And it is clear that the aim of this method must be to preserve the preference for false acquittals over false convictions, which, as we have seen, is one of the hard cores of the presumption of innocence[202].

---

[200] See, for instance, Picinali (2015, p. 139 ff.); Robert and Zuckerman (2022, p. 280 ff.). In the Italian literature, see Conti (2020, p. 829 ff.); Iacoviello (2006, p. 3873 ff.) and Id. (2023, p. 434 f). Interestingly, even Ferrer's and Laudan's attempts to objectively rewrite the standards of proof are more attempts to set qualitative reasoning methods for adjudicators to follow than attempts to set abstract evidentiary thresholds to be met.

[201] I am aware that there are at least two possible drawbacks to the suggestion of interpreting standards of proof as methods of reasoning. The first is that it might encourage a dogmatic confusion between legal proof rules and standards of proof, a confusion that already exists at various levels, including at the level of the European Court of Human Rights (see *Gäfgen v. Germany*, nº 22978/05, ECtHR, 1 June 2010, § 92; on this point see Tuzet, 2021, p. 91). However, this risk should be mitigated by the fact that the standard of proof should in any case indicate a useful method of reasoning for the evaluation of all types of evidence, and not only a specific category (such as testimony, confession or circumstantial evidence). The second possible objection has to do with the vagueness that is also likely to plague this proposal: in fact, identifying a method of reasoning about evidence in the standard of proof still tells us nothing about which method exactly should be used. Well, as I will soon reiterate in the text, in this regard I believe that in criminal law the guiding light that must indicate the method to be applied is the presumption of innocence. I mean, in particular, that the method must be able to incorporate the preference for false acquittals over false convictions, which is a pillar of this principle. It is then up to other legal institutions—such as the *de facto* grounds of judgment in civil law jurisdictions or the instructions to juries in common law jurisdictions—to specify this method of reasoning. Finally, it is also up to other legal institutions—such as appeal procedures—to make the method more effective in practice.

[202] It is worth noting that, also because of the link between the standard of proof and the presumption of innocence, I do not agree with those who have proposed that the standard of proof for a criminal conviction should vary according to the nature of the case and, in particular, according to the difference in the disutility of false positives and false negatives that can be attributed to different classes of criminal behaviour (see, for example, Ferrer Beltrán (2021b, pp. 154 ff. and p. 227)). I object to this argument, which is motivated by a logic similar to that of the establishment of "extraordinary punishments" mentioned above (§ 3.2), because if the standard of proof is indeed inextricably linked to the *ratio* of false positives to false negatives that a given jurisdiction considers acceptable for the application of the presumption of innocence, then this standard must be the same wherever the presumption is applied. Otherwise, some defendants would enjoy less protection of the presumption of innocence than others, even though it is the most important ethical-legal principle of criminal law. There is another consideration which leads us to believe that standards lower than the BARD cannot be used to decide whether or not to convict for crimes punishable by less severe penalties (such as fines). In fact, the standard of proof protects not only against punishment in the strict sense, but also against the social stigma of a criminal conviction. In other words, it is not only the punishment that counts, but also everything that derives socially from the status of a convicted person (such as greater difficulty in finding a job or the loss of

In so far as it is relevant here, the path to the construction of this reasoning procedure consists of several interrelated steps, the first of which requires that BARD be purified of the intuitionistic and moral encrustations that refer to the context in which it was born, and that it be brought up to date by the use of concepts that belong to contemporary epistemology. I believe that one of the best candidates from this point of view is the above-mentioned Baconian theory of "eliminative induction", understood as the constant testing of hypotheses on facts, checking their internal consistency, their coherence with basic knowledge, the greater or lesser support they receive from the evidence, and their ability both to explain existing data and to predict new ones, integrating them according to a coherent scheme[203]. The Italian practical experience with the BARD seems to confirm this. Although I cannot analyse here the diachronic development of this rule in Italy[204], I would like to point out one thing: since its slow rediscovery in the second half of the twentieth century, the concept of "reasonable doubt" in this country has acquired a more objective interpretation than the classical one linked to the concept of moral certainty (Mazza, 2025, p. 10). Since the formal codification of the BARD in 2006, this approach has been further consolidated by the joint efforts of scholars[205] and jurisprudence[206] to provide a sufficiently precise method for distinguishing between "reasonable" and "unreasonable" doubts. In order to resolve this issue, the concept of reasonable doubt has in fact been inextricably linked to the passing of a series of tests relating to the completeness of the existing evidential framework and to the presence or absence of evidence capable of excluding any explanation consistent with the innocence of the accused. In fact, only "tangible" doubts, i.e. doubts about the evidence or its absence,

---

certain state benefits or subsidies). From the opposite perspective, I do not think either that it is possible to set higher standards than BARD in the case of particularly harsh sentences (see, on this point, Lillquist, 2005, p. 45 ff.): and this because, as we have already noted, imposing a standard close to absolute certainty would risk preventing a penal system from functioning properly, given the inherently fallible nature of any evidentiary system. Rather, to better protect the innocent in the face of particularly severe penalties, it is more efficient to rely on other procedural safeguards, by considering higher standards of protection in terms of rules of assessment or exclusion of evidence, as well as by requiring unanimity and collegiality in the decision, or by ensuring greater rights of appeal.

[203] Since, as I said earlier, different ways of thinking can be useful in rationalising reasoning about evidence, I believe that Bayesian methods could also be useful in this review process, particularly to reduce the risk of the trier of fact falling into logical or probabilistic fallacies. The same is true for explanatory theories that focus on the concept of "plausibility" (for an interesting examination of the meanings of this concept, see Dahlman, 2024, pp. 91 ff.), as they are useful for assessing the degree of confirmation of different possible hypotheses about facts. In conclusion, I believe that, in order to solve the problem of the vagueness and subjectivism of the standard of proof for a criminal conviction, it is useful to adopt a pluralistic method of reasoning based on several elements.The main method is that of eliminative induction, but it must and can be supported by bayesian and plausibilist theories.

[204] For a recent summary, see Neri (2024, p. 49 ff.).

[205] See, for example, Caprioli (2009, p. 66 ss.); Catalano (2016); Conti (2020, p. 829 ss.); Daniele (2009, p. 172); Iacoviello (2006, p. 3873 ff.); Incampo and Scalfati (2017); Mazza (2012, p. 366 ss.); Taruffo (2009a, p. 310 ss.).

[206] For a summary of the case law, see Triggiani (2017, p. 325 ff.).

are considered "reasonable" [207]. On the contrary, doubts that are merely "sceptical" or "intangible" in the light of the compendium of evidence are not considered "reasonable" [208]. It is precisely in this sense that the prevailing interpretation of the standard indicates that the decision rule laid down in Article 533 of the Italian Code of Criminal Procedure can be said to have been reached only if the evidence allows the judge to exclude the recurrence of two categories of doubts: a) "internal", i.e. those which reveal the contradictory nature or the explanatory incapacity of the hypothesis of guilt; b) "external", i.e. based on the existence of an alternative hypothesis of innocence which is not merely a speculative possibility but is actually plausible [209].

But this first theoretical step is not enough. In order to make the standard of proof work practically and effectively, it is essential to surround it with a set of other rules which, on the one hand, are capable of helping to identify the method of reasoning which is intended to ensure that the relevant evidential threshold is respected and, on the other hand, are capable of ensuring that it is respected in practice.

As we have seen, in civil law systems with professional judges, the main safeguard which makes it possible to pursue this objective is the existence of rules on the *de facto* grounds of judgements, especially if this is accompanied by a system of appeals which enables the parties to challenge the incorrect application of the standard of proof. In this case too, the Italian example is particularly useful: the emergence of the BARD exegesis examined above was in fact favoured by that articulated system of motivation of judicial decisions, formed by a mixture of the obligation of dialogical motivation imposed on the judge (art. 192 and 546 of the Code of criminal procedure) and a complex system of remedies, both factual (the appeal under articles 593 et seq. of the Code of criminal procedure) and legal (the appeal to the Court of Cassation under articles 606 et seq. of the Code of criminal procedure), which can be activated by the parties [210]. Indeed, it is clear how the need to explain why the standard was or was not met, coupled with the possibility of *ex-post* censure for failing to meet the required threshold and/or wrong motivation on this point, simplifies efforts to progressively specify the scope of the BARD formula. All this shows that the relationship between standards of proof and the motivation of judgments is twofold. On the one hand, standards are essential to enable triers of fact to justify their decisions in a non-arbitrary way. On the other hand, the imposition of specific motivational burdens favours a path of clarification of the threshold to be reached.

---

[207] See the judgment of the Court of Cassation of 19 June 2018, n. 48541, in *Ced. Cass.*, n. 274358-01.

[208] An important example is the judgment of the Court of Cassation of 21 May 2008, Franzoni, in *Ced. Cass.*, n. 240763, in which it is stated that the BARD requires a conviction to be pronounced when the evidence obtained leaves out only remote eventualities whose concrete realisation in the case is not reflected in the evidence at trial, placing them outside the natural order of things and normal human rationality.

[209] See, *ex multis*, the judgment of the Court of Cassation of 24 October 2011 n. 41110, in *Ced Cass.*, n. 251507, and, more recently, of 2 October 2023 n. 39777, in *DeJure*.

[210] On this point, see Conti (2020, p. 830 ff.).

In this context, it is clear that the greatest difficulty in attributing a precise meaning to the BARD in common law systems is also explained by the fact that juries decide in secret with an unmotivated verdict (see Taruffo, 2009a, p. 307 and Thaman, 2016, p. 75). Indeed, in such a context, there is no fundamental means of external feedback on the jury's interpretation of the standard of proof[211]. And it is precisely for this reason that, as the European Court of Human Rights pointed out in the *Taxquet v. Belgium* case, it is particularly important in such systems to value at least the element of the professional judge's instructions to the jury[212]. Against this background, it is difficult not to agree with those who have argued that it is necessary to abandon the approach, which seems to be widespread in both the English and the American legal systems, of treating decision-making criteria as self-evident concepts to which as few words as possible should be devoted. On the contrary, in order to avoid perpetuating the long-reported situation where juries have chronic difficulty in understanding the conditions under which they can convict, it is important to adopt a model of instruction that (i) defines the standard to be achieved in a way that enables jurors to appreciate their function in protecting the innocent from the moral harm of wrongful conviction, and (ii) makes clear to jurors how they should apply this crucial criterion. For example, one valuable option is to state in the instruction that «the jury may convict only when all explanations of the evidence that are consistent with innocence have been dismissed as untenable» (Roberts and Zuckerman, 2022, p. 281)[213]. It will not go unnoticed that such a definition, again based on the scheme of eliminatory induction, is very similar to the reinterpretation of reasonable doubt used in some civil law countries, such as Italy, which shows how the distance between continental and Anglo-American legal systems in this respect can be relativised, at least in part, by using the right instructions.

Third, it should not be forgotten that the efficiency of the standards of proof is also decisively influenced by other substantive and procedural rules. The first point to note is that criminal offences must be constructed in a way that is consistent with the presumption of innocence, which—in principle—places the burden of proof on the prosecution. And from this point of view, the forms of legal clauses that reverse the *onus probandi* and place it, at least in part, on the suspect or defendant are problematic[214]. This is for the obvious reason that the effective ability of the standard of proof to protect the innocent from wrongful conviction is in danger of being under-

[211] It is true, however, that those forms of appeal that allow convicted persons to challenge the misapplication of the proof beyond a reasonable doubt requirement, such as the sufficiency of the evidence appeal in the US, provide a minimum guarantee of compliance with the standard. On this point, see Saltzburg and Capra (2018, pp. 1702 f.), who discuss the seminal case of *Jackson v. Virginia*, 443 U.S. 307, 309, 323-24 (1979).

[212] See *Taxquet v. Belgium*, nº 926/05, ECtHR, 16 November 2010, § 92.

[213] As we have already mentioned, Stephen (1883, p. 438) had already expressed himself in similar terms.

[214] On this point see Ferrer Beltrán (2021b, p. 166 f.); Hamer (2007, p. 142 ff.); Roberts (2014, p. 317 ff.); Stumer (2010, p. 98 ff.).

mined by the existence of such forms of reversal clauses, which are still widespread in contemporary criminal justice systems[215]. It follows that, while the European Convention on Human Rights does not prohibit the construction of crimes by taking into account forms of presumptions of fact or law *in malam partem*[216], it is essential that such a form of reversal of the burden of proof is not only always relative and limited to what is strictly necessary, but also always consistent with the standard of proof deemed optimal by the particular system. More specifically, this means that in a system based on the BARD rule, in order to rebut such presumptions, it should in principle be considered sufficient for the defence to raise even a reasonable doubt on the point, since it seems incoherent and dangerous to impose a higher standard of proof.

At the procedural level, account must be taken of all those rules which, by making it possible to identify situations of insufficient and/or contradictory evidence, favour the emergence of a reasonable doubt as to the innocence of the accused. From this point of view, both the rules on cross-examination and the right of defence (which must also be understood as the right to defend oneself by producing evidence[217]) play a key role and require criminal proceedings to be structured in such a way that the accused is exposed to constant attempts to falsify the accusation. The same is clearly true, however, of a number of rules that specifically concern the judicial decision phase: among the latter, the most prominent are those rules—increasingly marginalised in many legal systems for reasons of procedural economy—that confer the power to decide on collegial bodies, especially when the latter are required to reach a unanimous decision. It is not difficult to see how the need for a panel, rather than an individual to decide whether the threshold of sufficiency of the evidence has been reached is itself a safeguard that makes the achievement of a standard far more complex[218].

What has just been said makes it possible to understand a fact that is too often underestimated. If it is true that the presumption of innocence requires the establishment of a standard of proof for a criminal conviction that favours the acquittal of the guilty over the conviction of the innocent, it is equally undeniable that in reality it is many other rules (substantive or procedural) that contribute to making the standard of proof truly concrete and effective (Ferrer Beltrán, 2021b, p. 166 f.). For this reason, it can be assumed that the standard of proof, even if it is equivalent from a

---

[215] See *Falk v. Netherlands*, nº 66273/01, ECtHR, 19 October 2004, which states that presumptions of fact or law operate in every criminal justice system.

[216] See in this respect the landmark judgment of the *Salabiaku v. France*, nº 10519/83, ECtHR, 7 October 1988, § 28, which states that presumptions of fact or of law having the effect of reversing the burden of proof are not in principle prohibited by the Convention, as long as States remain within certain limits, taking into account the importance of the matter in question and respecting the rights of the defence. See also Recital 22 of EU Directive 2016/343 on the presumption of innocence.

[217] See Vassalli (1968, p. 12).

[218] It is no coincidence that in *Ramos v. Louisiana*, 590 U.S. (2020), the U.S. Supreme Court, overturning an earlier precedent, reaffirmed that the unanimity requirement for felony convictions derives directly from the Sixth Amendment to the U.S. Constitution.

linguistic point of view, is in reality capable of protecting the fundamental rights of the accused in a more or less effective way, depending on the criminal justice system in which it is inserted and even on the individual procedural module applied in practice. For example, it will be easy to understand how, in principle, it was much easier to satisfy the criterion of moral certainty or reasonable doubt in the systems of the *Ancient régime*, which, by relegating the defence or cross-examination to a marginal role, drastically reduced the probability of the emergence of alternative innocent hypotheses or logical holes in the prosecution's hypothesis, than it is today, where such safeguards are generally crystallised as constitutional principles. But similar considerations apply to those contemporary legal systems that, while relying on the BARD standard for decision-making, unduly restrict the fundamental procedural rights of individuals. All this shows that legal systems must always be aware that the moment they sacrifice essential safeguards in order to falsify the prosecution's case, they end up indirectly affecting the standard of proof by substantially altering the way it can concretely distribute the *ratio* between false positives (conviction of an innocent person) and false negatives (acquittal of a guilty person)[219]. In conclusion, in order to make the reasoning behind the standard of proof practical and effective, the criminal justice system as a whole must be taken into account.

And it is precisely because of the inherent fallibility of even contemporary legal systems that it is essential to ensure that the standard of proof required for a conviction is respected, not only until a judgment has become final, but also in the context of the extraordinary appeals or collateral attacks that may be brought to challenge convictions that have already become *res iudicata*. In particular, reference is made to the need to move away from the approach that has long prevailed in various legal systems, which tends to allow a final conviction to be overturned only if there are elements that positively establish the innocence of the convicted person[220]. In order

[219] It is not difficult to see that some of the most problematic legal institutions from this point of view are those of negotiated justice (such as plea bargaining), which are themselves becoming increasingly widespread at the global level. Plea agreements are particularly dangerous because they are usually based on the logic of exchanging benefits for the defendant's renunciation of a more or less extensive set of fundamental procedural rights. It is no coincidence that scholars have documented the so-called "innocence problem" of negotiated justice, i.e. the risk that parties who enter into an agreement with the state are in fact innocent. See, for example, Duce (2024, p. 278 ff.). From this point of view, it can be said that the rise of negotiated justice is capable of significantly weakening the above-mentioned international expansion of the BARD standard; and this due to the fact that in a large part of the legal systems this standard is either completely abandoned or, in any case, severely weakened after a plea bargain has been reached. To partially remedy this inconsistency, a change of perspective seems appropriate, aimed at ensuring that a set of inalienable guarantees is always recognised, even when the defendant opts for a plea bargain procedure: for some suggestions in this regard, see Della Torre (2019, pp. 595 ff.).

[220] This was the case in Italy, for example, when the 1930 Code of Criminal Procedure was in force, Article 555 of which provided that, in order for an application for revision to be granted, new evidence had to be produced to show that acquittal was clearly necessary. With the adoption of the 1988 Code, this situation changed and the jurisprudence now recognises that for the convicted person

to create an effective barrier against miscarriages of justice, it is indeed necessary to make a breakthrough in this area by ensuring that a previous conviction can be overturned even if evidence emerges that raises a reasonable doubt as to the guilt of the previously convicted person. Moreover, if the imposition of a penalty is subject to a certain standard of proof and it is established, albeit after the final conviction, that the required threshold has not been properly met, the maintenance of the penalty appears to be contrary to an elementary principle of justice.

Finally, it should be noted that in modern "algorithmic societies" (Balkin, 2017, p. 1219), there is a final category of rules that should be revitalised. I refer to the introduction of some criteria for the evaluation of evidence, constructed as negative rules of corroboration, aimed at reducing the risk of judicial overestimation of certain pieces of evidence[221].

In my view, such rules could be particularly useful in achieving one objective: to prevent fact-finders from convicting people solely on the basis of elements gathered by artificial intelligence tools, which will inevitably be used more and more in the near future[222]. It should be noted that there is a specific reason that justifies this: the adoption of corroboration rules of this kind would in fact constitute an antidote to the risk that, even if the machines act as an aid to the human decision-maker, the latter ends up passively following their indications, since it is difficult to find reasons to distrust them and then to depart from them (Tuzet, 2020, p. 45 ff.). And it is precisely because, faced with this type of evidence, even the rationalising capacity of the instrument of the motivation of judgments is inevitably reduced, that the introduction of targeted corroboration rules could prove valuable. In particular, without prejudice to the prohibition, already enshrined in some European laws[223], of fully attributing to machines the taking of decisions that may adversely affect the rights of individuals, one could, in particular, codify some well-chosen negative proof rules of evidence, according to which the human agent must always verify that the output of investigative and/or evidentiary tools based on algorithms (think, for example, of the match of a facial recognition tool or blockchain analysis software) is consistent with

---

to be acquitted in the context of a revision, it is sufficient that the new evidence is capable of raising even a reasonable doubt. See the judgment of the Court of Cassation of 12 May 2004, Contena, p. 679. Similar problems have also arisen in France as a result of a restrictive interpretation of the concept of "doubt" for the purposes of granting an application for revision. On this point, see Verhesschen and Fijnaut (2020, p. 23 f.), who analyse the reform adopted by the French legislature in 2014 to remedy this situation.

[221] In this respect, it should be noted that in recent years, a body of thought has developed in both common law and civil law systems to the effect that the time is ripe to establish some criteria for the assessment of evidence that are capable of better defining the limits of judicial discretion, especially in the case of evidence where there is a greater risk of judicial error. See, for example, Damaška (2019, p. 146 ff.); Lupária (2021, p. 119 f.) and Thaman (2016, p. 108).

[222] On the impact that algorithms and AI are already having on criminal justice, see Quattrocolo (2020).

[223] See, for instance, Article 11 of Directive EU 2016/680 (the so-called LED Directive).

other evidence[224]. In short, the idea is to create rules that ensure that AI evidence cannot stand alone as "unique and decisive evidence".

It should be added that the approach thus outlined should be even more rigorous in the event that the individual AI tool presents transparency problems[225] and acts like a black box, i.e. like a system in which inputs and outputs are observable, while the internal functioning remains obscure even to its own programmers (Contissa, Lasagni and Sartor, 2019, p. 620). In such a case, in order to safeguard the pillars of a fair trial, in its articulation of the right to cross-examination and equality of arms, it would indeed be desirable to act directly upstream at the level of admissibility of evidence by providing that «the court should exclude the "black box evidence" from the assessment of the defendant's guilt» (Quattrocolo, 2020, p. 96).

In conclusion, the introduction of such rules would not mean adopting a reactionary approach aimed at closing the doors to AI tools, given their great potential in the context of criminal justice. Nor would it mean a return to a system of legal proof in which it is always a network of rules on the value of evidence that determine when the standard of proof for conviction is reached or not[226]. Moreover, as we have shown, such systems run the risk of being too rigid to function properly and are therefore open to distorting practices. On the contrary, it would only be a question of introducing a limited number of exceptions to the general principle of free evaluation of evidence, which, on closer examination, would be motivated by the desire to safeguard its most profound meaning: that of ensuring that, in the future too, judicial decisions will always be based, at least in part, on rationality and human logic, and not only on that of machines, which is often incomprehensible to us[227].

BIBLIOGRAPHY

Abbagnano (1998). *Dizionario di filosofia*. Utet.

Accatino, D. (2011). Certezas, dudas y propuesta en torno al estándar de la prueba penal. *Revista de Derecho de la Pontificia Universidad Católica de Valparaíso*, *37*, p. 483-511.

[224] It is worth noting that some negative rules of this kind have been included in the part of the EU AI law (Regulation (EU) 2024/1689) dealing with remote biometric identification systems. See, for example, Article 5(3), which states: «no decision that produces an adverse legal effect on a person may be taken based solely on the output of the 'real-time' remote biometric identification system». See also Article 26 (10) on post-remote biometric identification systems.

[225] The principle of transparency is explicitly recognised in the Ethical Charter for the use of artificial intelligence and other related fields, adopted by the CEPEJ at its XXXI plenary meeting, Strasbourg, 3 December 2018 (CEPEJ, 2018, p. 14).

[226] The prospect of a substantial return to a legal proof system in the near future through artificial intelligence tools has recently been highlighted by Tuzet (2023, p. 244-246).

[227] As Nieva Fenoll (2020, p. 142) recalls «*el Imperio de la Razón fue una conquista social. Merecería la pena no perderlo*».

Aguilera, E. (2021). Dudando de las dudas sobre la formulación de estándares de prueba jurídicos (razonablemente) objetivos. In C. Vázquez (Ed.), *Ciencia y Justicia. El conocimiento experto en la Suprema Corte de Justicia de la Nación* (pp. 403-452). SCJN.

Ala, R. (1829). *Pratica criminale* (Vol. II). Giunchi e Comp.

Ala, R. (1839). *Criminalis juris et praxis instituta usi etiam forensi accommodata* (Vol. I). Mugnoz.

Alcácer Guirao, R. (2021). Algunas dudas sobre la duda razonable. Prueba de descargo, estándares de prueba e in dubio pro reo. *Revista Electrónica de Ciencia Penal y Criminología*, *23-09*, p. 1-47.

Alessi Palazzolo, G. (1979). *Prova legale e pena. La crisi del sistema tra Evo Medio e moderno*. Jovene.

Allard, A. (1868). *Histoire de la justice criminelle au seizième siècle*. Libraire-éditeur.

Allen, R.J. (2013). Los estándares de prueba y los límites del análisis jurídico. In C. Vázquez (Ed.), *Estándares de prueba y prueba científica* (pp. 41-64). Marcial Pons.

Allen, R.J. (2014). Burdens of proof. *Law, Probability and Risk*, *13*(3-4), p. 195-219.

Allen, R. and Pardo M. (2007), The Problematic Value of Mathematical Models of Evidence. *Journal of Legal Studies*, *36*(1), p. 107-140.

Allen, R. and Pardo M.S (2019). Relative plausibility and its critics. *The International Journal of Evidence & Proof*, *23*(1-2), p. 5-59.

Ambos, K. (2023). "*Intime conviction*" in Germany. Conceptual foundations, historical development and current meaning. *Quaestio facti*, *4*, p. 167-189.

Anderson, T., Schum D. and Twining, W. (2005). *Analysis of Evidence* (2nd ed.). Cambridge University Press.

Angles, J. (1587). *Flores theologicarum quaestionum in secundum librum Sententiarum*. *Pars I*. Stephanum Michaelem.

Antonino da Firenze (1740). *Summa theologica*. Pietro Ballerini.

Arrivabene, F. (1814). *Della certezza morale nei giudicj penali.* Nicolò Bettoni.

Barbacovi, F. V. (1820). *Degli argomenti ed indizi nei giudizi criminali*. Società tipografica dei classici italiani.

Baldo degli Ubaldi (1578). *In Quartum et Quintum Codicis Libr.* Venice.

Balkin, J.M. (2017). The Three Laws of Robotics in the Age of Big Data. *Ohio State Law Journal*, *78*(5), p. 1217-1241.

Baron (2022). Certainty, in *The Stanford Encyclopaedia of Philosophy*. *https://plato.stanford.edu/entries/certainty*.

Bartolo da Sassoferrato (1562). *In Ius Universum Civile, Commentaria*: *Digestum veterum*. Froben.

Bartolomeo da Saliceto (1578). *In Tertium & Quartum Codicis Libros.* Aquilae.

Basilico, H. (1691). *Decisiones Criminales*. Thypographia Joannis Philippi Cecchi.

Beccaria (1880). On Crimes and Punishments. In J.A. Farrer, *Crimes and Punishments. Including a New Translation of Beccaria's "Dei delitti e delle pene".* Chatto & Windus.

Benedict XIV (1778). *Sanctissimi domini nostri Benedicti Papae XIV Bullarium tomus tertius: in quo continentur constitutiones, epistolae aliaque edita ab exitu anni MDCCXLVIII usque ad totum pontificatus duodecimum seu ad annum MDCCLII: cum appendice et supplement*. Ioannis Gatti.

Bentham, J. (1827). *Rationale of Judicial Evidence* (Vol. I). Hunt and Clarke.

Best, W.M. (1849). *A Treatise on the Principles of Evidence and Practice as to Proof in Court of Common Law*. Sweet.

Bianchi, M. (1554). Tractatus de indiciis homicidii ex proposito comissi & de alijs indicijs homicidij et furti ad legem finalem ff. de quaestionibus. In *Tractatus Universi Iuris, Duce, et Auspice Gregorius XIII, in unum congesti* (Vol. XI, Part. I, 260). Venice.

Biel, G. (1574). *Commentarius in Quartum Librum Sententiarum*, Bozolam.

Bossi, E. (1566). *Tractatus varii*, Jacobi Junctae.

Blackstone, W. (1770). *Commentaries on the Laws of England* (Vol. IV). Clarendon Press.

Briganti, T. (1842). *Pratica criminale* (Vol. I). Gabriele Marotta.

Broun, K. S., Kaye, D. H., Dix, G. E., Imwinkelried, E. J., Mosteller, R. P., Roberts, E. F. and Swift, E. (2014). *McCormick on Evidence* (7th ed.). West Academic Publishing.

Brugnoli, G. (1846). *Della certezza e prova criminale col confronto di varie legislazioni d'Europa ed in specie d'Italia*. Carlo Vincenzi.
Caprioli, F. (2009). L'accertamento della responsabilità penale "oltre ogni ragionevole dubbio". *Rivista italiana di diritto e procedura penale*, *52*(1), p. 51-92.
Caprioli, F (2017). Verità e giustificazione nel processo penale. *Revista Brasileira de Direito Processual Penal*, *3*(1), p. 317-341.
Carlizzi, G. (2018). *Libero convincimento e ragionevole dubbio nel processo penale*. Bonomo editore.
Carmignani, G. (1852). *Scritti inediti* (Vol. IV). Giuseppe Giusti.
Caramuel Lobkowitz, I. (1675). *Theologiae moralis fundamentalis* (Lib. IV). Officina Anissoniana.
Carpzov, B. (1684). *Pratica nova imperialis saxonica rerum criminalium*, Balthas. Christophori Wustii.
Carnelutti, F. (1963). *Verso la riforma del processo penale*. Morano.
Catalano, E.M. (2016). *Ragionevole dubbio e logica della decisione*. Giuffrè.
Cherubini, P. (2024). *Guida al ragionamento probatorio con le reti bayesiane*. Giuffrè.
Claro, G. (1586). *Opera omnia sive practica civilis atque criminalis*. Augustae Taurinorum.
Clermont, K.M. (2013). *Standard of Decision in Law*. Carolina Academic Press.
Cohen, L.J. (1977). *The Probable and the Provable*. Clarendon Press.
Cohen., L.J. (1998). *Introduzione alla filosofia dell'induzione e della probabilità*. Giuffrè.
Concina, D. (1761). *Della storia del probabilismo e del rigorismo*. Simone Occhi.
Conti, C. (2020). Il BARD paradigma di metodo: legalizzare il convincimento senza riduzionismi aritmetici. *Diritto penale e processo*, *6*, p. 829-842.
Contigiani, N. (2007). Il processo penale pontificio. Tra ancoraggi inquisitori e spettro riformista (1831-1858). *Rivista di storia del diritto italiano*, *80*, p. 189-314.
Contissa, G., Lasagni, G., Sartor, G. (2019). Quando a decidere in materia penale sono (anche) algoritmi e IA: alla ricerca di un rimedio effettivo. *Diritto di internet*, *4*, p. 619-634.
Cordero, F. (2012). *Procedura penale* (9th ed.). Giuffrè.
Dahlman C. (2018). Determining the base rate for guilt. *Law, Probability and Risk*, *17*(1), p. 15-28.
Dahlman C. (2020). De-Biasing Legal Fact-Finders With Bayesian Thinking. *Topics in Cognitive Science*, *12*(4), p. 1115-1131.
Dahlman C. (2024). What does it mean to be «plausible»? *Quaestio facti*,7, p. 91-102.
Dahlman, C. and Kolfaath, E. (2021). The Problem of the Prior in Criminal Trials. In C. Dahlman, A. Stein and G. Tuzet (Eds.), *Philosophical Foundations of Evidence Law* (pp. 287-300). Oxford University Press.
Damaška, M. (2019). *Evaluation of Evidence. Pre-Modern and Modern Approaches*. Cambridge University Press.
Damaška, M. (2022). The future of free proof in criminal cases. In P. Bárd (Ed.). *Liber Amicorum Karoly Bard* (pp. 197-204, Vol. II). L'Harmattan.
Daniele, M. (2009). *Regole di esclusione e regole di valutazione della prova*. Giappichelli.
Deciani, T. (1613). *Tractatus criminalis* (Vol. I). Ioannis Bringeri.
De Coras (1668). *In aliquot titulos & capita legum Secundi ac tertii tomi Pandectarum*. Antonium Vicentium.
De Damhouder, J. (1556). *Praxis rerum criminalium.* Antwerp.
Dei Vecchi, D. (2022). Prueba sin convicción en su justa medida. *Doxa*, *45*, p. 337-373.
Dalia, G. (2018). *Convincimento giudiziale e ragionevole dubbio*. Wolters Kluwer-Cedam.
Della Torre, J. (2014). Il lungo cammino della giurisprudenza italiana sull'"oltre ogni ragionevole dubbio". *Diritto penale contemporaneo*. *https://archiviodpc.dirittopenaleuomo.org/d/3161-il-lungo-cammino-della-giurisprudenza-italiana-sull--oltre-ogni-ragionevole-dubbio*
Della Torre, J. (2015). Standard di prova e condanna penale: una ricostruzione metateorica e metagiurisprudenziale. *Materiali per una storia della cultura giuridica*, *45*(2), p. 369-492.
Della Torre, J. (2019). *La giustizia penale negoziata in Europa. Miti, realtà e prospettive*. Wolter-Kluwer.
Della Torre, J. (2023a). Gli standard probatori per la condanna penale tra storia e attualità. *La legislazione penale*. *https://www.lalegislazionepenale.eu/wp-content/uploads/2023/11/Della-Torre-LP-1.pdf*

Della Torre, J. (2023b). Standard probatori, efficienza e giustizia penale. *Politica del diritto*, *54*(3), pp. 327-364.
Della Torre, J. (2024). La ragionevole previsione di condanna alla prova della realtà giudiziaria. *La legislazione penale*. *https://www.lalegislazionepenale.eu/wp-content/uploads/2024/07/Della-Torre_LP_.pdf*.
Delmas-Marty, M. (1996). La preuve pénale. *Droits*, *23*, p. 53-65.
De Lugo, J. (1696). *Disputationes Scholasticae et morales*. Petri Borde, Joan & Petri Arnaud.
De Rosa, C.A. (1680). *Decretorum M.C. Praxis Criminalis*. Hyacinthum Passarum.
Descartes, R. (1667). *Les Principes de la Philosophie*. Henry Le Gras.
Dezza, E. (2013). *Lezioni di storia del processo penale*. Pavia University Press.
Dripps, D.A. (1987). The Constitutional Status of the Reasonable Doubt Rule. *California Law Review*, *75*, p. 1665-1718.
Duce, M. (2024). Plea bargaining and the risk of wrongful convictions: a comparative overview. In M. Langer et al. (eds.), *Research Handbook on Plea Bargaining and Criminal Justice* (pp. 278-297). Elgar.
Ede, R. and Ford, C. (2004). *The Law Society, Study of The Laws of Evidence in Criminal Proceedings throughout the European Union, Summary Report. https://www.scribd.com/document/144338382/The-Law-Society-Study-of-the-laws-of-evidence-in-criminal-proceedings-throughout-the-European-Union-Summary-ReportOctober-2004*
Eggleston, R. (2004). *Prova, conclusione probatoria e probabilità* (2nd ed.). Giuffrè.
Esmein, A. (1882). *Histoire de la procédure criminelle en France et spécialement de la procédure inquisitoire, depuis le XIIe siècle jusqu'à nos jours*. Librarires - éditeurs.
Esnard, C., Grihom, M. J. and Leturmy, L. (2015). *L'intime conviction : incidences sur le jugement des jurés et magistrates. Rapport Final. 8 Juillet 2015. http://www.gip-recherche-justice.fr/wp-content/uploads/2016/01/Rapport-Final-Intime-Conviction.pdf*.
European Commission for the Efficiency of Justice [CEPEJ] (2018). *European ethical Charter on the use of Artificial Intelligence in judicial systems and their environment*. *https://rm.coe.int/ethical-charter-en-for-publication-4-december-2018/16808f699c*
European Court of Human Rights [ECtHR] (1950). *European Convention on Human Rights*. *https://www.echr.coe.int/documents/d/echr/convention_ENG*
Farinacci, P. (1607). *Consilia sive responsa atque Decisiones causarum Criminalium*. Horatij Cardon.
Farinacci, P. (1616). *Praxis et theorica criminalis*, Horatij Cardon.
Ferrer Beltrán, J. (2004). *Prova e verità nel diritto*. Il Mulino.
Ferrer Beltrán, J. (2007). *La valutazione razionale della prova*. Giuffrè.
Ferrer Beltrán, J. (2021a). Proven Facts, Beliefs, and Reasoned Verdicts. In C. Dahlman, A. Stein and G. Tuzet (eds.), *Philosophical Foundations of Evidence Law* (pp. 40-52), Oxford University Press.
Ferrer Beltrán, J. (2021b). *Prueba sin convicción. Estándares de prueba y debido proceso*. Marcial Pons.
Ferrer Beltrán, J. and Tuzet, G. (2018). Sulla necessità degli standard di prova per la giustificazione delle decisioni giudiziali. *Diritto & Questioni pubbliche*, *2*, p. 455-472.
Ferrua, P. (2020). Onere della prova, regola di giudizio e standard probatorio. *Cassazione penale*, *60*, p. 2639-2649.
Feuerbach, P.J.A. (1813). *Betrachtungen über das Geschwornen-Gericht*. Philipp Krüll.
Filangieri, G. (1806). *La scienza della legislazione* (Vol. I). Santini.
Finklestein M.O. and Fairley W.B. (1970). A Bayesian approach to Identification Evidence. *Harward Law Review*, *83*(3), 489-517.
Fiorelli, P. (2023). *La tortura giudiziaria nel diritto comune*. Giuffrè.
Fortunato, S.J. (1996). Instructing on Reasonable Doubt after Victor v. Nebraska: A Trial Judge's Certain Thoughts on Certainty. *Villanova Law Review*, *41*, p. 365-431.
Franklin, J. (2001). *The Science of Conjecture. Evidence and Probability before Pascal*. John Hopkins University.
Friedman, R.D. (1997). Answering the Bayesioskeptical Challenge. *The International Journal of Evidence and Proof*, *1*, p. 276-291.
Friedman, R.D. (2000). A Presumption of Innocence, Not of Even Odds. *Stanford Law Review*, *52*(4), p. 873-587.

Gail, A. (1613). *Observationum practicarum Imperialis Camerae.* Petrum de Farris.
Garbolino (2014). *Probabilità e logica della prova*. Giuffrè.
Garlati, L. (2004). Il diabolico intreccio. Reo convinto e indizi indubitati nel commento di Bartolomeo da Saliceto (C. 4.19.25): alle radici di un problema. In O. Condorelli (ed.), *Panta rei. Studi dedicati a Manlio Bellomo* (pp. 387-419, Vol. II). Il Cigno Edizioni.
Gerson, J. (1706). *Joannis Gersoni Opera Omnia* (t. I). Sumptibus Societatis.
Giuliani, G. (1840). *Istituzioni di diritto criminale col commento della legislazione gregoriana*. Viarchi.
Glaser (1883). *Beiträge zur Lehre vom Bewies im Strafprozess*. Duncker und Humblot.
González Lagier, L. (2020). ¿Es posible formular un estándar de prueba preciso y objetivo? Algunas dudas desde un enfoque argumentativo de la prueba. *Revista Telemática de Filosofía del Derecho*, *23*, p. 79-97.
Greenleaf, S. (1842). *A Treatise on the Law of Evidence* (Vol. I). Charles C. Little & James Brown.
Guérin, M.C. (2015). Intime conviction et doute. Au-delà d'une antinomie apparente…Ce que révèe leur étude comparée. *Annales Médico-psychologiques*, *173*, p. 610-614.
Haack, S. (2014). *Evidence Matters, Science, Proof, and Truth in the Law*. Cambridge University Press.
Hale, M. (1778). *History of the Pleas of the Crown* (Vol. I). George Wilson.
Hamer, D. (2007). The Presumption of Innocence and Reverse Burdens: A Balancing Act. *Cambridge Law Journal*, *66*(1), p. 142-171.
Hélie, F. (1867). *Traité de l'instruction criminelle* (Vol. VIII). Henri Plon.
Hélie, F. (1870). *Des délits et des peines par Beccaria. Duexiéme edition. Avec une introduction et un commentaire Par M. Fausin Hélie*. Gaillaumin.
Ho, H.L. (2008). *A Philosophy of Evidence Law. Justice in the Search for Truth*. Oxford University Press.
Human Rights Committee. United Nations (2007). *General comment no. 32. Article 14: right to equality before courts and tribunals and to a fair trial.* Doc. CCPR/C/GC/32 of 23 August 2007. *https://tbinternet.ohchr.org/_layouts/15/treatybodyexternal/Download.aspx?symbolno=CCPR%2FC%2FGC%2F32&Lang=en*
Iacoviello, F.M. (2006). Lo "standard probatorio dell'"al di là di ogni ragionevole dubbio" e il suo controllo in cassazione. *Cassazione penale*, p. 3869-3884.
Iacoviello, F.M. (2023). *La Cassazione penale. Fatto, diritto e motivazione* (2nd ed.). Giuffrè.
Incampo, A. and Scalfati, A. (eds.) (2017). *Giudizio penale e ragionevole dubbio*. Cacucci.
International Criminal Court [ICC] (2021). *Rome Statute of the International Criminal Court*. *https://www.icc-cpi.int/sites/default/files/2024-05/Rome-Statute-eng.pdf*
Jellema, H. (2023). *(Im)probable stories: combining Bayesian and explanation-based accounts of rational criminal proof.* University of Groningen. *https://doi.org/10.33612/diss.563508244*.
Judicial College (2023). *The Crown Court Compendium. Part I: Jury and Trial Management and Summing Up. https://www.judiciary.uk/wp-content/uploads/2024/09/Crown-Court-Compendium-Part-I-July-2024.pdf*
Kadane J. and Schum D.A. (1996), *A Probabilistic Analysis of the Sacco and Vanzetti Evidence*. Wiley.
Kaye, D.H. (1999). Clarifying the burden of persuasion: what Bayesian decision rules do and do not do. *The International Journal of Evidence & Proof*, *3*(1), p. 1-28.
Keane, A and McKeown, P. (2019). Time to Abandon "Beyond Reasonable Doubt" and "Sure": The Case for a New Direction on the Criminal Standard and how it should be used. *Criminal Law Review* 2019, 50(6), p. 505-527.
Langbein, J. (1974). *Prosecuting Crime in the Renaissance. England, Germany, France*. Harvard University Press.
Langbein, J. (2003). *The Origins of Adversary Criminal Trial*. Oxford University Press.
Laudan, L. (2005). Por qué un estándar de prueba subjetivo y ambiguo no es un estándar. *Doxa, 28*, p. 95-113.
Laudan, L. (2006). *Truth, Error, and Criminal Law*. Cambridge University Press.
Le Brun de La Rochette, C. (1611). *Le Procès criminel divisé en deux livres* (Vol. II). Pierre Calles.
Leclerc, H. (1995). L'intime conviction du juge: norme démocratique de la preuve. *Le for intérieur*, p. 206-213.

Lempert, R. (2003). La nuova dottrina delle prove: un'analisi della formazione della prova concludente. In P. Tillers and E.D. Green (eds.), *L'inferenza probabilistica nel diritto delle prove. Usi e limiti del bayesianesimo* (pp. 91-155). Giuffré.

Levy, J. P. (1939). *La Hiérarchie des preuves dans le droit savant du Moyen-Age, depuis la Renaissance du droit romain jusqu'à la fin du XIVe siècle.* Librairie du Recueil Sirey.

Lillquist, E. (2005). Absolute Certainty and the Death Penalty. *American Criminal Law Review*, *42*(1), p. 45-91.

Lucchini, L. (1895). *Elementi di procedura penale.* Barbera.

Lupária, L. (2021). Notazioni controintuitive su intelligenza artificiale e libero convincimento. In *Intelligenza artificiale, giurisdizione penale ed etica del giudizio* (pp. 113-122). Giuffrè.

Makor, A.R (2024). Risks of Incorrent Use of Probabilities in Court and What to Do about Them. In A. Placani and S. Broadhead (eds.), *Risk and Responsibility in Context* (pp. 99-108). Routledge.

Mackor, A.R., Jellema, H. and van Koppen, P.L. (2021). Explanation-Based Approaches to Reasoning about Evidence and Proof in Criminal Trials. In B. Brozek, J. Hage and N. Vincent (eds.), *Law and Mind: A Survey of Law and the Cognitive Sciences* (pp. 431-470). Cambridge University Press.

Martinon, J. (1663). *Disputationes theologicae* (Vol. II). Sebastianum Cramoisy.

Mascardi, G. (1585). *De probationibus* (Vol. I, Sigif). Feyerabendij.

Mavidal, M.J. and Laurent, M.E. (Eds.) (1885), *Archives Parlamentaires de 1787 a 1860, Recueil Complet des Débats Législatifs et Politiques des Chambres Françaises, Première Série* (Vol. XXII). Paul Dupont.

Mazza, O. (2012). Il ragionevole dubbio nella toeria della decisione. *Criminalia*, p. 357-371.

Mazza, O. (2025). Distopia del processo artificiale. *Archivio penale web,* 1. *https://archiviopenale.it/File/DownloadArticolo?codice=36e0a0e4-7576-4379-a107-a31292613919&idarticolo=46845*

McKeown, P. (2022). Dreaded questions, doubtful answers & the trouble with 'sure'. *NewLawJournal*, 7989. *https://www.newlawjournal.co.uk/content/dreaded-questions-doubtful-answers-the-trouble-with-sure-*

Medina, F. B. (1580). *Expositio in prima secundae Angelici Doctoris d. Thomae Aquinatis*. Petrum Dehuchinum.

Mittermaier, C. J. A. (1834). *Die Lehre vom Beweise im deutschen Strafprozesse nach Fortbildung durch Gerichtsgebrauch und deutsche Gesetzbücher in Vergleichung mit den Ansichten des englischen und französischen Strafverfahrens*. Johann Wilhelm Heyer.

Mittermaier, C. J. A. (1850). *Trattato della pruova in materia penale*. Giuseppe Carluccio.

Mittermaier, C. J. A. (1851). *Il processo orale accusatorio e per giurati secondo le varie legislazioni*. Stefano Calderini e comp. – Nicola Zanichelli e comp.

Mittermaier, C. J. A. (1858). *Teoria della prova nel processo penale*. Francesco Sanvito.

Morano, A. A. (1975). A re-examination of the Development of the Reasonable Doubt Rule. *Boston University Law Review, 55*(3), p. 507-529.

Nance, D. A. (2016). *The Burden of Proof. Discriminatory Power, Weight of Evidence, and Tenacity of Belief*. Cambridge University Press.

Neri, R. (2024). Judging Beyond Any Reasonable Doubt: A Logic and Epistemological Rule. *Quaestio Facti*, *7*, p. 43-68.

Nieva Fenoll, J. (2010). *La valoración de la prueba*. Marcial Pons.

Nieva Fenoll, F. (2020). Carga de la prueba y estándares de prueba: dos reminiscencias del pasado. *Estudios de Derecho*, p. 119-148. *https://doi.org/10.17533/udea.esde.v77n170a05*

Nobili, M. (1974). *Il principio deli libero convincimento del giudice*. Giuffrè.

Nobili, M. (2004). Esiti, errori, arbitrii dietro un'illustre formula: gli ultimi trent'anni. In *Il libero convincimento del giudice penale. Vecchie e nuove esperienze* (33-59). Giuffrè.

Padoa-Schioppa, A. (1999). Sur la conscience du juge dans le ius commune. In J.-M. Carbasse and L. Depambour-Tarride (Eds.), *La Conscience du juge dans la tradition juridique européenne* (pp. 95-129). Press Universitaires De France.

Pagano, F. M. (1824). *Principj del codice penale e logica de' probabili.* Luca Marotta.

Pardo, M. S. (2023). What Makes Evidence Sufficient?. *Arizona Law Review, 65,* p. 431-478.

Patuzzi, J. V. (1790). *Ethica christiana sive Theologia moralis* (Vol. I). Remondini.
Penim Pinheiro, J. (2021). Princípio in dubio pro reo - considerações gerais. *Julgar Online. https://julgar.pt/principio-in-dubio-pro-reo-consideracoes-gerais/* .
Picinali, F. (2012). Structuring Inferential Reasoning in Criminal Fact Finding: An Analogical Theory. *Law, Probability and Risk*, *11*(2-3), p. 197-223.
Picinali, F. (2015). The Threshold Lies in the Method: Instructing jurors about reasoning beyond reasonable doubt. *The International Journal of Evidence & Proof*, 19(3), p. 139-153.
Picinali, F. (2022). *Justice In-Between. A Study of Intermediate Criminal Verdicts*. Oxford University Press.
Pierro, G. (2011). *Accertamento del fatto e colpevolezza al di oltre di ogni ragionevole dubbio*. Aracne.
Poli, R. (2023). *Prova e convincimento giudiziale del fatto*. Giappichelli.
Poullain-Duparc, A.M. (1771). *Principe du droit français, suivant les maximes de Bretagne* (Vol. XI). François Avatar.
Pradel J. (1985). Le déroulement du procès pénal français (aperçus comparatifs avec le droit canadien). *Revue générale de droit*, *16*(3), p. 575-590.
Pradel J. (2016). *Droit pénal comparé* (4th ed.). Dalloz.
Prakken, H., Bex, F., Mackor, A. R. (2020). Models of Rational Proof in Criminal Law. *Topics in Cognitive Science, 12*(4), p. 1053-1067.
Pufendorf, S. (1759). *De Jure Naturæ et Gentium*. Officina Knochiana.
Quattrocolo, S. (2020). *Artificial Intelligence, Computational Modelling and Criminal Proceedings. A Framework for a European Legal Discussion*. Springer.
Raynaldi, G. D. (1735). *Obsevationum criminalium, civilium, & Mixtarum, Liber II, Observ*. Typographia Balleoniana.
Richard, J. (2017). *L'intime conviction du juge en matière criminelle.* [Doctoral Thesis. Université Montpellier] *https://theses.hal.science/tel-01610334v1/file/65991_RICHARD_2017_archivage.pdf* .
Roberts, P. (2011). Does Article 6 of the European Convention on Human Rights Require Reasoned Verdicts in Criminal Trials?. *Human Rights Law Review*, *11*(2), p. 213-235.
Roberts, P. (2014). Loss of Innocence in Common Law Presumptions. *Criminal Law and Philosophy*, *8*, p. 317-336.
Roberts, P. and Zuckerman, A. (2022). *Criminal Evidence* (3th ed.). Oxford University Press.
Romagnosi, G.D. (1874). *Cenni sui sistemi della convinzione intima e delle prove legali, e sul calcolo degli indizi*. In *Opere di G.D. Romagnosi* (Vol. VII, pp. 665-669). Giuseppe Pedone – Giuseppe Marghieri.
Rosoni (1995). Quae singula non prosunt collecta iuvant. *La teoria della prova indiziaria nell'età medievale e moderna*. Giuffrè.
Rovito, S. (1634). *Decisiones Supremorum Tribunalium Regni Neapolitani*. Iacobum Gassarum.
Saltzburg, S. A. and Capra, D.J. (2018). *American Criminal Procedure. Cases and Commentary* (11th ed.). West Academic Publishing.
Sanchez, T. (1622). *Operis moralis in praecepta decalogi* (Vol. II). Martinum Nutium.
Saraceno P. (1940). *La decisione sul fatto incerto nel processo penale*. Cedam.
Schum D. A. (1994). *The Evidential Foundations of Probabilistic Reasoning*. Northwestern University Press.
Shapiro, B. J. (1991). *Beyond Reasonable Doubt and Probable Cause*. University of California Press.
Shapiro, B. J. (2009). Changing Language, Unchanging Standard: From "Satisfied Conscience" to "Moral Certainty" and "Beyond Reasonable Doubt". *Cardozo Journal of International and Comparative Law*, *17*(2), p. 261-280.
Shapiro, B. J. (2012). Beyond Reasonable Doubt: The Evolution of a Concept. In Y. Batsaki et al. (Eds.), *Fictions of Knowledge* (pp. 19-39). Palgrave Macmillan.
Shapiro, B. J. (2014). 'Beyond Reasonable Doubt': The Neglected Eighteenth-Century Context. *Law and Humanities*, *8*(1), p. 19-52.
Shapiro, B. J. (2022). The Problem of Certainty and the Changing Status of Probable Proofs. *Philosophical Inquiries*, *10*(2), p. 117-137.

Shapiro, J.A. and Muth K.T. (2021). Al di là di ogni ragionevole dubbio: le giurie non lo capiscono. *Criminalia*, p. 53-69.
Sheppard, S. (2003), The Metamorphoses of Reasonable Doubt: How Changes in the Burden of Proof Have Weakened the Presumption of Innocence. *Notre Dame Law Review*, *78*(4), p. 1165-1249.
Shüssler, R. (2009). Jean Gerson, Moral Certainty and the Renaissance of Ancient Scepticism. *Renaissance Studies*, *23*, p. 445-462.
Shüssler, R. (2019). *The Debate on Probable Opinions in the Scholastic Tradition*. Brill.
Sinistrari (1754). *Formularium criminale. Pars II*. Caroli Giannini.
Smith (1748). *The Britons and Saxons Not Converted to Popery*. James Bettenham.
Smith, O.K.H. (2022). The beyond a reasonable doubt standard of proof: Juror understanding and reform. *The International Journal of Evidence & Proof*, *26*(4), p. 291-308.
Solan, L.M. (1999). Refocusing the Burden of Proof in Criminal Cases: Some Doubt about Reasonable Doubt. *Texas Law Review*, *78*, p. 105-147.
Starkie, T. (1826). *A Practical Treatise of the Law of Evidence, and Digest of Proofs, in Civil and Criminal Proceedings* (Vol. I). West and Lilly.
Stella, F. (2003). *Giustizia e modernità. La protezione dell'innocente e la tutela delle vittime* (3th ed.). Giuffrè.
Stein, A. (2005). *Foundations of Evidence Law*. Oxford University Press.
Suarez, F. (1741). *De Divina Gratia* (Vol. VIII). Balleoniana.
Summers, S.J. (2023). The Epistemic Ambitions of the Criminal Trial: Truth, Proof, and Rights. *Quaestio facti*, 4, p. 249-272.
Stephen (1883). *A History of the Criminal Law of England* (Vol. I). MacMillan.
Taroni, F., Atiken, C., Garbolino,P., Biedermann, A. (2006). *Bayesian Networks and Probabilistic Inference in Forensic Science* (2nd ed.). Wiley.
Taroni, F., Biedermann, A. and Aitken, C. (2023). Statistical Interpretation of Evidence: Bayesian Analysis. In M.M. Houck (Ed.), *Encyclopedia of Forensic Sciences* (3rd ed., pp. 656-663). Elsevier.
Taruffo, M. (1992). *La prova dei fatti giuridici*. Giuffrè.
Taruffo, M. (2003). Rethinking the Standards of Proof. *The American Journal of Comparative Law*, *51*(3), p. 659-677.
Taruffo, M. (2005). Tres observaciones sobre "Por qué un estándar de prueba subjetivo y ambiguo no es un estándar", de Larry Laudan. *Doxa*, *28*, p. 115-126.
Taruffo, M. (2009a). Fatto, prova e verità (alla luce del principio dell'oltre ogni ragionevole dubbio). *Criminalia*, p. 306-319.
Taruffo, M. (2009b). *La semplice verità. Il giudice e la costruzione dei fatti*. Laterza.
Thaman, S.C. (2016). Ensuring the factual reliability of criminal convictions: reasoned judgments or a return to formal rules of evidence?. In J.E. Ross and S.C. Thaman (Ed.) *Comparative Criminal Procedure* (p. 75-114). Elgar.
Thomas Aquinas (1265-1274). *Summa Theologiae*.
Tillers, P. (2011). Trial by mathematics – reconsidered. *Law, Probability and Risk*, *10,* p. 167-173.
Tillers, P. and Gottfried, J. (2006). Case Comment – *United States v. Copeland*, 369 F. Supp. 2d 275 (E.D.N.Y. 2005). *Law, Probability and Risk*, *5*, p. 135-157.
Tribe, L.H. (1971). Trial by Mathematics: Precision and Ritual in the Legal Process. *Harward Law Review*, *84*(6), p. 1329-1392.
Triggiani, N. (2017). Lo standard dimostrativo nella decisione di colpevolezza. In A. Incampo and A.Scalfati (Eds.), *Giudizio penale e ragionevole dubbio* (pp. 325-338). Cacucci.
Tuzet, G. (2020). L'algoritmo come pastore del giudice? Diritto, tecnologie, prova scientifica. *Media Laws*, p. 45-55.
Tuzet, G. (2021). Assessment and Standards of Proof: a Messy Issue. *Quaestio facti*, (2), p. 87-113.
Tuzet, G. (2023). *La prova ragionata*. Giuffrè.
Tuzet, G. (2024). Certainty Beyond a Reasonable Doubt. *Contemporary Pragmatism*, *20*(4), p. 398-423.
Twining, W. (1991). The New Evidence Scholarship. *Cardozo Law Review*, *13*, p. 295-302.

Ubertis, G. (2013). Razionalismo processuale e verità. *Il giusto processo civile,* p. 325-333.
Ubertis, G. (2021). *Profili di epistemologia giudiziaria* (2nd Ed.). Giuffrè.
Vassalli, G. (1968). Il diritto alla prova nel processo penale. *Rivista italiana di diritto e procedura penale*, p. 3-59.
Verhesschen, K. and Fijnaut, C. (2020). Correcting Wrongful Convictions in France. *Erasmus Law Review*, *4*, p. 22-32.
Verricelli, A. M. (1653). *Quaestiones morales, & legales*, Franciscum Baba.
Voltaire (1818) *Ouvres complètes. Politique et Législation* (Vol. I, T. XXI). Plancher.
Waldron, J. (1994). Vagueness in Law and Language: Some Philosophical Issues. *California Law Review*, *82*(3), p. 509-540.
Welch R.E. (2013). Give Me That Old Time Religion: The Persistence of the Webster Reasonable Doubt Instruction and the Need to Abandon It. *New England Law Review*, *48*, p. 31-54.
Wharton, F. (1880). *A Treatise on the Law of Evidence in Criminal Issues* (8th ed.). Kay and Brother.
Wigmore, J. (1940). *A Treatise on the System of Evidence in Trials at Common Law* (Vol. 9). Little, Brown & Company.
Whitman, J.Q. (2008). *The Origins of Reasonable Doubt. Theological Roots of the Criminal Trial*. Yale University Press.
Zander, M. (2000). The criminal standard of proof: how sure is sure?. *New Law Journal*, 1517-1519.
Zander, M. (2020). The criminal standard of proof: how sure is sure? Pt 2. *New Law Journal*, 7888. *https://www.newlawjournal.co.uk/content/the-criminal-standard-of-proof-how-sure-is-sure-pt-2*

Legislation and case law

Ajdarić v. Croatia, nº 20883/09, European Court of Human Rights, 13 December 2011
Barberà, Messegué and Jabardo v. Spain, nº 10590/83, European Court of Human Rights, 7 December 1988
Boaden, R v (2019) EWCA Crim 2284
Bogdanovic, R, v (2020) EWCA Crim 1229
Bundesgerichtshof (Germany), 1 StR 360/16, January 12, 2017
Bundesgerichtshof (Germany), 4 StR 554/16, May 11, 2017
Bundesgerichtshof (Germany), 1 StR 535/16, July 12, 2017
Bundesgerichtshof (Germany), 1 StR 261/17, November 21, 2017
Bundesgerichtshof (Germany), 2 StR 399/21, February 16, 2022
Cage v. Louisiana, 498 U.S. 39 (1990)
Coffin v. United States, 156 U.S. 453 (1895)
Commonwealth vs. John W. Webster (1850) 5 Cush. 295, 59 (Mass. 1850)
Court of Cassation Sentence (Italy), n. 1368, October 6, 1883. *La Corte Suprema di Roma,* 1883
Court of Cassation Sentence (Italy), Pressi, February 24, 1981. *Rivista penale*, 1981
Court of Cassation Sentence (Italy), Mattia, October 22, 1984. *CED Cassazione*, n. 167449
Court of Cassation Sentence (Italy), Joint Chambers, Franzese, July 10, 2002. *Rivista italiana di diritto e procedura penale*, 2002
Court of Cassation Sentence (Italy), Contena, May 12, 2004. *Rivista italiana di diritto e procedura penale*, 2004
Court of Cassation Sentence (Italy), n. 41110, October 24, 2011. *CED Cassazione*, n. 251507
Court of Cassation Sentence (Italy), n. 42056, May 26, 2016. *DeJure.*
Court of Cassation Sentence (Italy), n. 48541, June 19, 2018. *CED Cassazione*, n. 274358-01
Court of Cassation Sentence (Italy), n. 39777, October 2, 2023. *DeJure*
Court of Milan Sentence (Italy), of June 18, 2015. *Diritto penale contemporaneo*. *https://archiviodpc.dirittopenaleuomo.org/d/4213-il-teorema-di-bayes-fa-capolino-al-tribunale-di-milano*
Desir [2022] EWCA Crim 1071, 198

Directive (EU) 2016/343 of the European Parliament and of the Council, of 9 March 2016, on the strengthening of certain aspects of the presumption of innocence and of the right to be present at the trial in criminal proceedings (OJ L, num. 65, 11-3-2016, p. 1–11). *https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX%3A32016L0343*

Directive (EU) 2016/680 of the European Parliament and of the Council, of 27 April 2016, on the protection of natural persons with regard to the processing of personal data by competent authorities for the purposes of the prevention, investigation, detection or prosecution of criminal offences or the execution of criminal penalties, and on the free movement of such data, and repealing Council Framework Decision 2008/977/JHA (OJ L, num. 119, 4-5-2016, p. 89–131). *https://eur-lex.europa.eu/eli/dir/2016/680/oj/eng*

Falk v. Netherlands, nº 66273/01, European Court of Human Rights, 19 October 2004

Gäfgen v Germany, nº 22978/05, European Court of Human Rights, 3 June 3010

Hepworth and Fearnley (1955) 2 QB 600, 603

Holland v. United States, 348 U.S. 140 (1954)

In re Winship, 397 U.S. 358 (1970)

Jackson v. Virginia, 443 U.S. 307, 309, 323-24 (1979)

Kerimoğlu v. Turkey, nº 29600/10, European Court of Human Rights, 6 December 2022

Kritz [1950] K.B. 82, 88-90

Lifchus (1997) 3 SCR 320

Majid [2009] EWCA Crim 2563

Manuela et al. v. El Salvador, Inter-American Court of Human Rights, November 2, 2021

Miah (2018) EWCA Crim 563

Miles v. United States, 103 U.S. 312 (1880)

Miller v. Minister of Pensions (1947) 2 All ER 372

Mohammad & Another (2022) EWCA Crim 380

Murphy v. Holland, (1985) 776 F.2d470, (4th Cir. 1985)

People v. Downs (2015) IL 117934, 32. (Il. 2015)

Police and Criminal Evidence Act 1984, c. 60 *https://www.legislation.gov.uk/ukpga/1984/60/contents*

R v JL (2017) EWCA Crim 621

R v Yap Chuan Ching (1976) 63 Cr App Rep 7, 11

Regulation (EU) 2024/1689 of the European Parliament and of the Council of 13 June 2024 laying down harmonised rules on artificial intelligence and amending Regulations (EC) No 300/2008, (EU) No 167/2013, (EU) No 168/2013, (EU) 2018/858, (EU) 2018/1139 and (EU) 2019/2144 and Directives 2014/90/EU, (EU) 2016/797 and (EU) 2020/1828 (Artificial Intelligence Act) (Text with EEA relevance) (*OJ L, num. 2024/1689, 12-7-2024*). *https://eur-lex.europa.eu/eli/reg/2024/1689/oj/eng*

Ramos v. Louisiana, 590 U.S. (2020)

Roura v. The State, 214 Ga. App. 43 (Ga. 1994)

Salabiaku v. France, nº 10519/83, European Court of Human Rights, 7 October 1988

Sullivan v. Louisiana, 508 U.S. 275 (1993)

Summers (1952) 36 Cr. App. R. 14, 15

Supremo Tribunal de Justiça Sentence (Portugal), SJ200801100041985, of January 10, 2008. *https://www.dgsi.pt/jstj.nsf/954f0ce6ad9dd8b980256b5f003fa814/7bfd4fddcd30787d802573d2003c2015?OpenDocument*

State v. Mitchell, 577 N.W.2d 481, 485 (Minn. 1998)

Taxquet v. Belgium, nº 926/05, European Court of Human Rights, 16 November 2010

Tribunal Constitucional Sentence (Spain), 129/1998 (First Chamber), of 16 June 1998 (appeal 1331/1995) - ES:TC:1998:129

Tribunal Supremo Sentence (Spain), 2254/2023 (Criminal Court), 21 September 2023

Victor v. Nebraska, 511 U.S. 14 (1994).

Wanhalla (2006) NZCA 229.

Woolmington v D.P.P. (1935) AC 462.