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Epistemic and Non-epistemic Aspects of the Factfinding Process in Law [1]

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Legislators, regulators, and judges attempt to create factfinding processes that integrate both epistemic and non-epistemic goals. Moreover, the rule of law requires that those factfinding processes be principled, equitable, and reasonably transparent. This complex endeavor therefore produces some of the best-documented examples of societal factfinding. This essay analyzes the major decisional elements in such factfinding processes, with attention to common sub-tasks, distinct decision makers, and points of divergence for institutional procedures and safeguards.

The fundamental point of this essay is that any factfinding process in a governmental institution is designed to balance the epistemic objective against relevant non-epistemic objectives. The epistemic objective is to produce findings of fact that are as accurate as possible and that are warranted by the evidence legally available to the factfinder. The non-epistemic objectives include many that are common across governmental institutions (such as procedural fairness to parties and administrative efficiency), as well as many that vary by institution and by area of law (such as public health, safety in the space shuttle program, low inflation, protection of labor unions, and corrective justice). The background hypothesis, which is not argued in the essay, is that all truth-seeking processes of human beings exhibit a similar blending of epistemic and non-epistemic aspects, although few collective factfinding endeavors are as carefully engineered as the factfinding processes in law.[2]

Factfinding in law is always pragmatic, in the sense that it always occurs in a context in which governmental action is at stake. First, the range of possible actions that any particular governmental institution is empowered to take is usually well settled. Such an action might be issuing a final regulation, sentencing someone to prison, ordering compensation or payment of a fine, issuing a report, or making recommendations. Furthermore, the positive substantive law generally identifies which findings of fact are required in order to justify particular actions. For example, statutes and implementing rules identify the factual issues that the Environmental Protection Agency must establish before that agency can lawfully suspend or cancel an existing approval (“registration”) of a pesticide that leaves a residue in food.[3] Judicial precedents establish the factual elements that a torts plaintiff must prove before the court can lawfully order a defendant to pay compensation. Legislative bodies, regulatory agencies engaged in rulemaking,
and courts applying common law decide which factual predicates justify which actions, and then those engaged in adjudication or enforcement know which factual findings are legally significant. The propositions at issue in any given proceeding determine the relevance of any evidence submitted for the record in that proceeding.

The epistemic objective in factfinding is to ensure that the factfinder will be accurate in declaring (“finding”) propositions to be true for purposes of the legal proceeding, and that the evidence that is legally available warrants or adequately supports those findings of fact. But the factfinding process cannot be divorced from the pragmatic context in which it occurs, and which justifies expending resources on the factfinding process. The non-epistemic objectives therefore influence what evidence is ruled to be “legally available,” when the factfinder should be allowed to find that the available evidence “adequately supports” a finding, what standard of proof the factfinder should use in selecting a finding, what kinds and levels of uncertainty are acceptable in factfinding, and so forth. Rules governing such decisions should always balance substantive policies, procedural fairness, and administrative efficiency against the epistemic objective. Some non-epistemic policies trump the epistemic objective (for example, the minimal demands of due process), while others only weigh in the balance, or only apply when the epistemic objective is unachievable. This essay will discuss a few of the major decisional nodes in judicial and administrative factfinding.

It is important at the outset to clarify the phrases “issue of fact” and “issue of law.” These are terms of art that indicate who the decider is, rather than the nature of what is to be decided. “Issues of fact” present decisions for the factfinder – which in a given proceeding may be a jury, a judge, an administrative hearing examiner, or a regulator. The factfinder is supervised in each case by a presiding judge or other official. “Issues of law” are decided in the first instance by the judge or regulatory official who presides over the factfinding proceeding, with an appropriate opportunity for further review. Further review of issues of law is almost always available, and incorporates various degrees of deference to the presiding judge’s or official’s ruling. In this essay, the neutral phrase “proposition at issue” refers to the content of a contested issue, which might be decided in a particular case through a finding by the factfinder (as an issue of fact) or through a ruling by the presiding or reviewing authority (as an issue of law). Participants in a legal proceeding can usually examine the applicable law and agree at an early stage on the list of propositions at issue. The entire process in which various decision makers resolve those issues, for the pragmatic purposes of the relevant legal context, is the factfinding process.

The remainder of this essay examines the structure of the factfinding process by discussing three major decisional roles, which I will call the province of the factfinder, the province of the presiding authority, and the province of the reviewing authority.

The Province of the Factfinder
The province of the factfinder has as its main task the evaluation of all the evidence produced and the declaration of which propositions will constitute the findings of the proceeding (called “verdicts” in the case of jury findings). In one sense, the factfinder makes these decisions with considerable freedom, and there is little “law” about how to accomplish this task. There are few if any rules about how to assess the credibility of a fact witness’s testimony, how much probative value to assign to a document or to an expert’s theory, or how to integrate (for example) the mathematical probabilities derived from DNA evidence with the likelihood that the investigating police department contaminated or planted that DNA evidence. But to say that there is little law about how the factfinder should reach decisions within the zone of factfinding discretion is largely a truism, if by “law” is meant decisional rules adopted by presiding and reviewing authorities. Such rules do channel the factfinder’s decisions, but those rules operate outside the province of the factfinder, and therefore outside the zone of factfinding discretion. The process of factfinding is a dynamic interaction between factfinder decision-making and constraining rules, with the general trend in many areas of law being in the direction of adding more constraining rules.

Probably the largest category of constraining rules consists of substantive rules of law, although such rules are not always recognized as constraints on the factfinder. Consider a torts case in which the plaintiff alleges that the defendant acted negligently. A basic proposition at issue (and presumptively for the jury) is whether the defendant engaged in any conduct that is considered negligent. There are many judicial rules, however, that create necessary conditions under this factual issue. For example, many courts hold that unless the defendant knew or reasonably should have known about the risks created by a course of conduct, then the defendant could not have been negligent in engaging in that conduct.[4] This rule therefore generates a disjunctive proposition about whether the defendant had “notice” (“knew or should have known”), which any plaintiff is required to prove in order to establish that negligence occurred. Substantive judicial rules can therefore generate new propositional issues to be resolved by the factfinder, yet at the same time impose new constraints on the discretion of the factfinder.

Another category of constraining rules, closely related to substantive rules, consists of definitional rules. In a civil or criminal trial, for example, the presiding judge instructs the jury concerning the issues of fact about which the jury must make findings. The presiding judge leaves undefined most of the words employed in those instructions, for definitions always lead to more words, and defining must end somewhere. The meanings of most words, therefore, are left to the factfinder to determine, on the basis of the factfinder’s background knowledge. With respect to certain critical terms, however, courts may adopt rules of definition. Using the example of negligence in tort law, judges routinely tell juries that the law defines “negligence” as “lack of ordinary care” and “a failure to use that degree of care that a reasonably prudent person would have used under the same circumstances.”[5] The judge, however, probably will not define further such terms as “ordinary,” “degree of care,” and “prudent.” Taken together, the substantive rules and definitional rules identify for the factfinder those propositions that need to be resolved. And at the same time those rules place boundaries on the
factfinder’s role, and to some extent may influence the factfinder’s decisions within those boundaries.

A third category of constraining rules addresses process aspects of the factfinder’s task. Chief among these are rules concerning the standard of proof and burden of persuasion that the factfinder is to employ. For every issue of fact to be decided, there is a standard of proof to be met before a finding should be made. Standards of proof describe for the factfinder the quality of support required between the available evidence and the finding. For most issues in civil cases, the standard of proof is a “preponderance of the evidence”: the factfinder is to make a finding that $p$ if, but only if, the evidence supports $p$ more than it supports $p$’s negation, $not-p$. For some issues of fact, the law imposes a “clear-and-convincing-evidence” standard of proof, while criminal cases employ the familiar “beyond-a-reasonable-doubt” standard of proof. In contrast to the standard of proof, the burden of persuasion instructs the factfinder as to which party loses if the evidence does not satisfy the standard of proof. For example, if an issue of fact is to be decided by a preponderance of the evidence, but the relevant evidence in the case is equally weighted as between $p$ and $not-p$, then, if the plaintiff has the burden of persuasion on $p$, the jury must find $not-p$, against the plaintiff. Typically, rules of law allocate the burden of persuasion to some particular party, for every factual issue in the case.

A fourth category of constraining rule on factfinders consists of default inference rules. For example, a legal presumption is a rule of law that describes what inference the factfinder either must or may draw, once the factfinder finds some specified proposition to be true. An example is the presumption that a person missing for some fixed period of time is dead, absent evidence to the contrary. Presumptions may be either mandatory (“If you (the factfinder) find $p$ to be true, then you must find $q$ to be true”) or permissive (“If you find $p$ to be true, then you may find $q$ to be true”).

Yet a fifth category of constraining rules consists of relevant-factor rules – rules of law that prescribe which factors the factfinder either must or may consider in arriving at a finding. For example, in determining whether the conduct of an actor was negligent, the factfinder should take into account the magnitude of the risk involved and the utility of the act or of the manner in which the act was done.

There are undoubtedly additional types of rules that constrain factfinder discretion, but the categories mentioned above supply enough examples to illustrate the following point. Substantive rules of law, legal definitions, process rules, presumptions, and relevant-factor rules are all devices to structure the factfinder’s role in deciding the propositions at issue. Some rules provide the grounds for taking a propositional issue away from the factfinder altogether (as discussed in the next section). Some are best understood as explicit or implicit commands (“… you must …”) or permissions (“… you may …”) addressed to the factfinder. There is of course no guarantee that the factfinder will understand those instructions, let alone follow them. The surest safeguard, other than the good-faith efforts of the factfinder, is the system of oversight provided by the presiding and reviewing authorities. As discussed below, those authorities are additional
decision makers, whose provinces of decision interact with the province of the factfinder in complicated ways.

The Province of the Presiding Authority

In a judicial proceeding, the presiding authority is a trial judge. In an administrative adjudication, it may an administrative law judge or a hearing examiner. In an administrative rulemaking, it is the presiding regulatory official, who may chair a commission or a board. In any case, the presiding authority is the decision maker who presides over the creation of the official evidentiary record and who oversees the participation of the factfinder. The presiding authority also decides in the first instance which legal rules are applicable in the particular proceeding, and decides whether and how to enforce the applicable legal rules. This may involve instructing the factfinder about the legal rules as it is appropriate to do so, or granting or denying the motions of participating parties.

In many factfinding proceedings, a single individual functions as both the factfinder and the presiding authority. In judicial proceedings, examples are “bench trials” (in which the judge hears and decides the case without a jury) and hearings on preliminary matters (such as hearings on motions to exclude expert testimony).[10] In administrative adjudications, the administrative law judge generally decides the case without a jury. In all of these proceedings, however, the distinction between the functions of factfinder and presider is still vitally important. When the judge in a bench trial makes a finding as the factfinder, her decision is entitled to the deference due to any factfinder’s decision. When that same judge makes a ruling as a matter of law, however, her ruling is subject to the same scope of appellate review as any trial judge’s ruling on an issue of law. The fact that the same person often plays two roles does not cause the line between those roles to vanish. This duality of role is possible in large part because the reviewing authority enforces the distinction between issues of fact and issues of law. The different scopes of appellate review for issues of fact and issues of law are discussed below, under the province of the reviewing authority.

Because the presiding authority decides all issues of law in the first instance (subject to appellate review), he or she can make rulings on every category of legal issue that was discussed above under the province of the factfinder. On the motions and arguments of participating parties, and occasionally sua sponte, a presiding authority will decide which substantive rules of law, definitional rules, process rules, default inference rules, and relevant-factor rules are in force within the jurisdiction and applicable in the proceeding. Even in proceedings where the same person acts as both factfinder and presiding official, a party may move for rulings of law concerning propositional issues on which the same judge will ultimately make findings of fact. Just as in a jury trial, such rulings on issues of law may constrain the judge’s discretion as factfinder.
In addition to these types of rulings, a presiding authority must decide important issues of law concerning the evidence proffered by the parties. Some evidentiary rules are process rules—such as the rules governing the discovery of evidence (e.g., rules governing the taking of depositions, the production of documents, and the conduct of physical examinations).[11] Other evidentiary rules are exclusionary rules, concerning which proffered items of evidence are inadmissible in the proceeding. A judicial example is Federal Rule of Evidence 702, which states the conditions under which expert testimony may be admitted in federal courts, and which the U.S. Supreme Court interpreted in its decision in Daubert.[12] In deciding whether to admit an expert’s opinion that (for example) the plaintiff’s exposure in utero to a certain drug caused the plaintiff’s injury, a federal trial judge must first decide whether the empirical and theoretical basis for that opinion is sufficiently “reliable” and “relevant” to the case at hand, and may decide whether its probative value is “substantially outweighed” by the risk of misleading the factfinder.[13] If the trial judge decides to exclude the testimony, then the jury will not hear that opinion and the judge as factfinder may not rely on it as evidence. In administrative proceedings, the rules governing discovery and admissibility of evidence generally are quite different than those in judicial proceedings. These differences are often due to differences in institutional structure and in the blend of epistemic and non-epistemic goals.

Another important type of ruling on evidence assesses (as a matter of law) the “legal sufficiency” of the totality of admissible evidence introduced into the case, and allocates to particular parties the burden of producing that evidence. On every proposition at issue in a judicial proceeding, there is a rule of law assigning to some party the burden of producing evidence sufficient for a reasonable factfinder to find the issue in that party’s favor.[14] The party that has the burden of producing or coming forward with evidence (for short, the “burden of production”) must lose the contest over the proposition if that party fails to produce enough evidence—in the form of real evidence, documents, and testimony. The totality of admitted evidence that is relevant to any proposition at issue must meet minimal sufficiency requirements before the presiding judge will present the proposition to the factfinder. Rulings on sufficiency create therefore a threshold of reasonableness before the exercise of the factfinder’s discretion. For example, in a tort complaint alleging that the defendant negligently caused the plaintiff’s injury, the plaintiff has the burden of production on a number of propositions, including the propositions that the defendant in fact engaged in negligent conduct and that the defendant’s negligence in fact caused the plaintiff to suffer some injury. If the plaintiff fails to produce what the courts consider legally sufficient evidence to support findings for the plaintiff on these issues, then the trial judge should decide those issues against the plaintiff “as a matter of law.” Although this example is from a judicial proceeding, administrative adjudications may have similar rules about sufficiency.

In judicial civil cases, parties can raise the issue of the legal sufficiency of the evidence at various times, through a number of different motions. First, a party can obtain such a ruling in a motion for summary judgment, before the trial begins.[15] Second, a moving party can obtain a ruling at trial, after the non-moving party has had an opportunity to
produce the evidence. The issue may be raised then by a motion for directed verdict or for judgment as a matter of law.[16] Third, the motion can be renewed if the factfinder reaches an unfavorable finding, in a motion for judgment notwithstanding the verdict or a renewed motion for judgment as a matter of law.[17] Each motion, brought at a different time in the proceeding, may require the moving party to establish slightly different factual predicates, but the essence of the argument is the same: that as a matter of law the non-moving party will fail, or has failed, to satisfy its burden of producing evidence that the law considers minimally sufficient.

It is also possible for a court to decide an issue as a matter of law for the party who has the burden of production, if the party successfully argues that the evidence produced is so overwhelming that any reasonable jury would have to find for that party. It is far more common, however, for a court to enter judgment as a matter of law against the party with the burden of production, because of a deficiency in the evidence. This is primarily because it is easier to devise and apply rules of law about when evidence is missing or deficient, than about when produced evidence compels an inference.

The Province of the Reviewing Authority

Just as the presiding authority oversees the work of the factfinder, the reviewing authority oversees the work of the presiding authority. In the case of judicial proceedings, the reviewing authority is an appellate court.[18] In the case of an administrative proceeding, the reviewing authority may be either an administrative body or a court conducting judicial review of the final administrative action. The general rules governing the relative authority of the reviewer over the decisions of the presider are called the “scope” or standard of review.

When it comes to reviewing issues of fact, the reviewing authority is required by law to be extremely deferential. When the factfinder is a jury, strictly speaking the appellate court does not review the verdict directly. Rather, any challenge to a jury verdict generally must arise first as a motion to the trial judge, and then any appeal challenges the trial judge’s ruling on that motion. This is not a matter of mere semantics. The scope of review that is due to the trial court’s ruling depends upon the nature of the motion made to the trial judge – which may be reviewed for “abuse of discretion” or reviewed “de novo,” as discussed below.

Direct appellate review of a finding of fact does occur when the presiding authority is also the factfinder. For example, in civil bench trials in federal court, the trial judge must make findings of fact on the basis of the evidentiary record.[19] Appellate review of those findings of fact uses the “clearly erroneous” standard.[20] That is, the appellate court is not permitted to substitute its own assessment of the evidence for that of the trier of fact, so long as it is not clear that the trier of fact has committed a mistake.[21]
Judicial review of administrative factfinding is similarly deferential. In general, the reviewing court must respect the findings of fact of the administrative agency unless those findings are “arbitrary [or] capricious” or “unsupported by substantial evidence” in the record. In practice, these two standards may come to much the same thing.

The scope or standard of review for many other rulings of the presider is the “abuse-of-discretion” standard, which is also very deferential. As long as the presiding authority’s ruling is not “manifestly erroneous,” the reviewing authority has the obligation to let the ruling stand. Often the type of ruling at issue involves the appropriateness of applying a correctly stated rule of law to the particular circumstances of a specific case, and the reviewing authority, which does not observe those circumstances first-hand, is not the best decider. Abuse-of-discretion review is applicable, for example, to trial court decisions to exclude proffered evidence because it is potentially prejudicial or needlessly cumulative.

Not all abuse-of-discretion review, however, can be justified on the rationale that the presider is in a better position to assess the circumstances than the reviewer is. The abuse-of-discretion standard of review applies to federal trial court rulings to exclude expert testimony for failure to satisfy Federal Rule of Evidence 702. In Daubert matters, however, appellate courts are often in as good a position as the trial court to decide questions about the reliability and relevance of proffered scientific testimony. In such situations, a more complicated justification, in terms of non-epistemic as well as epistemic policies, would be needed to justify abuse-of-discretion review instead of de novo review. Arguing the merits of such a justification, however, must remain beyond the scope of this essay.

With respect to “pure” issues of law, appellate review of trial court decisions or judicial review of administrative decisions is generally “de novo”: that is, the presiding authority’s rulings are subject to review without any deference to the presiding authority’s ruling. If the presiding authority stated a rule of law incorrectly, or applied it in such a way that it is clear that the presiding authority misunderstood the law, then the reviewing authority simply reverses such a ruling and orders an appropriate remedy (which may include sending the case back to the trial court for re-trial or remanding the matter to the administrative agency). An example is a ruling that the evidence produced by a party who has the burden of production is legally insufficient. The argument that a party has failed to meet its burden of production raises an issue of law on which the moving party is entitled to de novo review by the appellate court. One justification for this in a judicial setting is that otherwise a trial judge would have undue power to deprive a plaintiff of her right to a trial by jury. A broader justification is to enable appellate courts to create rules about minimal sufficiency of evidence that they can then enforce uniformly across all trial courts in the jurisdiction.

In general, therefore, reviewing authorities do not have the power to make decisions that are reserved to factfinders, and have precisely defined powers to set aside decisions made by presiding officers. Unless a proposition at issue can be resolved as a matter of law, if an appellate court decides to disregard a verdict or finding that is
essential to the case, then the case must be sent back to the trial court to be re-tried. Similarly, a reviewing authority generally does not have the power to make administrative decisions, in the place of the agency. If the reviewing court vacates an administrative agency’s action because it was arbitrary or capricious, then the matter must be remanded to the agency for further action.

Conclusion

Factfinding in a legal context is a highly structured process in which there are distinct decision-making roles. Each of the three principal roles (factfinder, presiding authority, and reviewing authority) has a significant zone of discretion in which to operate, yet decisions within that zone are constrained by decisions within the other two provinces. The factfinder’s zone of discretion centers on making findings about issues of fact, but rules of law often take propositional issues away from the factfinder and give them to the presiding or reviewing authority. The reviewing authority enjoys the greatest discretion in deciding what the rules of law are, but this discretion is constrained by rules identifying issues of fact reserved for the factfinder to decide. Of course, the discretion of the reviewing authority is also constrained by the legislature (through statutes), by administrative rulemaking, and by higher reviewing authority. Between the factfinder and the reviewing authority lies the zone of discretion of the presiding authority, which is least constrained in decisions about how to apply the established legal rules to the particular circumstances of the individual case.

The strategy behind factfinding in law is not so much to establish a methodology or logical model of inference to use in assessing the quality of factfinding outcomes, but rather to maintain a dynamic process of rule-governed decision-making, through which (it is hoped) reasonable decision makers will come close enough to achieving the epistemic objective over time. In deciding either to establish or to apply each of these rules, there is a persistent need to balance epistemic and non-epistemic aspects of the factfinding process, so that the process adequately serves its pragmatic function within the governmental institution. There is a great deal of theoretical work to be done in deciding the proper balance for each type of decision, by each type of decision maker, and for each type of propositional issue.

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[2] Science is perhaps the leading contender to law in this regard, although scientists might spend fewer resources than government does in overseeing the communal
enterprise of scientific factfinding. Indeed, much of the oversight of scientific factfinding is performed by government — through such institutions as the National Institutes of Health, the Centers for Disease Control and Prevention, the Environmental Protection Agency, the Food and Drug Administration, and so forth.


This essay does not discuss the distinctions among different layers of appellate review, between appeal as of right and by writ of certiorari, or between appeals and certified questions. While such procedural distinctions add complexity to the factfinding process, the general theme of this essay does not require examining that complexity.

Federal Rule of Civil Procedure 52(a).

Id.

James et al., supra note 6, at § 12.9, pp. 668-74.


Federal Rule of Evidence 403; Mueller & Kirkpatrick, supra note 9, § 4.9, pp. 174-75.


I leave aside here such complications as the U.S. Supreme Court’s doctrine announced in Chevron, U.S.A. Inc. v. NRDC, 467 U.S. 837 (1984) (announcing a deferential approach to an agency’s interpretation of a statute that Congress has entrusted to the agency to administer).