1 Judicial Decision Making: The Truth, the Whole Truth and Nothing but the Truth?

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1.1 Introduction

One of the cornerstones of a civil society is that its legal system makes fair and accurate decisions concerning guilt and innocence.[1] Jurists – and judges in particular – are consequently in the business of judgment and decision making. The essence of their work is the combination of the investigative and the normative. The legal core business obviously is the pursuit of truth. But what is this elusive thing called 'truth'? How do we find it? Where do we find it? How do we recognize it? Can we find it anyway? And is it genuinely the principle aim of legal judgment?

The German philosopher Friedrich Nietzsche (1844-1900) shattered the foundational idea of an absolute truth: 'There is no truth, there are only interpretations'. So, in his view, 'truth' has more to do with perspective. From varying positions, the world may look different; consequently there may be more than just one 'truth'. For the sufferer of a medical mishap the truth will be the supposed neglectful conduct of the attending physician, the psychology of blame.[2] For the doctor involved in the unhappy upshot it will be a complication from the intervention, it is definitely not his or her personal fault. A medical expert asked to look into this misfortune may recognize a familiar pattern and focus on the situational context as a major cause. At least three different views are given on the same event. But does this plurality of possibilities preclude the existence of any higher-order truth underlying the different perceptions? Are we observing a gloomy philosophical interpretation of social and cognitive psychological phenomena? And what are the implications of these insights for the legal practice? Does this suggest that we should give up any stone-hard conception of truth – and perhaps even the realization of legal justice? But how then can we defend legal rulings if catching an unambiguous reality may be so elusive? This tricky situation wherein

1 S. Porter & L. ten Brinke, 'Dangerous decisions: a theoretical framework for understanding how judges assess credibility in the courtroom', *Legal and Criminal Psychology* 2009, Vol. 14, pp. 119-134.

2 M.D. Alicke, 'Culpable control and the psychology of blame', *Psychological Bulletin* 2000, Vol. 126, pp. 556-574.

the law is operating is the subject of this chapter. How do we undertake research in human judgment? Do we have standards for evaluating legal judgment?

To answer these questions, I will first explore the goals of a legal procedure and accentuate the necessity of quality control. We then direct at the assessment of judgment and decision making (JDM) and home in on the problems of verification of judgments. To understand why JDM may go wrong, we need insights from cognitive and social psychology and will also survey the intriguing workings of the human mind, this valuable instrument used for JDM. I will finish with a plea for more methodology deduced from of these observations.

1.2 Is the Quest for Truth the Primary Goal of a Legal Procedure?

Legislation and the administration of justice have a very long tradition, one of the oldest examples being the codex Hammurabi dating from 1750 BC. It is obvious that the core business of the legal system is to resolve disputes. In civil law, judgment is required when people disagree with each other or when they were harmed by someone's negligent act. With this private law trial the decision maker may want to bring about corrective justice, to compensate when designated, to deter wrongdoing and to vindicate.[3] To bring about correct dispute settlement, abstract principles like objectivity, fairness, timeliness, equality of arms, etc. have to be obeyed. But to realise each of those rather abstract goals, we must give them a practical swing. The explanation of a contract differs from how to establish fault and causation in a tort case but in both situations the practice must be firmly grounded in a scientific method. But what is the heart of this basis? Here we meet the divide between traditionalist and contextualists.

From a philosophical perspective, as we have just seen, a zealous quest for absolute truth might be somewhat problematic.[4] For the resolution of a dispute, the legal decision makers are forced to be practical and establish the factual truth of the case in their traditional manner and use these findings for their judgment – in spite of these philosophical and psychological imperfections. In this epistemologically uncomfortable situation we can, however, pursue two different options to reach our goals.

The first one is to shrug one's shoulders and calmly continue to work in the way one has always done before and pursue the truth whatever it may be and knowing what to do to fulfil that aim. This is legal perseverance in its purest form: this is the

3 T. Relis, '"It's not about the money!": a theory on misconceptions of plaintiffs' litigation aims', *University of Pittsburgh Law Review* 2007, Vol. 68, pp. 701-746.

4 P. Lipton, 'The truth about science', *Phil. Trans. Soc. B*. 2005, Vol. 360, pp. 1259-1269.

custom – period; this is the traditionalists view. To quote the English legal scholar Stanley Fish:[5]

> 'The law wishes to have a formal existence. That means, first of all, that the law does not wish to be absorbed by, or declared subordinate to, some other – non-legal – structure of concern; the law wishes, in a word, to be distinct, not something else. And second, the law wishes in its distinctness to be perspicuous; that is, it desires that the components of its autonomous existence be selfdeclaring and not be in need of piecing-out by some supplementary discourse; for, were it necessary for the law to have recourse to a supplementary discourse at crucial points, that discourse would be in the business of specifying what the law is, and, consequently, its autonomy would have been compromised indirectly.'

We are observing the continuing and often problematic confrontation between the law and non-legal disciplines.[6] In his opinion on *Daubert*,[7] justice Blackmun states that: 'Yet there are important differences between the quest for truth in the courtroom and the quest for truth in the laboratory. Scientific conclusions are subject to perpetual revision. Law, on the other hand, must resolve disputes finally and quickly.' In this view of legal practice, if the law wishes to be distinct, the only thing needed is a thorough understanding and application of the law.

The other direction however is quite antipodal. A wider perspective, incorporating other disciplines, is needed – the contextualists view. Knowing that we often have little means of identifying an absolute truth and hence may fail in the end, we still can spot the many opportunities along the way for empirical excellence on the one hand and recognize blind allies on the other. In essence it is choosing the Popperian perspective: is this policy falsifiable? Accordingly we are obliged to reorganise our procedures to minimize misdemeanours. This means we must critically reflect on the way we work, draw other disciplines into this matter and subsequently formulate what we definitely should or shouldn't do. Sturdy scientific scepticism – but not negativism – is the lead. The Oslo line-up in criminal investigation to objectively identify a possible suspect among several people has emerged from this approach. The same principle of blinding holds for the examination of bullets or human hairs.[8] In medical

5 S. Fish. 'The law wishes to have a formal existence', *in:* A. Norrie (red.), *Closure or critique: new directions in legal theory*, Edinburgh: Edinburgh University Press 1993, pp. 157-174.

6 *See* S. Haack, 'Irreconcilable differences? The troubled marriage of science and law', *Law and Contemporary Problems* 2009, pp. 1-23.

7 *Daubert v. Merrell Dow Pharms*, 509 US 579.

8 L.S. Miller, 'Procedural bias in forensic science examinations of human hair', *Law and Human Behaviour* 1987 Vol. 11(2), pp. 157-163.

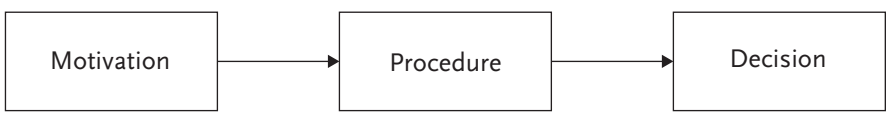
negligence this procedure of blinding is valuable when re-examination of microscopic slides or radiographs is necessary.[9] Sketching the principles and practice of how an expert witness should contribute to a procedure is another important theme.[10]

By avoiding as many misdemeanours as possible on the one side and scientifically testing our methods on the other, we hope to come as close to the elusive truth as we can without definitely knowing whether we have finally found it. This probing approach presupposes that better alternatives to the customary style must be available. We practice rethinking and re-engineering of the phases of fact-finding, legal judgment and decision making but as legal scholars our work should be guided by scientific evidence-based principles.

When observing clashes between traditionalists and contextualists one may wonder whether this is really about how to establish the truth or merely a desperate defence of historically determined boundaries. Converting to contextualism does not mean abandoning the achievements of legal scholarship. On the contrary: it means to practically improve the core business of dispute resolution. This is the perspective of quality control.

1.3 Quality Control

In 1935, the legal scholar Felix Cohen wrote: 'Fundamentally there are only two significant questions in the field of law. One is, "How do courts actually decide cases of a given kind?" The other is, "How ought they to decide cases of a given kind?"'[11] It is linking the descriptive to the normative. There is work to be done if there clearly exists a discrepancy between the actual and the ideal. But for that, we must first have techniques to investigate and evaluate legal practices. Next we must choose for the systematic study of how to find and implement the best methods within the legal discipline. We thus enter the realm of methodology. Finally, we must assess whether we have realized improvements. We can structure our inquiries using the following scheme, showing the three consecutive steps of a trial:



9 R.W.M. Giard, 'When is the practice of pathology malpractice?', *J Clin Pathol.* 2010, Vol. 63(11), pp. 957-961.

10 J. Sanders, 'Science, law, and the expert witness', *Law and Contemporary Problems* 2009, Vol. 72, pp. 62-90.

11 F.S. Cohen, 'Transcendental nonsense and the functional approach', *Columbia Law Review* 1935, Vol. 35, pp. 809 *et seq.*

A trial is not a random event, but it starts with a perceived problem that turned out into a conflict for which parties are not able to find a solution so it is now presented to a court. This problematical starting point is important because the way a difficulty is represented affects its solution.[12]

To probe and, when indicated, improve legal decision making we must scrutinize these blocks one by one. The first step is to investigate the possible sources of motivated bias by the claimant. The next step is to assess the working procedures needed for solving this problem: what to do, how to do it, etc. Finally, we want to judge the accuracy of the legal decision was made.

From the perspective of quality control we can see that we need insight – not hindsight. For this we must rely on other disciplines than the law, especially we will have to draw from cognitive and social psychology.[13] But looking at all three blocks integrally will be a massive venture. Could we not be more pragmatic and start with an assessment of the decision outcomes? If they turn out to be faultless, we could assume that the way trials are handled is of a sufficient quality and save us a lot of effort.

1.4 Assessment of Human Judgment and Decision Making (JDM)

How do we test claims for truth? We may opt for a down-to-earth constructivist view, which states that humans create knowledge and meaning from an interaction between their experiences and their ideas.[14] But there are other ways. In his book *Beyond Rationality: the search for wisdom in a troubled time* Kenneth Hammond[15] states that we will have to use two classes of criteria for the assessment of JDM: correspondence and coherence as notions of truth. These two are perhaps the most favoured conceptions of truth in contemporary philosophy.[16] I will gratefully use this twosome for further analysis for the truth assessment problem.

12 *See* J.E. Pretz, A.J. Naples & R.J. Sternberg, 'Recognizing, defining, and representing problems', *in:* J.E. Davidson & R.J. Sternberg (eds.), *The psychology of problem solving*, Cambridge: Cambridge University Press 2003, p. 9.

13 *See* R.J. Winter & E. Greene, 'Juror decision-making', *in:* F. Durso (ed.), *Handbook of Applied Cognition*, John Wiley & Sons 2007, chapter 28.

14 S. Delacroix, 'Legal Norms and Normativity: An Essay in Genealogy', Oxford: Hart Publishing 2006.

15 K.R. Hammond, *Beyond Rationality: the search for wisdom in a troubled time*, Oxford: Oxford University Press 2007.

16 N.V. Dawson & F. Gregory, 'Correspondence and coherence in science: a brief historical perspective', *Judgment and Decision Making* 2009, Vol. 4, No. 2, pp. 126-133.

1.4.1 Truth as Correspondence

In an earlier work Hammond defines correspondence research as follows:[17] 'Correspondence theory focuses on the empirical accuracy of judgments, irrespective of whether the cognitive activity of the judge can be justified or even described.' Those who are party in a legal trial will probably expect or at least hope that the legal decision maker will rationally make a well-informed and balanced verdict that is a representation of the true state of the world. However, since it is all too human to err and judges are definitely made of flesh and blood, legal decision makers may also go wrong as many miscarriages of justice have already shown us. But how testable is the accuracy of a trial outcome? Thinking about quality implies that we first need to carefully delineate precisely what we want and second we will need feedback information to see if we have met our goals.

Sometimes time will tell that a court decision was wrong when a suspect is arrested who confesses a crime for which somebody else was already convicted earlier, but this only happens in criminal law and is rare. In the Netherlands, a man convicted for murdering a ten-year old girl in a park proved to be innocent when a few years later someone was arrested for an unrelated felony and spontaneously confessed this horrible murder.[18] We can even more actively search for mistakes whereupon we are invited to analyse these contingencies in a table where we relate the true state of affairs, the defendant is either guilty or not, with the outcome of the legal decision, again the defendant is either guilty or not. Thus, we may construct the following fourfold table:

Table 1

	JUDGMENT: GUILTY	**JUDGMENT: NOT GUILTY**
Truth: no wrongdoing	Miscarriage	fair judgment
Truth: wrongdoing, fault	fair judgment	miscarriage

To create such a table in reality we will need an independent gold standard, a highly reliable criterion to establish the true state of affairs – and for every case. This provides us with the necessary feedback to evaluate the quality of preceding legal decisions. But if we want to bring about a systematic quality control of legal verdicts this theoretical ideal is hindered by a lack of such a benchmark. But an independent yardstick, one that is not influenced by the preceding procedure, simply does not exist. Apart from the incidental revelation of a miscarriage there is no system for structural

17 K.R. Hammond, *Human judgment and social policy: Irreducible uncertainty, inevitable error, unavailable injustice*, Oxford: Oxford University Press 1996, p. 106.

18 The Schiedam park murder, Dutch Supreme Court, 25 January 2005, LJN AQ9834.

feedback, so systematic objective empirical evaluation is virtually impossible. Do we have any alternative means for probing the quality of legal decisions?

Referring the case to a higher court may challenge the first legal decision. This new procedure may indeed reveal shortcomings or even misdemeanour of the lower court, but its mode of operation is not totally independent and may be prone to the same misguiding mechanisms as in the first instance and is essentially based on the same, sometimes flawed, data. In short, it lacks true scientific objectivity. In addition, in the majority of rulings from the primary court no appeals are instituted. So this type of quality control is at best incidental, but definitely not systematic.

The odd miscarriages of justice that come to our knowledge must be the proverbial tip of the iceberg. There is good reason to question the assumption that a court's decision of guilt is 'beyond reasonable doubt' simply because it has extensively been shown that any human decision making is prone to different kinds or errors.[19] In this respect legal practice differs from medical practice.

When things go wrong in health care the attending physician is often but not always directly confronted with the consequences of an incorrect diagnosis or a wrong therapeutic intervention and is hence motivated to prevent the incident from happening again. When it occurs this feedback is swift, direct and confronting. Few judges however are troubled with their wrongdoings and should they come forth this information is late and indirect. So there is an enormous feedback asymmetry. The legal community lacks a regular response on the result of their legal projects and hence a motivating mechanism is not there; complacency may be looming.

This leaves us with a discomforting conclusion: in legal practice the correspondence criterion for truth is unavailable. How useful then is the coherence criterion?

1.4.2 Truth as Coherence

Let us again start with Hammond's definition of coherence: 'Coherence theorists have opposite interests; they examine the question of whether an individual's judgment processes meet the test of rationality-internal consistency-irrespective of whether the judgment is empirically accurate. Indeed, no test of empirical accuracy may be available in principle or fact.'[20]

19 *See* the Innocence Project: <www.innocenceproject.org>.
20 *See* reference 17, p. 106.

This approach is very much included in the discipline of law. The practice of law presupposes a coherent system of principles and rules and legal decision makers are trained to follow that mode of operation. This rule following will vouch for a good result, for procedural justice. But there is a very disquieting phrase in this declaration: '…irrespective of whether the judgment is empirically accurate.' It assumes that a correct legal procedure based on wrong facts is possible and in spite of this limitation the verdict is both valid and lawful.

So far, in our quest for yardsticks for the determination of truth, we have seen that the criteria of correspondence and coherence mean will leave us with the displeasing feeling that either we cannot use them (correspondence) or they are too abstract and consequently impracticable (coherence). This leaves us with the still unanswered question of how we can give all trial participants a crystal-clear explanation why this verdict is the best possible outcome.

In a general sense the outcome of a trial can be erroneous for two different and sometimes simultaneous reasons: either something went wrong procedurally (legal) or empirically (fact-finding and interpretation). If we feel strongly about warranting the best possible outcome, we must address possible omissions in both groups, but how? Can we borrow from other disciplines, for instance medicine? Here too, mistakes van have grave consequences, so how do they organize quality control? The Lebanese-American physician Avedis Donabedian devised a simple threesome concept: to scrutinize and improve medical practice, always look integrally at structures, processes and outcome.[21]

Transposing this range of ideas however to the domain of law is not without problems. The need to evaluate – or re-evaluate – the structure for the administration of justice in relation to its goals, is obvious and ongoing. The systematic review of outcomes, as we have shown, can be problematic. But one thing will surely deserve more attention: workprocess evaluation. Here we will especially examine the technical aspects of fact-finding, the processes of data-analysis, drawing conclusions, judgment and decision making. These are all cognitive activities of the human mind. But the conflict arises from social interactions. It is the cocktail of emotions and cognition that shape behaviour. What then can we learn from psychology?

1.5 Why Legal Professionals Need More Insights from Psychology

In civil law when people are engaged in a conflict one party is blaming the other for some reason. Blame is inherently a psychological construct and for this reason

21 A. Donabedian, 'The quality of care. How can it be assessed?', *JAMA* 1988, Vol. 260, pp. 1743-1748.

the psychological processes manifested as motivational biases are central rather than peripheral to the psychology of blame.[22] The victim's perception of the situation and its subsequent presentation to the court may influence the problem definition and subsequently the way the matter is examined and judged. It is the process of attribution, which is discussed in depth by Giesen in chapter two of this book and this subject is also touched upon in chapter 3. This is the plaintiff's perspective.

But there are other parties involved: advocates, experts and legal decision makers (either professional judges or lay-judges from a jury). They have in common that they are obliged to make professional judgments but invariably this is judgment under uncertainty. In these situations the human brain may use shortcuts, heuristics, to efficiently fulfil the task or the process of JDM may be deflected by some information and thus judgments may become biased. In 1982, the famous book by Kahneman, Slovic and Tversky appeared, describing in detail this problem area of human judgment.[23] It is a catalogue of the limitations of human judgment and as such tremendously relevant for legal decision makers but it took a while before this community became really interested in this topic. Thanks to several scholars who were trained both in law and in psychology or psychologists getting deeply involved in forensics and criminal law, the legal community was gradually permeated with this new thinking.[24] In the final chapter of this book, the subject is further reviewed by Rachlinski.

But the problems of motivated and cognitive biases investigated by psychologists are not only descriptive but also normative: they may lead to new ways of gathering and interpreting information and to new processes of JDM. However, since several years there is a new development where the functions of the brain are related to structural units using functional scans of the whole brain. How does the activity of JDM work and what does it tell us?

1.6 The Intriguing Workings of the Human Mind

The apparently simple question 'how do judges decide' is strikingly difficult to answer. Every human being is constantly engaged in information gathering, judgment and decision making. To optimize our observational and reasoning capacities we

22 M.D. Alicke, 'Culpable control and the psychology of blame', *Psychological Bulletin* 2000, Vol. 126(4), pp. 556-574.

23 D. Kahneman, P. Slovic & A. Tversky, *Judgment under uncertainty: heuristics and biases*, Cambridge: Cambridge University Press 1982.

24 *E.g.*, J.J. Rachlinski, 'Heuristics and biases in the courts: ignorance or adaptation?', *Oregon Law Review* 2000, Vol. 79, pp. 61-102, C. Guthrie, 'Insights from cognitive psychology', *J. Legal Educ.* 2004, Vol. 54, pp. 42-48 and for forensic studies the many publications by Robert Rosenthal and Michael Risinger.

must better understand the workings of our perceptions and the functioning of the mind. This is all about elucidating neural structures and functions. This subject is momentarily highly en vogue and neurocognitive science produces a wealth of information but at the same time shows the complexity of this system and lays before us the long way this research still has to go.[25] While impatiently awaiting the fruits of this line of research and the potential consequences for legal practice,[26] we have to remain practical and especially concentrate on the proper performance of the tasks required in a legal setting.

The explorations of the workings of the mind have shown that this intriguing human system has a modular arrangement and consists of two main more or less sequential and interrelated compartments: perception and cognition.[27] Perception is the set of processes by which we recognize, organize, and make sense of the sensations we receive from environmental stimuli. Cognition is how people think. Perceptions come first, they will lead us but they may also mislead us and cognition follows. The perception and its concomitant representation is the world as it is, hence truthful, but the subsequent interpretations of this perception may reflect a persons expectations, wants or desires and thus may not be genuine. Expectancy can influence perception in many ways and this phenomenon.[28]

We more readily perceive entities that are familiar to us; the unknown may be missed. We may be formidable in finding unexpected things but sometimes we perceive things that do not exist and vice versa: we do not perceive what really does exist![29] People react to what they see or experience, that is how they perceive it. Different persons may have a dissimilar perception of the same reality, as already noticed. Another important phenomenon is that expectations influence perception, an observation most relevant in legal fact-finding.[30] So each of the two mind modules is one of the sides of the same coin. We must thoroughly explore these occurrences and see what their impact could be on legal judgment.

There is another duality: human behaviour in cognitive and social psychology seems to use two different systems, designated as system 1 and system 2 of the dual-pro-

25 OECD, *Understanding the Brain: The birth of a new learning science*, Paris: OECD Publishing 2007.
26 J.J. Knabb *et al*., 'Neuroscience, Moral Reasoning, and the Law', *Behav. Sci. Law* 2009, Vol. 27, pp. 219-236.
27 *See* P. Quinlan & B. Dyson, *Cognitive Psychology*, Pearson Educated Ltd 2008, chapter 5 (pp. 143-184).
28 D.M. Risinger *et al*., 'The Daubert/Kumho implications of observer effects in forensic science: hidden problems of expectation and suggestion', *California Law Review* 2002, Vol. 90/1, pp. 1-56.
29 R.J. Sternberg, *Cognitive psychology,* Wadsworth Cengage Learning 2009, pp. 75-122.
30 Risinger *et al*. (2002), pp. 3-54.

cessing accounts of reasoning, judgment and social cognition.[31] Roughly, system 1 represents the intuitive automatic response to stimuli and system 2 is the rational analytic-systematic reaction. The first system is impulsive, the second reflective. Most of our observations and reactions are automatic and it is therefore conceivable that even most thinking and deciding by legal professionals utilizes system 1. But the general view is that judicial rulings are the upshot from rationality: only after careful deliberate thinking and deciding by the legal decision maker is the verdict given. There are many reasons why we should question this rationality assumption.[32] In this dominant Dual Process theory the two systems do not completely operate independently but interact with each other.[33] If we recognize the vulnerability of the impulsive system 1 – most errors in decision making occur in this functional unit – we ascertain the necessity to use system 2 to scrutinize the upshot from system 1 and redress it when necessary.[34]

Observational and experimental research has shown extensively that during the processes of JDM this beautiful instrument may deliver incorrect answers. Therefore, it is to important to give practical instructions that promise the best possible outcome.

1.7 For Truth More Commitment to Methodology Is Mandatory

As we have illustrated above, legal decision makers consequently face a complicated and often complex task. They frequently must process large volumes of trial evidence, some of this information is contradictory in nature and it is not certain whether all required information is available. When they must assess and combine disparate, often unbalanced, sources of information, which data are relevant and why?[35] How to interpret all these findings and finally: how to adjudicate in an unbiased way? But more basic: what is the proper thing to do in relation to the goal of this enterprise?

As we start to study law and after graduation are subsequently, practically trained in legal practice, we become embedded in organizations that have a long tradition and when we start to learn the tricks of the trade we are absorbed in a culture of custom. We believe this system to be highly rational and thus reliable but it may be both very

31 J.S.B.T. Evans, 'Dual-processing accounts of reasoning, judgment, and social cognition', *Annu. Rev. Psychol.* 2008, Vol. 59, pp. 255-278.

32 E. Shafir & R.A. LeBoeuf, 'Rationality', *Annu. Rev. Psychol.* 2002, Vol. 53, pp. 491-517.

33 P. Croskerry, 'A universal model for diagnostic reasoning', *Academic Medicine* 2009, Vol. 84(8), pp. 1022-1028.

34 P. Croskerry, 'Context is everything or how could I have been that stupid?', *Healthcare Quarterly* 2009, pp. e171-e177.

35 R.J. Winter & E. Greene, 'Juror decision-making', *in*: F. Duro (ed.) *Handbook of Applied Cognition*, John Wiley & Sons 2007, chapter 28 (pp. 739-761).

revealing and rewarding to take a sceptical step back, ponder on our practices and also dare to think of possible better alternatives.

During each successive phase in the processes of problem identification, fact-finding, judgment and decision making, we must realise that for the routine we habitually use, better options may exist. But sorting out this mode of operation forces us to meticulously take stock of those different options, give them deep thoughts and empirically test and compare these alternative strategies and finally choose the best one. Turning this way we have entered the realm of methodology, the body of methods, rules, and principles to be employed by the legal professionals.

Once we have chosen this working method, it reveals that sound knowledge of the legal doctrine is no longer sufficient: we need the input of other fields of science such as psychology, sociology, epistemology. This interdisciplinary effort provides us with additional practical normative instructions for practicing the normative discipline of law. Vernon Walker, professor of law at Hofstra University, bemoans that in the legal profession surprisingly little research and effort has been devoted to developing its own science-based approach.[36]

Moreover, the disentanglement of how a judicial case should be handled requires paying attention to two different classes of problems: issues of fact and issues of law. These two belong together like a horse and carriage. The carriage must be appropriately constructed, have comfortable springs and must be well taken care of. The horse should be healthy, regularly combed and well fed and most of all good harnessing is essential! A comfortable legal journey not only requires that we properly look after both elements but also we need a competent coachman who knows the road and how to drive the horse-and-carriage-unit.

This metaphor makes it clear that the magistrate's verdict no longer rests on his positional authority, but that the process of adjucation must be deeply rooted in a properly performed transparent procedure, of which matters of fact are clearly deeply interconnected with matters of law. It is the good old procedural justice with a modern methodological twist.

In most legal studies, educating students how to reasonably and systematically deal with matters of fact is often missing or at best rudimentary.[37] But, as discussed earlier in this chapter, pitfalls when gathering and dealing with information abound.

36 V.R. Walker, 'Discovering the logic of legal reasoning', *Hofstra Law Review* 2007, Vol. 35, pp. 1687-1707.

37 W. Twining, 'Taking facts seriously – again', *J. Legal Educ.* 2005, Vol. 55, pp. 360-380.

The most critical is that we are always looking back, knowing the unwanted aftermath – we are thus prone to both hindsight and outcome bias. 'Fact-finding' is a destitute description of the process. We do not just simply gather haphazardly facts that lie disorganized around. The administration of justice requires that facts are collected in an educated goal-driven way, handled carefully and were gathered from unprejudiced observations.[38] Facts never speak for themselves but we must give them interpretation in the context of the case. Finally, we enter the phase of judgment and decision making. For the purpose of deciding the case we must practice know-why, know-what and know-how. All this not only raises the central query of epistemology, 'what is knowledge?' but upgrades it to 'what is *reliable* knowledge?'. Because that is just the thing we are looking for.

To conclude, when we as legal professionals try hard to find a causal explanation of a conflict or a mishap – or in other words: our problem-laden quest for truth, the whole truth and nothing but the truth – this task is no longer monodisciplinary but marvellously multidisciplinary. This is justified enrichment of legal scholarship.

38 A. Morton, *A guide through the theory of knowledge,* (3rd ed.) Blackwell Publishing 2003, p. 19.