

# The Role of Social Science in Legal Decisions

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In this study, we explore the problems and the potential involved in combining social science and legal decision making, drawing primarily on examples from the United States. We also briefly discuss the situation in Israel, which provides an interesting comparison. We suggest that a complex act of translation is needed in order for law to incorporate social science findings, particularly in light of the many differences between law and social science in terms of goals, methods, social roles, and epistemologies. On the one hand, social science has much to offer legal decision makers, both in terms of the information it provides about how society and law operate, and in terms of critical vantages on the law itself. On the other hand, there may be important limits to judges' comprehension of the social science arena, so that caution is necessary in attempting to bring the two fields together.

In scrutinizing the institutional dimensions of translation difficulties between social science and law, we can identify a number of core tensions associated with the fields' quite distinct approaches to the reconstruction of facticity. These tensions are not only abstract questions of epistemology; they speak to the core of law's claims to rationality, and thus are particularly significant for any theory of democracy. The first tension, most crucial to democracy discourse, can be termed *political* or *institutional*. Simply put, the tension is between the democratic reluctance to delegate adjudicative facticity to expert discourse, on the one hand -- and on the other hand, society's interest in adjudication that is based on the "best available" knowledge rather than fragmentary "lay notions" (whose political or ideological character hides behind conceptions of "common sense" or "experience"). The second tension may be termed *metascientific* and involves the validity conditions of social scientific findings qua science: in other words, it is the concern that courts rely upon and apply valid rather than "junk" science. Here we must deal with the internal dynamics that yield legitimacy within the institution of social science itself. The third tension is both scientific and institutional, resulting from the intersection of social science and law, and emanates from the controversies between different legitimate scientific approaches and findings as they play out in court. As we will see below, the line between the second (*metascientific*) and third (*scientific--institutional*) tensions

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can at times be difficult to discern, when advocates of one competing scientific paradigm attempt to convince the court that their competitor is in fact “junk” rather than legitimate science. Finally, a fourth tension -- not dealt with directly here -- concerns situations where social science functions ideologically in the background of the case, and where portions of social science have infiltrated and permeated legal discourse. Economics is a case in point, as can be seen in the example of the relatively successful “Chicago School” in several areas.

Our discussion begins with an overview of the distinct methods, goals, social roles, and epistemological positions of social science and law, outlining the scholarship discussing this divergence. This necessarily schematic presentation provides a general template for identifying some of the potential difficulties that legal decision makers might encounter in achieving a fruitful marriage of law and social science. We briefly compare the overt tensions that exist in the United States with contrasting situation of law and social science in Israel today. The next section examines the ways in which social science has actually been used in US and Israeli courts to date. What role have social scientists played in mediating data and reconstructing facticity? How has the legal system translated the complex world of social science knowledge? After a brief survey of the wider terrain, in the third section we will focus in on a few “paradigmatic” examples for more in-depth discussion. The final section considers the critical promise of social science, suggesting that a “new legal realism” can emerge from more careful attention to the process of translation between social science and law.

### **Translating Social Science in Legal Arenas: Some Fundamental Challenges**

A number of authors have noted that fundamental differences exist between the way law approaches social problems and the way that social scientists operate. In an at times blistering critique of legal academics’ attempts to perform empirical research, political scientists Lee Epstein and Gary King outline what they see as a key distinction:

While a Ph.D. is taught to subject his or her favored hypothesis to every conceivable test and data source, seeking out all possible evidence against his or her theory, an attorney is taught to amass all the evidence for his or her hypothesis and distract attention away from anything that might be seen as contradictory information. An attorney who treats a client like a hypothesis would be disbarred; a Ph.D. who advocates a hypothesis like a client would be ignored. (Epstein and King, 2002: 9).

Epstein and King express concern that legal academics typically conduct empirical research with little awareness of the fundamental rules governing social scientific inquiry, nor of the considerable developments that have occurred in the social sciences for decades, so that law review readers “learn considerably less accurate information about the empirical world than the studies’ stridently stated, but overly confident, conclusions suggest” (2002: 1). Research on law school teaching suggests that this perceived gulf between lawyers and social scientists begins with a divergence in training, where law students are encouraged to tackle just about any social problem presented in a legal text with the confidence given them by the strategies that accompany legal reading (Mertz, 2000). Legal epistemology centers on the textual structures

that allow readers to ascertain whether a form of legal “truth” or at least authoritativeness has been established (Yovel, 2002; Mertz, 2002). “Facts” are established when legal procedures are followed and authoritative decision makers decree the facts to be so. Social scientists, by contrast, are trained to approach “fact” claims with caution, and to scrutinize empirical claims and studies for limitations.

Ewick, Kagan, and Sarat note the problem that this creates for translation between social science and law: social scientists are increasingly pointing to the great complexity and nuance that characterize how law operates in society, while “[l]aw has to act in the world and act with whatever information it has, however partial, incomplete, or biased” (1999: 29). Legal decision makers can hardly be expected to delight in the “complexity and often increased uncertainty” that accompany attending to empirical research (ibid.) The aim of social science is increased understanding, which draws researchers into ever more circumscribed conclusions and a form of epistemological modesty (wherein knowledge is inevitably partial and hedged). The aim of legal knowledge is to provide a “good enough” foundation for acting in the world -- for making decisions based in at least some pretense of certainty; social power and engagement are thus necessary concomitants of legal forms of knowing (resulting in the opposite of epistemological modesty). Numerous scholars have addressed the differences between law and social science, at times coming to pessimistic conclusions about the possibility of effective communication between the two fields (see, e.g., Tanford, 1990; see also Lindman, 1989; Monahan and Walker, 1986; Sarat and Silbey, 1988).

This difference in methods, aims, and epistemologies is given institutional expression in the four core tensions outlined above. We see this perhaps most strongly in the *political--institutional* tension, where the important difference between social-scientific and legal aims and institutional mandates creates a difficult dilemma. Citizens in a democracy have a vested interest, indeed some would say a “right,” to have their disputes adjudicated based on an understanding of social reality that is as free as possible of arbitrary assumptions or outright prejudice. Although, of course, social science itself is hardly devoid of the echoes of power and prejudice, the legal system has turned to social-scientific findings to assist in its efforts to achieve practical rationality (and this “rationality” carries a double meaning: overtly, the effort is to rise above the “impurities” of lay knowledge through the cleansing apparatus of social science method; while at the same time there is a “rationalizing” effect that helps to legitimate law and the legal use of power). However, the concern that adjudicative agents be presented with reliable knowledge about the social world by sound social science is met with the other, “jurisdictional” interest that fears the reduction of legal actors to the role of passive, lay consumers of scientific data -- ill-equipped to critique expert evidence and influenced by “extrascientific” factors such as the plausibility of expert witnesses.

Similarly, legal decision makers are unlikely to have a sophisticated grasp of the ideological, ontological, and psychological presuppositions revealed in some critiques of social science -- which courts may uncritically and unconsciously adopt. We will examine some manifestations of this tension and its manipulations, from relatively authentic judicial concern to dogmatic rejection of social scientific findings.

We also see the institutional ramifications of the division between legal and social-scientific aims and methods in our second (metascientific) and third (scientific--institutional) tensions, which move beyond the strictly political dilemmas of the first tension to more epistemic domains. When reaching decisions in individual cases, courts often authoritatively decide the line demarcating “junk” from legitimate social science -- a choice that is “ruled on” only incrementally by social science fields through acceptance of papers in peer-reviewed journals, presentations by scholars at professional meetings, and so forth. The history of social science abounds with examples of approaches, first deemed illegitimate, that later became accepted -- and the reverse, “scientific” theories later debunked. Thus although the division between “junk” and legitimate science is a complex one, perhaps best described as a continuum rather than a dichotomy, courts must draw bright lines, at times adopting particular philosophical and metascientific criteria to deal with ambiguous or “protoscientific” knowledge. For example, as we will see, courts struggle with Popperian and Kuhnian theories of science in allowing or disallowing the introduction of social scientific evidence. In the process, they at times slide from decisions about the definition of “junk” science into adjudicating disputes among accepted schools of thought in social science fields. There is an inevitable political dimension to the delineation of “junk” from canonical science, even within the social science academy itself. This leads us to ask whether the courtroom is the correct institutional locus for resolving such scientific controversies. There are obvious concerns about allowing courts to make rulings in contests between behaviorist versus cognitive approaches, for example, or in arguments over competing methodologies. Apart from questions of expertise, one could also argue that the diversity of approaches found among the social science fields is one of their strengths -- albeit one that creates great difficulties for legal actors bent on “yes/no” decision making. This points to the importance of field-specific metanorms in deciphering the “meaning” of particular social science studies. Arguably, their import relies on a complex social and linguistic matrix of settings that indicate the norms for understanding limits to epistemological claims, how to approach conflicting findings, and so forth. These metalinguistic norms are rarely made explicit, and are generally conveyed through professional socialization into the social sciences; thus they are most likely unavailable to most jurists.

The fourth tension described above also represents an institutional manifestation of the divide between law and social science; here the issue is the odd hybrid that results from an explicit marriage of legal and social scientific discourses such as was found in “Chicago School” law-and-economics. Characterized by relatively transparent discussions of the applicability of efficiency arguments to legal analysis, the law-and-economics movement became a vehicle for the assimilation of such arguments (and thus of the philosophical, psychological, social, and even ethical principles they presuppose) into legal argumentation and discourse generally. Legal discourse in such cases becomes an odd form of economic discourse -- posing as expert but often lacking many of the usual indicia of economic expertise. Coase’s theorem of 1960 is by now as much a part of legal discourse as it is of economic theory. In contemporary American jurisprudence, the term “pragmatic” has at times become a stand-in for “economically justified” (and even that in the narrow sense of the Chicago School), in defiance and even abuse of the specifically American philosophical school going by that name, ranging

from Dewey, James, and Peirce to Rorty and Bernstein (see Posner, 2001). We will discuss this “backdoor” application of economic models of behavior further below.

Interestingly, at this time there is not the same degree of tension between legal and social science scholarship in Israel as is found in the United States. Instead, we find a welcoming attitude on the part of Israeli legal academics toward the use of social science, and a noticeable -- though at time inconsistent -- interest in benefitting from social science findings and approaches (Mautner, 1997; Saba, 1999). It may be that in time, conflict and boundary guarding may emerge as Israeli social scientists come to question the use to which their work is put, or to balk at any persistent status differentials. Or it may be that the difference between the USA and Israel in this regard reflects more profound distinctions between the two countries in terms of institutional, legal, and intellectual structures and cultures. We turn now to an examination of how social science has been appropriated in legal fora.

### **Law’s Appropriation of Social Science: The Promise and the Problems**

We begin by tracing the relationship between law and social science in the United States, from the introduction of the “Brandeis brief,” through the famous case of *Brown v. Board of Education*, to today’s standard set by the case of *Daubert v. Merrell Dow*. The section concludes with a brief contrasting Israeli example.

Given the apparent gulf between law and social science in the United States, how have the two managed to meet? Despite admitted tensions, the US courts have for some time turned to social science, albeit in inconsistent and episodic ways. Indeed, there are numerous potential ways in which social science information can affect legal developments. Expert witnesses testify at trials about relevant social science studies; social scientists also contribute to amicus briefs to inform courts regarding the current state of knowledge in their fields; social science also enters the legal door during legislative hearings, and so forth. Legal historians typically point to the “Brandeis brief” as a watershed event in the introduction of social science to legal decision making in the USA (Rosen, 1972). This famous brief, over 100 pages in length, was filed by Louis Brandeis in the 1908 case of *Muller v. Oregon*. It drew upon social science of the time that purported to document inherent differences between men and women. Although the science cited therein was subsequently largely discredited, the brief itself has been hailed as a legal innovation that began a long-standing effort to marry law and social science.

Perhaps one of the most controversial uses of social science in adjudication concerns the seminal case of *Brown v. Board of Education*, a case of far-reaching significance. *Brown*, decided by the US Supreme Court in 1954, centered on a challenge to the constitutionality of state-mandated racial segregation in the public education system. This segregation had previously been approved under the infamous “separate but equal” doctrine enunciated in prior cases such as *Plessy v. Ferguson* -- an 1896 case addressing a Louisiana law requiring separate railway carriages for “white and colored races.” Instead of merely attacking the constitutionality of the “separate but equal” doctrine on purely legal grounds, the *Brown* appellants argued that segregated schools could be proven -- on an empirical, social-scientific

basis -- to do prejudicial harm to African American students. The social scientific studies, which were subsequently relied upon by the court in its decision, have since been intensely criticized -- as well as defended (Jackson, 2000). Criticism centered around the quality of the social science, and also around the perception that in *Brown* no line was respected between science and advocacy.

The social-science evidence most generally associated with *Brown* were the projective “doll tests,” whereby social scientists observed, among black schoolchildren in segregated southern schools, a manifest preference for and identification with white dolls, and apprehension regarding black dolls. This finding was interpreted as an indication of low self-esteem and a lack of an authentic sense of identity among the children, problems which were in turn attributed to segregation. Arguments based on inequality of educational resources and conditions might simply have resulted in a more egalitarian distribution of resources within the framework of segregation. However, these social-scientific findings permitted the court to make the much stronger assertion that “separate educational facilities are inherently unequal.”

Almost 50 years later, many social scientists would take issue with the particular studies used in *Brown* and the inferences drawn from them (Jackson, 2000: 240), although there is also broad consensus about the overall harms caused by segregation -- with school segregation high on the list of important loci (Erickson and Simon, 1998: 16). Critics such as Gregor (1963) pointed out that the attitude studies did not isolate any critical variables among the numerous dependent ones, stressing that in a social reality of “segregation, prejudices, discrimination, as well as their ‘social concomitants,’” no study could causally ascribe the inferred attitudes to any one variable, such as school segregation. Additionally, the Clarks -- who administered parallel studies among nonsegregated black schoolchildren in northern states -- observed similar and even more pronounced preference patterns there (Clark and Clark, 1947; Clark, 1950; see also Kluger, 1976: 456). In light of such methodological critiques, Van den Haag, who was later to serve as an expert witness on behalf of apartheid (Jackson, 2000), essentially characterized *Brown* as a case in which an elitist court imposed a progressive agenda masked as scientific knowledge, based on the testimony of shady scholars which bordered on perjury (van den Haag, 1960). Clearly, there is an institutional and political component not only to how social science is generated, and how it is received by courts, but also to how it is subsequently critiqued.

Thus we see exemplified in *Brown* several of the major tensions outlined at the outset of this chapter. First, there is the issue of the legitimacy of social science, particularly when viewed over time. Clearly, just as in the case of natural science, social science that was once deemed acceptable will often be rejected as methods and understandings change through time. Using a “presentist” critique, one could easily argue for the overturning of much prior precedent on the basis of current social science norms. An “historicist” approach, by contrast, would insist that we understand decisions in light of the knowledge available at the time they were formed. Just as law evolves in accordance with changed information from other sources, it would have to from time to time revisit issues in light of changed social science understandings (to the degree that it bases its decisions upon such data). There are numerous

examples of an ongoing dialectic, a dialogue, in which the courts slowly take in changed understandings from social science -- shifting from the biologically based racist view of earlier cases to the social/environmentally based vision of *Brown*.

Nonetheless, the patent fallibility of dated social science leads to a different kind of tension, the first “democratic” tension outlined above. Edmond Cahn (1955) most fully expressed this democratic, rule-of-law, populist view in the context of *Brown*. Cahn “would not have the constitutional rights of Negroes -- or of any other Americans -- rest on any such flimsy foundation as some of the scientific demonstrations in these records,” nor

... [h]ave our rights rise, fall, or change along with the latest fashions of psychological literature. Today the social psychologists ... are liberal and egalitarian in their basic approach; suppose, a generation hence, some of their successors were to ... present us with a collection of racist notions and label them “science.” What then would be the nature of our constitutional rights?(Cahn, 1955: 157-58)

This is a common critique of social science, for its “very young, imprecise, and changeful” findings and methodologies (Id.). This criticism also highlights the important epistemological consequences of the distinct purposes for which law and social science seek out knowledge. A social scientist who is exploring new territory may feel free to experiment -- to generate ideas and hypotheses that may later be proven wrong as part of a process that will also uncover new truths. The tentative or exploratory mode of knowledge production does not sit well with legal actors, who must reach decisions with important real-world consequences based on the knowledge they obtain. However, critics such as Cahn never satisfactorily answer the question of how the courts should know the social world: if not with the help of social science, however susceptible to errors, then what is left is “common sense,” tradition, “accepted truths,” prejudices, and other ideologically informed sources of knowledge. It is not clear that these are less susceptible to manipulative or “changeful” applications than are social scientific findings. Nonetheless, we can see here in sharp relief the ongoing tensions created by attempts to translate across two such different fields.

These tensions emerge again in the landmark case of *Daubert v. Merrell Dow*, in which the Supreme Court formulated the modern criteria for allowing introduction of scientific evidence into federal litigation. (Further cases broadened *Daubert*'s scope to nonscientific expert evidence and to numerous state laws as well -- see Faigman, Kaye, Saks, and Sanders, 1997). *Daubert* generated massive progeny -- over 300 articles and dozens of high court decisions dealing with the ruling -- including a body of jurisprudential work concerning the metascientific questions upon which it touched.

The pre-*Daubert* rule regarding admissibility of scientific evidence, laid down in *Frye v. United States*, required that all such evidence be “generally accepted” as reliable in the relevant community (*Frye*, 1923: 1129-30). *Frye* was concerned with what later became known as “junk science” (in that case, a physiological “deception test” based on systolic blood pressure). At issue, then, are the second and third tensions outlined above -- the metascientific question of delineating valid science, and the scientific-institutional problem of how courts are to enter the

definitional fray. The *Frye* test was formulated before philosophers such as Popper, Lakatos, and Kuhn addressed the relationship between science and other ways of treating facticity, and when sociology of science was an undeveloped discipline; science was far from attaining its later prestige, when for many philosophers it became the model for rational activity generally. As the Court in *Daubert* suggests, the conservative *Frye* test excludes novel or simply new research, as well as any method that has not achieved consensus among scientists; it presupposes a monolithic, uniform, and homogenous image of “good” science that is a far cry from the creative diversity that describes actual social science. *Frye* does, however, make one point that *Daubert* retains: that when dealing with admissibility criteria for social science, it is the method or technique that generated the findings that must be scrutinized, rather than the findings themselves. The adoption of the Federal Rules of Evidence -- and in particular Rule 702 dealing with expert testimony -- effectively overruled prior precedents and called for a new interpretive approach to admissibility of “scientific ... or other specialized knowledge [that] will assist the trier of fact to understand the evidence or to determine a fact in issue ...” (Federal Rules of Civil Procedure 702), thereby prompting the courts to revisit the old *Frye* standard.

The lead metaphor in *Daubert* pertains to the courts themselves and, of all things, invokes Kafka: the court is to act as a “gatekeeper” (*Daubert*, 1993: 2798) for scientific evidence. As such (and unlike the gatekeeper in Kafka’s parable “Before the Law”), it must use two kinds of criteria for making up its lists of welcome guests and *personae non gratae*: criteria of scientific reliability for the court’s purposes, and criteria of “fit” -- namely, the relevance of the social data to the legal claim relevance actually serves more complex, “metapragmatic” functions -- see Yovel, 2003). In considering possible admissibility criteria for such “guests,” the Court did not shy away from examining demarcation criteria developed by philosophers of science to distinguish between scientific and unscientific propositions. Yet at the same time, the Court in fact did not adopt nor formulate a unified or exclusive (perhaps not even a coherent) demarcation criterion for admissibility, a fact that has allowed wide variability in how courts in subsequent decisions have interpreted and applied the *Daubert* standard.

Reading the *Daubert* opinion feels somewhat like surfing an uneven doctrinal wave that constantly breaks to reveal the competing currents beneath it. In this case, those components are two approaches to the philosophy and sociology of science, both making themselves felt in *Daubert*. The first is an attempt to find a characteristic that is *essential* to genuine scientific propositions, one that separates them decisively from pseudoscientific assertions. Forming such a demarcation criterion was a major contribution of philosopher Karl Popper (1959, 1968) to the philosophy of science. In the first half of the twentieth century, a school of thought known as “logical positivism” (or the Vienna Circle) had promoted an empirically oriented “principle of verifiability” as a condition of meaning: propositions are meaningful if and only if they are susceptible to truth functions; the truthfulness of some propositions is determined by their semantic content alone (“analytic” propositions), all others by empirical verifiability. By contrast, Popper, searching for a demarcation criterion to identify genuine scientific propositions, came up with the “falsifiability principle,” according to which a proposition is scientific if and only if it is empirically falsifiable; science advances through “conjectures and

refutations” (Popper, 1968). Whatever the merits of this principle, it has gained wide endorsement among scientists, who approved of a seemingly clear-cut distinction between scientific and other propositions, such as those of religion, aesthetics, and so forth.

It was not surprising, then, that *Daubert*’s primary concern was that “scientific knowledge can be (and has been) tested” and that by “tested” the Court meant “generating hypotheses and testing them to see if they can be falsified” (Green, 1992: 643). However, the Court already stumbles onto an interpretive bump -- namely, the distinction between falsifiability as a matter of logical structure (“this proposition can be falsified”) and falsification (“this proposition has in fact been tested”). Popper’s business was to define what kind of things science may say, which of course includes new and untested propositions. Note that this does not necessarily even restrict the category of scientific propositions to those that actually can be tested given current technologies -- although some would redefine “falsifiability” in this way, thereby providing a socially and historically contingent (rather than absolute) demarcation criterion. Here we see the tangle that is produced by a difference in metalinguistic norms and concomitant social-institutional needs; the philosopher of science is implicitly developing demarcation criteria suited to the discourse and institutional needs of science, while courts are operating under quite different discursive and social exigencies. That a proposition might in theory be testable, even though we do not currently possess the technology to do so, is hardly reassuring to the judge seeking “scientific” grounding for evidence in an actual court case. The resulting inconclusiveness of what the majority in *Daubert* means by “falsifiability” led the minority to admit being “at a loss to know what is meant when it is said that the scientific status of a theory depends on its ‘falsifiability,’ and I suspect some [federal judges] will be, too” (Rehnquist, p. 4811). Indeed, numerous subsequent cases have simply ignored the falsifiability criterion. (It is thus a bit early to claim that in *Daubert*, “Popper’s philosophy ... became U.S. law,” Edmond and Mercer, 2002: 309.)

In fact, having invoked falsifiability as an essential characteristic of scientific knowledge, *Daubert* then shifts to what can best be termed a Kuhnian model of science. According to Kuhn (1962), there is no essential characteristic that makes any proposition scientific or that *guarantees* it a higher level of rationality than other propositions. Rather, scientific propositions are those that conform to the prevailing paradigms of any given “scientific community” at any given time. Those paradigms -- the accepted methodologies, techniques, and metaphysical frameworks that underlie “normal science” -- are socially rather than philosophically determined, and by definition are historically transitory. If at a certain time scientists generally use a “falsifiability” criterion, that, too, is a paradigm -- a conventional fact about the practices of scientific communities. Giving a pragmatist twist to positions expounded by Lakatos and Paterson, courts could approach science as what is justifiable to them as the relevant actor or audience. This point reminds us of the first tension delineated above: using social science need not (indeed, arguably, cannot) mean delegating facticity to “experts,” but rather constitutes the mobilization of expertise generated in other institutional/discursive settings for the courts’ institutional purpose -- namely, justice.

Popperian and Kuhnian philosophies are thus at odds: while the former defines an

analytical demarcation criterion for scientific propositions, the latter claims that any such criteria must have social rather than analytic roots. Having invoked falsifiability as the core attribute rendering a scientific proposition admissible into evidence, *Daubert* then seems to jump into the Kuhnian camp, looking to the scientific community for guidance: “Another pertinent consideration is whether the theory or technique has been subjected to peer review and publication ... submission to the scrutiny of the scientific community is a component of ‘good science’” (*Daubert* 1993: 593). The Court does acknowledge that “in some instances well-grounded but innovative theories will not have been published” (*Id.*). We see here the grounds for possible confusion regarding our second and third tensions -- the “metascientific” and the “scientific-institutional”: it is not clear how the courts are to exercise their “gatekeeping” function in a way that rises above the debates within scientific fields over preferred methodologies, rather than preferring one school of thought to another. A lower federal court judge, faced with the remanded *Daubert* case, laments the gatekeeping function as delineated by the Supreme Court’s decision on precisely these grounds -- because it requires him “to resolve disputes among respected, well-credentialed scientists about matters squarely within their expertise, in areas where there is no scientific consensus as to what is and what is not ‘good science’” (*Daubert*, Kozinski opinion, 1995: 1316). The judge’s hesitance is well taken in light of social science research indicating that judges fare no better than laypeople in distinguishing studies performed with scientifically accepted methodologies from those performed without (Cite). Ironically, Kozinski says nothing of falsifiability in the Ninth Circuit opinion, but instead turns to a best-selling work of popular science (Huber, 1991) for his definition of what constitutes “good science” -- that is, asking whether the scientific witnesses conducted their research “independent of the litigation ... or expressly for the purposes of testifying” (*Daubert* 1995: 1317).

The second requirement put in place by *Daubert* is that the scientific evidence “fit” the issue at hand: does it contribute to a causal proof of a point in controversy? (Yovel, 2003). Do the “doll tests” presented in *Brown* measure low self-esteem, and is there a “fit” between low self-esteem and educational segregation? In our discussion of capital punishment below, we will discuss how courts have consistently rejected statistical evidence that imposition of the death sentence is affected by race -- on the grounds that none of these studies could show that this *particular* defendant was discriminated against by the *particular* jury that sentenced him. In light of the kind of preference we saw above for studies conducted independent of litigation, it may be very difficult to meet both the “good science” and the “fit” requirements for social science data in the post-*Daubert* era. This double bind is yet another indication of the difficulties that emerge from unreflective translations between social science and law, without sufficient attention to the divergence in discursive and institutional norms. In the case of *Kumho Tire* (1999), the Supreme Court officially extended the *Daubert* gatekeeping function beyond the natural sciences to include other kinds of expert testimony, rendering *Daubert* fully applicable to social science testimony as well. As *Daubert* included such criteria as “the known or potential rate of error” and “the existence and maintenance of standards controlling the technique’s operation,” in addition to the Popperian criterion discussed above, this creates a clear misfit between the courts’ toolkit for assessing social science and qualitative, interpretive

fields such as ethnography or historiography. The third tension is evident here in a cultural bias toward quantitative methodologies.

Having traced the historical context of US courts' translations of social science, we turn now to a brief comparative example from Israel. In particular, we examine how liberal courts are in admitting social science evidence, and also the degree to which courts actually rely on social science -- an aspect of which is judicial activism in either critiquing social science that has been admitted, or producing alternative interpretations to those proffered by experts.

Israeli law makes no formal distinction between "scientific" and "expert" evidence, and the former is taken as a subset of the latter. Consequently, witnesses are not generally required to prove the scientific status of their findings. Instead, courts look to the scientific status of the *witness*. In preliminary hearings, expert witnesses are expected to prove an expertise relevant to the factors at hand. (Framing facticity through relevance claims is a typical -- and typically ideological -- aspect of any litigation, see Yovel, 2003.) As the focus of the inspection is not the science but the scientist, such traditional metascientific questions as "what is a scientific proposition?" squarely dealt with in *Daubert* through the Popperian falsifiability criterion, do not surface. Witnesses' scientific status is established through more Kuhnian, conventional tests, namely their standing and reputation in the scientific community. In this regard, Israeli courts would look into "substantive" as well as "formal" expertise -- that is, the witness's competence regarding the factual and interpretive question at hand, in addition to general institutional or academic distinction. Thus scientific witnesses may be required to submit condensed *vitae*, complete with lists of publications, to the court, in addition to undergoing cross-examination on their expertise -- or, more precisely, on the image of their expertise as captured by reputation and other marks of "professional" competence.

By primarily focusing on social constructions of scientific authority, Israeli courts rarely need to deal with the metascientific tension that haunted *Daubert* and *Brown*. This, however, does exempt such evidence from challenge. On the contrary, it still has to face two other obstacles. First, there is the tension created by counterevidence introduced by other scientific witnesses -- the problem of competing scientific paradigms bemoaned by Judge Kozinski. Second, there are challenges posed by Israeli judges themselves, delivered as "common sense" (Mautner, 1998), factual fictions and presumptions (Shamir, 1996, 2000), entrenched social and ethical notions (Barkai and Massas, 1998; Yovel, 2001), and other ideologized forms of knowledge. These would also include entrenched narrative patterns employed by judges, which implicitly encode assumptions regarding social issues such as gender (Kamir, 1997), political conflict and violence (see Yovel, 2002). Because Israel's prevailing jurisprudence is nonpositivistic (Barak, 2002, 2003) and its piecemeal constitution still partially unwritten, some judges and justices are comfortable invoking constitutional "fundamental principles" and even "natural law" models that mix normative positions with constructions of facticity.

As explored below through the *Bank Leumi* case, an interesting contrast emerges between Israeli and American courts' approach to social science evidence. While American courts following *Daubert* emphasize admissibility, Israeli courts are relatively liberal in allowing introduction of social science evidence. However, they may subsequently prove more

resistant to actually relying on it. Nor do Israeli courts shy from offering original interpretations and contributions that compete with social science, as opposed to merely assessing admissibility. Thus it is difficult to characterize Israeli courts as more receptive to social science than American courts: the resistance simply lies elsewhere, in the language-game of application -- of weight and effect -- rather than the formal language-game of admissibility. Additionally, pointing to a less creative, more conservative trend, commentators have shown Israeli courts to be resistant to social-scientific and other expert findings when those findings threatened courts' entrenched social notions of normativity and propriety. Examples include cases where courts refused to accept expert testimony that reconceptualized "parental competence" outside of the standard, bourgeois interpretation of the atomistic family (Massas and Barkai, 1998; Yovel, 2001), or that questioned ideological, narrative, and indeed protomythological patterns regarding Israeli--Palestinian hostilities (Yovel, 2002, 2004). In summation, Israeli courts may seem relatively relaxed in their openness to "external" knowledge, focusing their gatekeeping function on the expert rather than on the particular chunk of information offered to them. However, despite permitting novel social science to be heard, the courts then frequently rely on entrenched extrascientific notions, at times even producing original critiques of scientific findings. As we will see in the next section, despite apparent doctrinal guidelines to the contrary, judges in the USA also enter the fray in similar ways, taking sides with one social science school as against another, or inserting their own brand of judicial "nonpeer" review into their decisions.

### **Translating Social Science in Law: Specific Case Examples**

Having provided a broad historical and comparative outline, we turn now to examine some specific examples of the ways in which core tensions between law and social science have been played out in the courts. This will provide a more in-depth sense of the narrative structures through which translations -- and translation misfires -- occur.

#### **"False memories" and scientific validity: Adjudicating psychology in court through the lens of *Daubert***

The field of psychology yields fertile ground for examining what happens when competing social science paradigms wind up in court. The differences among distinct schools of thought in psychology are dramatic, generating not only contrasting recommendations for treatment but also surprising diversity in theories of the basic constitution of the psyche and accepted methods for demonstrating psychological "truths." One division that has attracted much attention in the USA is that between more biologically oriented psychological models, which tend to prefer pharmaceutical solutions to psychological problems, and more psychodynamic models, which look more to the "talking" therapies for solutions. We should stress that there are many who argue for eclectic models that quite reasonably draw on multiple sources and solutions. There are also interesting distinctions by professional credentials; while some in the field have MDs (and thus are entitled to prescribe medication), others have PhDs, MSWs, and indeed other credentials as well. Another divide within the field of psychology is that between

those with a clinical focus and those whose work lies exclusively within the laboratory -- although it should be pointed out again that there are numerous researchers who bridge this divide. Nonetheless, the differences among these two groups actually lead to an institutional splintering in the USA, in which some of the “laboratory” researchers formed their own group, the American Psychological Society (APS), in contradistinction to the larger American Psychological Association (APA), which has traditionally served as an umbrella organization for psychologists of all kinds. Although members of both groups conduct studies accepted as scientific by their relevant communities, which regularly pass peer review in approved journals, there have been attempts to characterize the APS as somehow more “scientific”-- attempts which themselves have a sociology and a politics that merit analysis (see Garth and Dezalay, 2001; Garth and Sterling, for discussions of the sociological underpinnings of academic/professional struggles over legitimacy). In addition to these broader divisions within psychology, there are numerous debates over particular theories.

What happens, then, when these competing psychological theories wind up in court? In an earlier analysis of this question in the Dutch context, Renee Romkens contrasts traditional psychiatric approaches with newer paradigms based upon studies of trauma, noting “a difference between a powerful and established scientific community ... and a less powerful, relatively young scientific community of experts in the field of ... traumatology” (2000: 363). This same division can be found in a number of US cases dealing with the phenomenon of recovered abuse memories -- that is, memories of traumatic events that did not surface until years after the abuse occurred. In the case we will discuss here, the Supreme Court of New Hampshire reviewed a lower court’s decision to bar testimony based upon recovered memories, using *Daubert*-based criteria (*State of New Hampshire v. Hungerford*, 1997). This is an interesting extension of the logic of *Daubert*, for the witnesses who were barred from recounting their memories were not experts, but rather were the complainants in the case. However, under New Hampshire’s version of the law, if the complainants’ testimony could not be understood without the help of expert witnesses, it could be ruled inadmissible based on the status of the experts’ theories. The court then embarked on an analysis of the social science debate at hand, reviewing a lower court hearing that had been a virtual showdown between leading experts on two sides of a hotly debated social science issue. Both sides presented experts with impressive credentials, and supported their arguments with findings from peer-reviewed articles.

The New Hampshire court’s opinion makes fascinating reading, for faced with a competition between two social scientific schools of thought, it basically enters the fray and adopts the position of one of the competing schools. Its opinion relies heavily on the literature from one side, even when purporting to present the other side. Thus approximately 75 percent of the references are drawn from the experts contesting the validity of recovered memories, with many of the remaining citations referring to the other side only to dismiss it. When the court turns to a presentation of the scientific trauma literature supporting the phenomenon of delayed recall, it uses writing by a vocal opponent of that school as its main source. (So, for example, its exposition of the trauma literature that begins “According to the theory of repression ...” was followed by a cite from an article coauthored by Elizabeth Loftus, a leading

spokesperson for those contesting use of recovered memories in court. This pattern continued throughout the court's recitation of the "theory of repression." Indeed, approximately 30 percent of the references to social science literature in the opinion are to work by Loftus.) All peer-reviewed articles presented in support of recovered memory are subjected to methodological critiques of the kind one would expect from members of the opposing school of thought, whereas the literature disputing recovered memory is not similarly critiqued. Following a seemingly reluctant admission that there have been some corroborated cases of recovered memory, the court immediately cited an article that dismisses the "theory of repression," without mentioning that the article openly presents a "minority" position in an edited volume otherwise filled with work supporting that theory. In examining the *Daubert* criterion of empirical testability, the court dismissed all but one study and then proceeded to accept the methodological critique of that one study that had been proffered by members of the opposing school. (We will see this pattern of knocking out all but one study, which is then viewed as too flimsy a basis, again in our discussion of death penalty cases.) Whether the court was influenced by differences in the advocacy on one side or the other, or by other social factors (including well-documented tendencies to discredit women's claims of sexual abuse), we cannot say. Analysis of power dynamics in these cases has pointed to extremely effectual lobbying by those who oppose the concept of repression, reaching from the courts to the media (Stanton, 1997; Bowman and Mertz, 1996). In any case, the court's narrative in this case cannot be characterized as a balanced review of the literature in this case.

Thus we see that, under the guise of *Daubert*-style hearings, US courts can be drawn into taking sides in academic debates between two legitimate schools of social science thought. This phenomenon takes on particular importance in areas of high social conflict, where social power tends to be wielded unevenly. These kinds of cases exemplify the blurring of boundaries between our second and third tensions, as courts become arbiters of arguments among social scientists -- a role for which, as Judge Kozinski noted, they have no training. In our next subsection, we see the US Supreme Court take still further steps into this arena in which jurists have no expertise.

### **Metalinguistic deficits and the death penalty: The US Supreme Court's translation problem**

Capital punishment litigation in the United States provides an especially interesting case study of the relationship between appellate adjudication and social science. An unusually high quantity of social science has been submitted to US courts during appellate review of capital punishment cases. As Ellsworth (1988) has shown, since the late 1960s, constitutional challenges to capital punishment have been grounded in a diverse array of social-scientific studies using a broad range of methods and paradigms, from econometric and statistical analysis (of actual case outcomes) to interviews and simulations (with jurors and mock jurors) to attitude surveys. And overwhelmingly, American courts have distinguished themselves by an all but total rejection of social scientific findings -- despite tacitly accepting that social scientific data may be relevant to these cases. Ellsworth concludes that this rejection has little

to do with genuine metascientific concerns, despite rhetoric to the contrary, and has everything to do with extrascientific ideological commitment to capital punishment. Baldus et al. suggest that the Court's resistance may also stem from apprehension that permitting such claims could undermine other areas of criminal justice as well (Baldus et al., 1990, 1992).

Death-row appellants in the United States typically challenge capital punishment verdicts on the basis of the practices, or patterns of practices, that lead to their sentencing. These challenges generally involve one or more of the following claims: (1) violations of the Eighth Amendment's "cruel and unusual punishment" clause or the Fourteenth Amendment's "equal protection of the laws" clause, in that they were rendered on arbitrary or discriminatory bases (typically because of race); (2) violations of the Eighth Amendment by virtue of being excessive; and/or (3) violations of the Sixth Amendment guarantee of procedural justice in jury proceedings, generally by virtue of procedures that produce "death qualified juries." We shall briefly elaborate on the first and third types.

The question of arbitrariness in meting out capital punishment was one of the major concerns that persuaded the Supreme Court to decree what turned out to be a three-year hiatus to death sentencing and executions, the case of *Furman v. Georgia* (1972). Although none of the many separate opinions in *Furman* relied heavily on social science studies, subsequent cases saw an abundance of social science centered, for the most part, not on arbitrariness per se, but on the issue of racial discrimination. By and large, quantitative research using various methods has consistently shown capital punishment to be susceptible to racial bias. Earlier studies focused more on the race of the perpetrator, finding that blacks were more likely than whites to be indicted, convicted, sentenced to death, and executed for capital crimes than were white perpetrators in similar circumstances (Bowers, 1974; Dike, 1982). Wolfgang and Reidel (1973), who examined capital sentencing for rape in southern and border states found that black men who raped white women were 18 times more likely to be sentenced to death than were white rapists.

Wolfgang and Reidel's study was one of the first to be presented in a constitutional challenge to capital punishment. In *Maxwell v. Bishop* (1970), the Eighth Circuit refused to consider its findings on several grounds, one of which was that it did not show that the defendant's particular jury had actually been racially biased against him, or that such bias influenced their sentence. This form of "critique from causation" results from courts' insistence on the kind of causation relations that underlie legal discourse rather than the kind of correspondence relations that quantitative social science generally establishes (see Hart and Honore, 1968, on causation). This is a manifestation of the first tension we discussed, the political or institutional tension -- one between the conventions and norms underlying legal argumentation and logic, and those underlying social science (see Cahn 1955). It is also an example of the translation problems posed by differences in metadiscursive norms. Ellsworth (1988) dismisses this gap in discursive approaches to probabilities as an ideologically motivated excuse. However, there does seem to be a genuine metadiscursive disagreement about how to perform inferences from general patterns to particular cases. On the other hand, courts did not resist adjudicating based on such patterns as long as they pointed to arbitrariness

rather than to discrimination (see *Furman*, 1972; *Gregg v. Georgia*, 1976). And, clearly, there is a difference between convicting an individual based on a probabilistic argument and assessing the severity of problems in a system based upon statistical evidence.

By the time *McCleskey v. Kemp* (1987) came in front of the Supreme Court, an array of studies employing a variety of methods had shown a consistent pattern according to which the race of a murder victim corresponded to the likelihood of a perpetrator receiving the death sentence (Redelet and Peirce, 1985; Gross and Mauro, 1984). Black felons who murdered white victims were 13 times more likely to receive the death penalty than were black defendants who murdered black victims. Baldus, Pulaski, and Woodworth (1983), submitted to the court in this case, was an extremely comprehensive study, collecting data on over 200 variables in over 2,000 Georgia murder cases during the 1970s. Although the opinion mentioned the Baldus findings and did not challenge their statistical validity (the “scientific” tension), in the end the Court repeated its “argument from causation”.

Quantitative studies were not the only ones to be rejected by the Supreme Court in capital punishment cases. In the case of *Lockhart v. McCree* (1986), which dealt with death-qualified juries (preliminary procedures allow prosecutors to screen prospective jurors for those opposed in principle to capital punishment, a process during which simulation questions are asked that suggest a guilty verdict), Justice Rehnquist analyzed 15 different studies, ranging from attitude surveys to simulations to interviews with actual jurors, showing that death-qualified juries tend to find defendants in capital cases guilty more than generally qualified juries (Ellsworth, 1988). Rehnquist examined each study separately, dismissing each as inconclusive, until one “lone study” remained and was deemed insufficient as such (*Lockhart*, 1986: 1764). However, as Ellsworth (1988: 195) points out, the study was never evaluated in the context of the other studies submitted; it was never intended to make a legal argument on its own. Here the Court is rejecting a common social scientific approach that bases conclusions on an aggregate of findings, each of which alone may be insufficient. The American Psychological Association argued this point in its amicus brief, noting that when such a diversity of methods and approaches all yield the same conclusion, the result is all the more powerful. Rehnquist is here essentially revealing a metalinguistic deficiency; he is not able to decode the social science according to the meta-level principles that govern the discourse when deciphered by experts.

Interestingly, as Ellsworth (1988) notes, the Supreme Court reverses itself in considering the value of social science submitted in support of capital punishment. In the case of *Barefoot v. Estelle* (1983), the Court reviewed a Texas statute which permitted imposition of the death penalty if and only if the convicted defendant was likely to pose a violent threat to society in the future. Texas courts use psychological and psychiatric testimony to help juries determine future dangerousness. In *Barefoot*, the American Psychiatric Association submitted a brief stating that such evaluations were impossible under contemporary scientific competence and knowledge. The Court, otherwise quite conservative when dealing with social scientific evidence, nevertheless determined that “[n]either the petitioner nor the Association suggest that psychiatrists are always wrong with respect to future dangerousness, only most of the time”

(*Barefoot*, 1983: 901). This incongruity certainly lends support to those who suspect that ideology plays a large part in the Court's "metascientific" jurisprudence.

### **The "rhetorical sting" of economic translations in legal settings: An Israeli example**

The case of *State of Israel v. Bank Leumi and others* provides a good context for exploring the role of economic models in adjudication rather than in rule forming. This was one of the longest and most costly criminal cases in Israel's history. The country's four largest commercial banks -- as well as a slew of executives ranging from CEOs downward -- were indicted on several fraud, accounting, and security regulations offenses. Since the early 1970s, and particularly during the early 1980s, the banks had used indirect means to "support" or "adjust" their common stock, which was traded on the Tel Aviv Stock Exchange. This meant that for virtually the entire period, some of which saw hyperinflation and negative national growth, the banks arranged for their shares to be purchased in such quantities that the shares' price rarely if ever dropped. While this was partially accomplished through commercial activities of subsidiaries, most of the investors in the banks' stock were the banks' own customers, as well as virtually every mutual fund in the entire country. By 1983 the financial burden that this created for the banks -- financing huge daily purchases of their own stock on the open market -- threatened to blow up and send the banks into bankruptcy, dragging with them not only their customers but also the largely overlapping investor group. When the financial bubble neared collapse, the country's central bank intervened and bailed out the banks to the tune of 8 billion US dollars (in 1983 terms). The losses to the public were enormous.

The banks and their executives were indicted on several counts of securities regulations violations, corporate fraud, and accounting felonies. The most interesting charge for our purposes was a charge for common-law fraud. Quite simply, the banks were charged with making a fraudulent promise to their customers and investors, upon which the latter relied, that the banks would ensure that their share price would never drop. This was fraudulent, the prosecution charged, because the banks could not actually perform the promise; at a certain point the self-perpetuating price "support" mechanism was bound to crash, taking share prices down with it. However, the prosecution could adduce very little evidence to demonstrate that bank employees made direct verbal commitments concerning the shares' future performance.

In the absence of such evidence, the prosecution based its fraud case on an economic model called "signaling theory" as applied to the so-called "efficient market" thesis. Under the "efficient market" thesis, financial markets are regarded as more or less efficient processors of information. The input is all the publicly available information about, for example, a company's financial condition and revenue predictions. This information is "processed" into a share price through investors' behavior. One way to conceive of information about a company's financial condition is through "signaling." A signal is any communicative act that might affect the price of the share. Signaling theory's main insight is that the market trusts -- and thus acts on -- signals that carry some cost in terms of risk. A CEO who publicly purchases the company's stock is assuming a risk that the market would interpret as a strong signal, as opposed to the weaker signal of the CEO simply commenting favorably on the company's performance.

This was the foundation of the prosecution's case in *Bank Leumi*: that the banks' own consistent investment behavior sent a strong and clear signal to investors that the banks would continue to support the share price indefinitely. The so-called "signal" was clear due to its consistency and duration, and strong due to the undeniable cost the bank had incurred in generating it -- and also to the length of time the signal had been in place. The market efficiently processed this signal to a relatively stable stock price. Through their industrious efforts to hold the stock prices constant, the banks made a representation that the share price would continue to be "adjusted" indefinitely -- a representation they knew to be fraudulent.

Predictably, both sides called upon economists to provide expert scientific evidence. These were all acclaimed, senior, tenured professors in top research universities in Israel and the United States. They were largely in agreement over authorities, methodologies, and worldview. The defense's main claim was that the prosecution failed to draw the correct conclusion from signaling theory. Its experts pointed to the apparent circular structure of the banks' "adjustments": everyone, economist or not, should (and thus does) understand that as a long-term strategy an "increase only" adjustment is impossible. Thus no one could reasonably interpret the banks' performance as an indefinite commitment. The economic model provided a social epistemology, a way of interpreting the social world. Under either the prosecution's or the defense's account, the court was asked to reconstruct facticity on the basis of a social-scientific model. In the end, the court did not accept the defense's notion that because it was irrational for lay investors to rely upon the "perpetual adjustment" representation, they in fact did not do so.

Interestingly, the court's analysis pointed out that the banks and their top executives wielded considerable *rhetorical* power, which the economic analysis of signaling wrongly discounted. Rhetoric is a stick in the wheels of signaling theory (Wilson). Signaling theory is fundamentally a representational (rather than rhetorical or performative) approach to language and semiotics. It considers signals in terms of their locutionary content and how that is to be interpreted, based in part on the pragmatics surrounding the locution. It allocates much less significance to rhetoric. The relative rhetorical and social power wielded by a "signaler" versus another is discounted in favor of a rational evaluation of the risk the signaler's behavior carries. However, if a player carries significant social and/or rhetorical clout, what might be considered a "weak" signal under signaling theory may take on additional effect. Because of the considerable rhetorical and social power of the banking establishment and its ranking executives in Israeli society, uninformed investors (dazed during a period of hyperinflation) would be much more willing to succumb to the rhetorical temptations of the banks. The longer the banks kept the "adjustment" going, the more they seemed successful in making adjustments work. While the prolonged length of the "adjustment" might signal to expert observers a diminishing capacity to keep it going, it signaled just the opposite to the multitude of lay investors -- a reality, the court notes, that is not accounted for by representational signaling theory.

The court, then, actually adduces its own brand of economic-social theory, nowhere presented to it by experts in the case. In essence, the court weighed the authority and rhetoric of

the banks at the time, mingled with hyperinflation conditions, and concluded that under such circumstances regular investors will in fact rely on what the defense called “irrational” interpretations and beliefs -- and that the banks should have taken this into account. Interestingly, the court here is taking it upon itself to develop an ad-hoc, crude version of what is now considered cutting-edge social science to those familiar with the work of Tversky, Kahneman, and Slovik (1982) -- social science that did not make an appearance in court due to both sides’ reliance on more standard economic theory. In terms of our first tension, we see that the court was reluctant to delegate decision making to pure economic models that did not take account of the social and rhetorical aspects of power, status, roles, cultural pluralism, subjectivity, and other social parameters. Contrary to the US courts’ approach described above, expert evidence was liberally admitted, and the court did not attempt to dismiss one side or the other as scientifically inadequate (our second and third tensions). However, as per our fourth tension above, the court proceeds to create its own brand of legal-economic discourse (albeit one with, it turns out, substantial support in other schools of thought not presented to the court). Although judicial prerogative enters in different forms and at different points in the proceedings, we see that judges in both the US and Israeli systems feel free to reject and critically assess the social science that is put before them. At times, this may lead to a more socially grounded understanding, as in the *Bank Leumi* case, but at others it may wind up closing the ears of the court to important information about the shortcomings of the legal system or the truths of those with less power.

### **Conclusion: Critique, Careful Translation, and a “New” Legal Realism**

In conclusion, we have seen that there are pervasive tensions impeding a direct translation between social science and law. The two fields have vastly different epistemologies, metadiscursive rules, and social purposes. On the one hand, social science stands poised to provide useful and trenchant critiques of legal systems and assumptions. Social science is also a promising source of information and critical questioning when the law attempts to interpret and understand aspects of society that social scientists are trained to analyze.

On the first issue, social science as a source of critique, Sarat and Silbey (1988) issued a well-taken warning: that if social science is truly to provide trenchant criticism, it must stand outside the frames provided by law and policy discourses. There is a “pull” to these frames, and it is tempting to simply offer small amendments, or ways of tinkering with existing systems, rather than to stand outside and question the framework as a whole. At the same time, the risk of standing totally outside of existing frameworks is that the critique will not be heard; discourse from a completely different frame can be very difficult -- if not impossible -- to absorb (Mertz, 2000).

As to the second role for social science, that of providing information and analysis relevant to the social “facts” with which courts must of necessity deal, we have noted the pervasiveness of ongoing tensions. First, as we noted, is the political issue of to what degree courts in a democratic state should delegate the construction of social facts, and the assessment

thereof, to experts. Social science asks questions for different reasons than does law, and so it is not completely obvious that law should subject itself too completely to social science. Nonetheless, some kind of dialogue between the two seems to be not only desirable but inevitable, as agents of the law engage in at times clearly flawed, but nonetheless active, efforts to translate the knowledge of social science into legal discourse. In the process, tensions also emerge over the definition of valid science, the arbitration of disputes among “bona fide” social scientists, and the status of hybrid discourses created when law appropriates areas of social science.

Thus our review of the complex relationship between law and social science urges caution in attempting to translate between the two. In particular, we point to a meta-level of discourse and surrounding professional cultures as crucial. Lawyers are trained in advocacy and adversarial contest; the terms are painted in black and white and the point of discursive exchange is to win. Social scientists revel in hedging and probability, cushioning their claims to truth in layers of methodological and epistemological caution and nuance. It is not enough to teach lawyers the “content” of a social science translation; rather, the norms of social science discourse must also be conveyed as part of any effective translation. Recent research in linguistic anthropology has demonstrated the importance of metadiscursive structure in the unpacking of linguistic meaning (see Silverstein, 1992). Legal efforts to translate and appropriate social science have proceeded in persistent ignorance as to social science metalinguistic norms, leading to some serious misfires, as we have seen.

We suggest that efforts to build a “new legal realism,” one that would put today’s social science to effective use in legal settings, must begin by taking this aspect of translation much more seriously. As the anthropologist Renato Rosaldo observed, in the “contact zones” where different disciplines meet, “social relations are often unequal and people may speak different languages or the same language with different inflections, meanings, or purposes” (Rosaldo, 1994: 527; see also Garth and Dezalay). At times, those wielding power -- such as courts -- will not be willing to bend sufficiently to make the effort to understand other paradigms without pressure from outside of the legal system, as with the abolitionist movement surrounding the death penalty (Sarat, 2001). In their study of the use of social science data in US Supreme Court opinions, Erickson and Simon note that “[d]ata are used in the courtroom in a manner consistent with the standards of the legal community, not the social sciences community” (1998: 149). It is to be hoped that future progress in this dialogue will involve more of a compromise, enabling the legal system to bring to fuller fruition the promise of social science as a source of critique and information.

## REFERENCES

- Baldus, D.C., Pulaski, C.A., and Woodworth, G. (1983) “Comparative review of death sentences: An empirical study of the Georgia experience,” *Journal of Criminal Law and Criminology* 74: 661-753.
- Barefoot v. Estelle* (1983) 463 U.S. 880.

- Bowers, W.J. (1974) *Executions in America*. Lexington, MA: D.D. Heath.
- Bowman, C.G. and Mertz, E. (1996) "A dangerous direction: Legal intervention in sexual abuse survivor therapy," *Harvard Law Review* 109: 549-639.
- Brown v. Board of Education* (1954) 347 U.S. 483.
- Daubert v. Merrell Dow Pharmaceuticals* (1993) 509 U.S. 579.
- Daubert v. Merrell Dow Pharmaceuticals* (1995) 43 F.3d 1311, 1995 U.S. App. LEXIS 12 (9th Cir. Cal. 1995) (Kozinski opinion).
- Dezalay, Y. and Garth, B. (2002) *The Internationalization of Palace Wars: Lawyers, Economists, and the Contest to Transform Latin America*. Chicago: University of Chicago Press.
- Dike, S.T. (1982) *Capital Punishment in the United States*. New York: Council on Crime and Delinquency.
- Edmond, G. and Mercer, D. (2002) "Conjectures and exhumations: Citations of history, philosophy, and sociology of science in U.S. federal courts," *Law and Literature* 14: 309-53.
- Ellsworth, P.C. (1988) "Unpleasant facts: The Supreme Court's response to empirical research on capital punishment," in K.C. Haas and J.A. Iniard (eds.), *Challenging Capital Punishment: Legal and Social Science Approaches*. London: Sage, pp. 177-211.
- Epstein, L. and King, G. (2002) "Empirical research and the goals of scholarship: The rules of inference," *University of Chicago Law Review* 69: 1-132.
- Erickson, R. and Simon, R. (1998) *The Use of Social Science Data in Supreme Court Decisions*. Urbana: University of Illinois Press.
- Ewick, P., Kagan, R., and Sarat, A. (1999) "Legacies of legal realism: Social science, social policy, and the law," in P. Ewick, R. Kagan, and A. Sarat (eds.), *Social Science, Social Policy, and the Law*. New York: Russell Sage, pp. 1-38.
- Faigman, D.D., Kaye, M., Saks, M., and Sanders, J. (1997) *Modern Scientific Evidence (The law and science of expert testimony, the legal standards for the admissibility of scientific evidence: The Federal Rules of Evidence and the validity test of Daubert)* (1997), S1-3.0. Federal Rules of Civil Procedure
- Frye v. United States* (1923) 54 App.D.C. 46, 293 Fed. 1013.
- Furman v. Georgia* (1972) 408 U.S. 238.
- Garth, B. and Sterling, J. (1998) "From legal realism to law and society: Reshaping law for the last stages of the social activist state," *Law & Society Review* 32: 409-71.
- Green, (1992) "Expert witnesses and sufficiency of evidence in toxic substances litigation: The legacy of Agent Orange and Bendictine litigation," *Northwestern Law Review* 86: 643.
- Gregg v. Georgia* (1976) 428 U.S. 153.
- Gross, S.R. and Mauro, R. (1984) "Patterns of death: An analysis of racial disparities in capital sentencing and homicide victimization," *Stanford Law Review* 37: 27-153.
- Hart, H.L.A. and Honore, T. (1985) *Causation in the Law*, 2nd edn. Oxford: Oxford University Press.
- Huber, P. (2000) *Galileo's Revenge: Junk Science in the Courtroom*. New York: Basic Books.

- Kamir, O. (1997) "How reasonableness killed the woman: The 'boiling blood' of the 'reasonable person' and the 'typical Israeli woman' in the teasing doctrine of *Azualus*," *Plilim*, 6: 137-85. (in Hebrew)
- Kluger, R. (1976) *Simple Justice*. New York: Alfred Knopf.
- Kuhn, T.S. (1962) *The Structure of Scientific Revolutions*. Chicago: University of Chicago Press.
- Kumho Tire Co. v. Carmichael* (1999) 119 S.Ct. 1167.
- Lindman, C. (1989) "Sources of judicial distrust of social science evidence: A comparison of social science and jurisprudence," *Indiana Law Journal* 64: 755-68.
- Lockhart v. McCree* (1986) 106 S.Ct. 1758.
- Mautner, M. (1998) "Common sense, legitimization, coercion: On judges as storytellers," *Plilim* 7: 11-76.
- Maxwell v. Bishop* (1970) 398 U.S. 262.
- McClesky v. Kemp* (1987) 481 U.S. 279.
- Mertz, E. (2000) "Teaching lawyers the language of law: Legal and anthropological translations," *The John Marshall Law Review* 34: 91-117.
- Mertz, E. (2002) "Performing epistemology: Notes on language, law school, and Yovel's legal-linguistic culture," *Stanford Agora* 2.
- Monahan, J. and Walker, L. (1986) "Social authority: Obtaining, evaluating and establishing social science in law," *University of Pennsylvania Law Review* 134: 477-517.
- Muller v. Oregon* (1908) 208 U.S. 412.
- Plessy v. Ferguson* (1896) 163 U.S. 537.
- Popper, K. (1959) *The Logic of Scientific Discovery*. London: Harper & Row.
- Popper, K. (1968) *Conjectures and Refutations*. London: Harper & Row.
- Redelet, M. and Peirce, G.L. (1985) "Race and prosecutorial discretion in homicide cases," *Law and Society Review* 19: 587-621.
- Romkens, R. (2000) "Ambiguous responsibilities: Law and conflicting expert testimony on the abused woman who shot her sleeping husband," *Law & Social Inquiry* 25: 355-91.
- Rosaldo, R. (1994) "Whose cultural studies?" *American Anthropologist* 3: 524-9.
- Rosen, P. (1972) *The Supreme Court and Social Science*. Urbana: University of Illinois Press.
- Sarat, A. (2001) *When the State Kills*. Princeton, NJ: Princeton University Press.
- Sarat, A. and Silbey, S. (1988) "The pull of the policy audience," *Law and Policy* 10: 97-166.
- Silverstein, M. (1992) "Metapragmatic discourse and metapragmatic function," in J. Lucy (ed.), *Reflexive Language*, (Cambridge, UK: Cambridge University Press, pp. 33-58.
- Stanton, M. (1997) "U-turn on Memory Lane," *Columbia Journalism Review*, July/August: 44-9.
- State of Israel v. Bank Leumi and others*
- State of New Hampshire v. Hungerford* (1997) N.H.LEXIS 64.
- Tanford, J.A. (1990) "The limits of a scientific jurisprudence: The Supreme Court and psychology," *Indiana Law Review* 66: 136-74.
- Tversky, A., Kahneman, D., and Slovic, P. (eds.) (1982) *Judgment Under Uncertainty*. Cambridge, UK: Cambridge University Press.
- Wolfgang, M.E. and Reidel, M. (1973) "Rape, judicial discretion, and the death penalty,"

- Annals of the American Academy of Political and Social Science* 407: 119-33.
- Yovel, J. (1993) "Two conceptions of relevance," *Cybernetics and Systems*, Special Issue: Formal Approaches to Legal Evidence 34: 283-315.
- Yovel, Y. (2001) "Trigger-happy courts: Culture and ideology in coerced adoption cases," *Law and Government* 6: 259-68. (in Hebrew)
- Yovel, Y. (2002a) "Narrative justice," *Bar-Ilan Law Review*, 16 (2002), 283-322. (in Hebrew)
- Yovel, J. (2002b) "Rights and rites: Initiation, language, and performance in law and legal education," *Stanford Agora* 3.

#### FURTHER READING

- Friedman, L. and Macaulay, S. (1977) *Law and the Behavioral Sciences*. Indianapolis: Bobbs-Merrill.
- Trubek, D. and Esser, J. (1987) "Critical empiricism," *Law & Social Inquiry* 14: 3-52.