2021

Intellectual Property and Ethnography: A Qualitative Research Approach

Jessica Silbey
Boston University School of Law

NORTHEASTERN UNIVERSITY
SCHOOL OF LAW

Northeastern Public Law and Theory Faculty Research Papers Series No. 340-2018

IP and Ethnography: A Qualitative Research Approach

Oxford Handbook on Intellectual Property Research, Irene Calboli and Lillà Montagnani, eds. (Oxford University Press 2019)

Jessica Silbey
Northeastern University – School of Law

IP AND ETHNOGRAPHY: A QUALITATIVE RESEARCH APPROACH

Jessica Silbey*

Research justifying and explaining intellectual property in the United States is largely infused with theoretical economic approaches built around particular assumptions about human motivation and benefits of creative and innovative work. An economic analysis of IP law tends to assume the goal of wealth-maximization and deliberate, strategic behavior on the part of individuals and firms toward that end. It also assumes as optimal the aggregation of more IP and that consumer preferences (as opposed to regulatory levers) will generate the diversity of inventions and creative works society seeks. An economic analysis of IP law thus tends to rely on both theoretical and quantitative models. It does not identify, account for, or explain diversity among human or firm motivations or the range of benefits of innovation and creativity to society. By assuming aggregation is optimal and by defaulting to consumer preferences to drive variation in output, economic models and quantitative analysis of IP law cannot account for other substantive values operating in the background of creative or innovative work.

Qualitative research methods make possible the study of variation in human motivation and behavior as well as the diverse benefits of invention and creativity. Ethnographic research approaches can vary widely. But generally, a systematic ethnographic research agenda proceeds from the perspective of the people and communities studied through observation and interviews in their particular situations. The aim is to understand and explain the significance of their behaviors and belief systems (e.g., Clifford Geertz's "thick description"), which forms a local or particularized knowledge of the people and the group, by interpreting their expressions and activities.[1]

Thus, one might choose to engage a qualitative empirical method for several reasons. First, there is a growing body of quantitative empirical work in intellectual property scholarship providing aggregate data on the collection and assertion of intellectual property but very few qualitative studies of the lived experiences of creators and innovators, be they individuals or organizations. Second, qualitative research complements and enriches (and can be especially useful when combined with) quantitative research. When the purpose of an empirical study is exploratory and hypothesis generating qualitative methods are useful to

> "develop insights about the underlying form and dynamics of the phenomenon under study. Unlike quantitative research in which researchers seek to generate precise estimates based on a sample that can be generalized with estimated degrees of error to a larger population, qualitative researchers seek 'analytic

* Professor of Law, Northeastern University School of Law. Co-Director, Center for Law, Innovation and Creativity (CLIC).

[1] Clifford Geertz, The Interpretation of Cultures (1973), pp 3-32.

> generalizations' that attach meaning, rather than measurement, to the phenomena observed."[2]

Qualitative research tries to identify the situated knowledge (i.e., actors' experiences and interpretations) about a particular object or field by identifying variations in and analysis of situations, events, and objects through data that is "densely textured, locally grounded, meaningful to the subjects themselves."[3] Generating categories for further exploration and developing explanations for those categories from within the narrative structures that interviewees provide is a hallmark of qualitative research.

Third, narratives and categories are explanatory and justificatory tools in law and culture. Qualitative fieldwork (and systematic analyses of the data) collects actors' accounts of their lived experiences, displaying how interviewees build and make sense of their professional lives, offering explanations of how they work and why. If in intellectual property studies we are interested in understanding or more precisely defining the human motivations, incentives, and other mechanisms that intellectual property doctrine asserts is present in creative and innovative fields, interviews and field observations provide direct evidence from the individuals who actually do the work. Law is a social system made largely of language and behavior. As such, deeply relevant to understanding what law is and how it works is the study of language and behavior from the perspective of those enacting and responding to it. Short of actually living with and shadowing the creative and innovative people and communities (an anthropological ethnography[4]), analysis of accounts from a cross section of diverse actors provide the most reliable evidence concerning purposes and interpretations of intellectual property for its producers. Given the choice between abstract theories based on hypothesized models of economics or organizational behavior and the experience of individuals in those organizations who make (or fail to make) a living from their creative or innovative work, lessons from experience are preferable.

Comparing Qualitative with Quantitative Research

Ethnographic work is time-consuming because it requires travel and multiple and sustained interactions with the people and communities being studied. Quantitative empirical work can often be done from a desktop computer with access to large databases (court dockets, administrative filings), data collecting and statistical tools. Ethnographic data is linguistic and semiotic based on accounts of observations, requiring an explicit mediation of interpretation by the researcher, which is often laid bare as part of the methodological explanation. Quantitative empirical work tends to produce results explained in numerical values, mediated by algorithmic models, producing the illusion of certainty and objectivity. Qualitative research thus appears messier, more ambiguous, and subject to human bias. Numbers are an attractive substitute for the messiness of

[2] PAMELA STONE, OPTING OUT: WHY WOMEN REALLY QUIT CAREERS AND HEAD HOME 243, 248 (2007).
[3] Jack Katz, "Ethnography's Warrants," *Sociological Methods and Research*, Vol. 25, No. 4, pp. 391-423 (1997) at 392.
[4] E.g., Clifford Geertz, "Deep Play: Notes on a Balinese Cockfight" *in* INTERPRETATION OF CULTURES 415-453 (1973).

culture and qualitative judgments about it.[5] Numbers appear to offer a common language but they obfuscate historical and geographical variations and erase the local, the personal and the particular, which are nonetheless always embedded in evaluation and analysis. We should worry when engaging in quantitative research that the objective and transcendent qualities numbers reflect are laden with normative and political values hidden from view. Qualitative empirical research by contrast begins with the assumption of the local and the particular and is concerned with accuracy in those observable and recorded details. It assumes and documents the existence of variations and aims to draw more general, testable hypotheses from them across groups. The validity of those explanations and generalizations depends on a range of established methods.[6]

Typical quantitative empirical IP research counts relatively simple and abstract measures of something: e.g., patents filed, copyright lawsuits, PTO trademark rejections. From these counts, the quantitative method can describe the field in terms of those numbers and hypothesize about the field and the behavior of those acting within it. At its best, quantitative analysis eliminates or asserts simple causal theories that may be weakly (or strongly) supported by an observed correlation.[7] One may start, for example, with the assertion that a presumed cause (e.g., enlarged patentable subject matter) is at least correlated with a presumed effect (e.g., rise in costly litigation). The quantitative data may then be analyzed to either eliminate this assertion (e.g., no correlation exists over the time of that enlargement) or eliminate other possible explanations (e.g., litigation is not booming generally). "Each time one eliminates one or more other theories of that correlation, one increases the likelihood of that simple causal theory."[8] But, a quantitative study must choose its abstract measures, like those mentioned above (e.g., patents, copyright lawsuits). In other words, a researcher must imagine before collecting and counting the items or events the relevant variations in a particular situation or a respondents' experience. Then, those items or events become variables to collect (e.g., through surveys or other data sets) and analyze quantitatively through various methods.

Despite being a simplification of how quantitative analysis proceeds, this brief explanation underscores the assumptions and accuracy-issues underlying quantitative research.[9] First, the relevance of conclusions drawn from quantitative research depends

---

[5] THEODORE PORTER, TRUST IN NUMBERS: THE PURSUIT OF OBJECTIVITY IN SCIENCE AND PUBLIC LIFE 37 (1995).

[6] Joseph Maxwell, "Understanding and Validity in Qualitative Research," *Harvard Educational Review*, September 1992, Vol. 62, No. 3, pp. 279-30 (describing descriptive validity, interpretive validity, theoretical validity, generalizability, and evaluative validity).

[7] ARTHUR STINCHCOMBE, THE LOGIC OF SOCIAL RESEARCH 2-3 (2005).

[8] Id.

[9] For example, if survey respondents do not interpret the question the way the researcher intended, the communicative capacity of the answers is limited. This was identified in the 2008 Berkeley Patent Survey as some cause for concern. Stuart et al., "High Technology Entrepreneurs and the Patent System: Results of the 2008 Berkeley Patent Survey," 24 BERKELEY TECH. L.J. 1255, 1287 & n. 88 (2009). We usually assume that large N studies will erase the particular misreadings or variant interpretations. And as the authors of the Berkeley Survey indicate, some follow up interviews helped allay substantial concern. In general, quantitative research has as its baseline the "transformation of different qualities into a common metric" put together for the purpose of saying something about them as a whole[.] [D]oing so relies throughout on

on the relevance and accuracy of the underlying categories of measurement.[10] The relevance problem compounds when the conclusions are input for other quantitative analyses. Second, the underlying categories of measurement may themselves be cultural constructs imported from the researcher rather than from the events or communities studied. For example, by measuring invention in terms of the number of patents filed, the research reifies invention as a patent, discounting the possibility that a patent is one embodiment of the many possible objects and mechanisms that we might call inventions. If the thing to be accounted for is inventive things and behavior, measuring only patents will necessarily overstate the significance of patents in the answer to the question. When isolating data for a quantitative study, the *categories of analysis* matter a tremendous amount. Qualitative research begins by asking about and testing the relevant categories to study before asking about their significance in and through a larger data set.

Here is another example from on-going research.[11] One might hypothesize that professional photographers struggle more to earn a living today than twenty years ago. The ease of digital piracy, the lack of meaningful copyright enforcement on the internet, and the abundance of low-cost images available for easy licensing on stock sites may all contribute to devaluation of photography as an expert skill. Moreover, these technologically driven trends may at least contribute to a perception on the part of photographers that their work has been devalued—a perception that would, on its own, effect creative practices. In order to test the hypothesis that photographers are struggling—to confirm, refute, complicate, or reform this statement as an accurate description of the professional photography field—one must first more concretely define some key terms within the hypothesis. "Piracy," "copyright enforcement," "devaluation," and "expert skill," to take a few examples, are not meaningful unless understood within the context of the socioeconomic culture and semiotic systems in which they are deployed. Surveying on these categories – e.g., How often are your works unlawfully copied? Does enforcing copyright help recuperate your investment? – would not explain the kinds of copying photographers care to prevent and why, or what copyright or enforcement means in practice for them today in the digital age as compared to before the internet and digital cameras. To understand the relationship between professional photographers and copyright (one kind of anti-copying protection), one would have to better define a terms like "piracy" (or "unlawful copying") and "copyright" in terms of the understandings of the experiences and practices of the photographers, their professional relationships, and the institutions they interact with.[12]

---

assumptions and distinctions that are often tacit." Wendy Nelson Espeland and Mitchell Stevens, "Commensuration as a Social Process," *Annual Review of Sociology*, 24: 312-43 (1998).

[10] See ARTHUR STINCHCOMBE, THE LOGIC OF SOCIAL RESEARCH (2005) p. 3.See also Stuart et al., "High Technology Entrepreneurs and the Patent System: Results of the 2008 Berkeley Patent Survey," 24 BERKELEY TECH. L.J. 1255, 1297-98 (describing some uncertainty about whether the survey response "prevent copying" was a socially desirable response or an actual belief).

[11] Jessica Silbey, Eva Subotnik and Peter DiCola, "Existential Copyright and Digital Photography: A Profession in Transition" (draft on file with author). See also Jessica Silbey, "Justifying Copyright in the Age of Digital Reproduction: The Case of Photographers," 9 U.C. IRVINE L. R. __ (2019).

[12] For a non-IP example of how qualitative inquiry identifies diverse relevant variables, see Jessica Silbey, "Patent Variation: Discerning Diversity Among Patent Functions," 45 LOYOLA CHI. L. J. 441, 450-451 (2013) (giving an example of studying how professors work in universities).

How does one develop better definitions and understandings of critical categories to be investigated empirically for their causal and correlative relationships in law and society? One may begin with interviews with relevant people working and engaging in the fields to be studied.

Qualitative Interview Method

Key stages of interviewing are (1) selection, (2) interviewing and (3) data analysis of the interviews. Non-representative stratified sampling is a common way to identify interviewees.[13]

Selection. First, the researcher identifies significant variables hypothesized or understood to be related to each other and relevant to the subject of study – e.g., types of workers or firms, types of intellectual property, geographic areas or time, etc. Then, the variables are nested to relate to one another in the maximum number of permutations. For example, in the study that was the basis of *The Eureka Myth: Creators, Innovators and Everyday Intellectual Property* in which I explored the theory that intellectual property incentivizes the production and dissemination of creative and innovative work,[14] I based my stratification on four significant variables – occupation (creator/innovator or intellectual property professional), intellectual property regime relevant to work product (copyright or patent), whether the interviewee is an independent contractor or an employee, and duration of career. From those four variables, sixteen possible variations of interview subjects were generated, as depicted in the table below. Interviewees were as evenly divided as possible among these categories to maximize the opportunity for variation and thus defend the generation of theories of more generalizable similarities across diverse categories where they exist.

Creator or Innovator								Business Agent or Lawyer							
Independent Contractor				Employee				Independent Contractor				Employee			
©		Patent		©		Patent		©		Patent		©		Patent	
<25 yrs	>25 yrs	<25 yrs	>25 yrs	<25 yrs	>25 yrs	<25 yrs	>25 yrs	<25 yrs	>25 yrs	<25 yrs	>25 yrs	<25 yrs	>25 yrs	<25 yrs	>25 yrs

Although this type of qualitative research does not aim for inferential generalizability as would an analysis of a large number randomized sample, the key to analytic generalizability for qualitative research derives from the extent of the diversity in the sample from or about which data is collected. The sample should include all possible

[13] Jan Trost, "Statistically Nonrepresentative Stratified Sampling: A Sampling Technique for Qualitative Studies," *Qualitative Sociology* 9 (1986): 54-57.
[14] JESSICA SILBEY, THE EUREKA MYTH: CREATORS, INNOVATORS AND EVERYDAY INTELLECTUAL PROPERTY (Stanford University Press 2015), Appendix A.

variations that might exist along critical dimensions relevant to the subject being studied within the sample. In this way the sample, while not random, saturates the variation and is in that sense qualitatively but not proportionately representative. It is often helpful to include in the analysis of the data a list of the interviewees with short biographies to achieve transparency of data, while also keeping the information anonymized if required for Institutional Research Board (IRB) approval. Interviewees are often easily locatable through letter campaigns and recommendations, *i.e*., snowball sampling, until all cells in the bottom tier of the variation matrix contain respondents.

In qualitative fieldwork studies, there is no easy way to determine how many interviews are needed for the set.[15] Some social scientists recommend between twenty and fifty depending on the dimensions of the phenomena, including for example the logical variation in the subject of study.[16] *The Eureka Myth* was based on a set of fifty interviews. By approximately the thirtieth interview, I had reached what is called "saturation," after which I began to hear the same themes repeatedly.[17] However, it is advisable to continue to conduct interviews to achieve robust across the variables beyond the saturation point.

Interviewing Technique. Interviews begin with a scripted protocol, often approved in advance by the IRB. Interviews should be time bound for uniformity and pace, but also to give the interviewee an expectation of length (e.g., 90 minutes) while allowing an extension of time if approved. Following a protocol designed to elicit both in-depth and open-ended conversation leads to semi-structured interviews. Interviewers should follow-up questions with queries and comments depending on the interviewee's particular answers to test statements' accuracy, reliability, and semantic meaning. Improvised questions are often asked when appropriate and make sense within the unfolding conversation, all of which should be recorded for later transcription. Face-to-face interviews are best for maximal richness of human interaction. When interviewees are guaranteed anonymity, this may better ensure they speak truthfully about personal issues or employers or competitors without worry of reputational injury or retaliation. But anonymity may prevent publication of the transcripts in full for other researchers to consult, which is preferable for verifiability and open-research purposes.

The content of the interview protocol should be designed to ask about the relevant experiences and activities that are the subject of study from the perspective of the interviewee. There are many ways to design an interview protocol depending on the questions to be studied and the subjects interviewed. *The Eureka Myth* contains an example of questions for a semi-standardized interview,[18] but there are other forms of interviews – the expert interview, the problem-centered interview, the ethnographic interview, and the focused interview – all of which may be relevant depending on the problem or field being

[15] Mario Small, "How Many Cases Do I Need?: On Science and the Logic of Case Selection in Field-Based Research," *Ethnography*, Vol. 10, No. 5 (2009) pp. 5-38.
[16] Anthony Onwuegbuzie and Nancy Leech, "The Role of Sampling in Qualitative Research," A*cademic Exchange Quarterly,* Vol. 9, No. 2 (2005), pp 280-88
[17] Small, "How Many Cases Do I Need?" pp. 25-27.
[18] THE EUREKA MYTH, pp. 291-292.

studied.[19] In a study investigating everyday knowledge and experience of some field (e.g., intellectual property acquisition and assertion), the interviews should attend to both explicit and implicit understandings and behaviors, requiring questions that are less direct (not "what do you think of X") and more descriptive (instead "have you ever done X and if so how and why"). Questions tend to be open and descriptive ("describe a recent success at work and what made it a success"), hypothesis-driven (providing an example of an IP dispute and asking for their understanding and explanation of how it should result), and confrontational (pointing to inconsistencies in answers or evaluating answers against alternatives). Because an interview ideally discovers respondents' understandings and interpretations without directing them or broadcasting particular conceptions of the field explained by the researcher, interviewers do not directly ask about the subject being studied or the hypotheses being tested until the end of the interview.

Data Analysis. Analysis of the interview transcripts proceeded at the level of language (word choice, narrative structure, and content) and conceptual themes (drawn from reading across the transcripts and from the relevant literature, e.g., on creativity, invention, and intellectual property). Analysis of the interviews may isolate and analyze the various linguistic and narrative components that form a particular moral ordering (or "point") and often reflect or maintain a particular institutional or social structure.[20] The analysis of conceptual themes in the interviews also developed from relevant scholarship.

Interviews are analyzed in various steps. First, transcripts are read and summarized in a meta-level synopsis. These condensations often include notes made during the interview, a description of particularly interesting accounts related by or quotations from the interviewee, and a list of overarching themes from the interview. During this initial process, code words (for later use in semantic analytic software) develop deductively from preliminary findings and inductively from the emergent language, repetitions, narrative structure and conceptual themes contained in the interviews. Then, the transcripts are read again and coded using semantic analytic software.[21] This software enables users to manually attach codes (the themes, concepts and words) to particular parts of the transcripts and to connect parts of transcripts to each other generating a network of concepts and relationships from the data. When coding like this, working in teams is particularly useful for intercoder reliability of the codes, concepts, and the connections drawn. By its very nature, working with qualitative data is an interpretive process. Nonetheless, strong consensus about the data can be achieved by regularly sharing coding (and memo development) on and about a common text within teams and thus collectively developing common parameters for interpretation. This produced highly consistent and reliable coding based on a mutual understanding of the concepts and developing themes within the data.

---

[19] UWE FLICK, AN INTRODUCTION TO QUALITATIVE RESEARCH (Sage 2006, 3rd Ed.) pp. 149-171 ("Interviews").

[20] PAUL RICOEUR, TIME AND NARRATIVE, 3 vol. (Chicago, Illinois: University of Chicago Press, 1984-1988); HAYDEN WHITE, THE CONTENT OF THE FORM: NARRATIVE DISCOURSE AND HISTORICAL REPRESENTATION (Baltimore: Johns Hopkins University Press, 1987), pp 1-25.

[21] I use Atlas.ti. Many other researchers use Stata because in addition to content analysis, it also provides opportunity for statistical analysis. There are many other semantic analytic software programs available especially with the rise of digital humanities. See WARWICK ET AL, DIGITAL HUMANITIES IN PRACTICE (2012).

Most semantic analytic software allows users to search and sort the data by code or any other category the user establishes or naturally occurs in the data set (e.g., word, phrase, category of respondent). It also allows users to connect transcripts or other documents (or parts of them) to each other within the database adding depth and relations to the dataset for yet further analysis. Users can initiate queries to find all the instances in the transcripts when an attached code exists, e.g., [PATENT] or of a particular combination of codes, e.g., [(PATENT and INFRINGEMENT and SOFTWARE], either within a subset of transcripts or across them all. The resulting output can be analyzed independently, saved in the system, further narrowed (or broadened) and compared to other query results.

As a database of discourse about the field of study, interviews provide empirical evidence of the culturally circulating schema, memes, interpretations and understandings of that field or set of experiences. Treating each interview as a text exposes its structural features as a story of law-in-action and of particular features of society and culture. As an inductive, qualitative analysis of the data, one goal is usually to arrive at a systematic understanding of localized knowledge about the field. Another goal may be to provide a "thick description" of particular aspects of the field from the perspective of the actors within it. Interview transcripts reveal understandings and interpretations enacted by the interviewees through their accounts, as well as connections and disconnects between popular understanding (self-conscious awareness) and behavior (that is self-reported but can be independently verified). From here, researchers may generate hypotheses about how these understandings and explanations are particular to the field, distribute across larger populations, or explain other related phenomenon. The different forms of validity – descriptive, interpretive, theoretical, and generalizable – depend on the structure of the study and the nature of the claims. All but the last are common for qualitative research (although hypotheses about generalizability are fruitful avenues for this kind of work).[22]

* * *

Qualitative research aims to accomplish something quite different than quantitative research. Qualitative research tries to identify the situated knowledge, actors' experiences and interpretations about a particular object or field.[23] Whereas surveys tend to be simplifications of complex phenomena (e.g., litigation, patents, corporate structure) for the purposes of rough estimations about relationships, qualitative research is the identification of variations in and analysis of situations, events, and objects in order to generate further hypothesis to direct research that can lead to generalizability and better understanding of causal relationships. Where surveys mask specificity, heterogeneity and interrelatedness by making isolated and singular what may be multiple, qualitative analysis based on semi-structured interviews or ethnographic fieldwork displays social realities as they are lived, experienced, understood and familiar

[22] Joseph Maxwell, "Understanding Validity in Qualitative Research," *Harvard Educational Review*, September 1992, Vol. 62, No. 3, pp 279-301.
[23] MATTHEW MILES AND A. MICHAEL HUBERMAN, QUALITATIVE DATA ANALYSIS (Thousand Oaks, California: Sage Press, 1994), p 10.

to the people studied.[24] This kind of interviewing and observation is designed to identify variations that might not have been anticipated in the design of a survey or to contextualize those that are identified but are isolated from others.

Importantly, qualitative and quantitative methods can work very well together. Qualitative work may best identify grounded variation in the social experiences of the actors and then quantitative methods (be they surveys or experiments) can test the typologies or models with big-N studies to determine the distribution of the variations over a particular population. Combining methods in this way is ideal for iterating the knowledge produced and the situations studied.[25]

The qualitative method is particularly useful for the intellectual property law and policy that cares about discerning how creative and innovative work proceeds and the circumstances that enable or frustrate that work *within the terms and understandings of the people doing it*, *their perspectives and their activities*. If intellectual property law is going to continue to care about "incentives" and "motives" as a feature of how law and regulation work, understanding desires and perceptions of those creating and innovating, or those facilitating creation and innovation, is paramount. Moreover, assuming there exist multiple subtleties to creative and innovative work, qualitative analysis can succeed where quantitative research may otherwise fail to unearth those subtleties for further investigation. Once qualitative work identifies both the large and small-scale mechanisms and techniques by which creative and inventive work is accomplished, quantitative analysis can then helpfully point to possible associations between the mechanisms using causal analysis mentioned above, and it can better generalize about mechanisms and techniques with regarding to specific populations.

To study law is to not only study the statutes and the court cases. Law is also a product of and is actively constructed by the people who invoke or reject it in their everyday working life.[26] Empirical research that studies cases and the application of statutes may distort the role of law by overemphasizing the individual as an autonomous agent within legal processes and the formal dispute as the way to understand how law works on everyday people. Focusing on cases and randomized large data sets can mythologize the individual and the object that is counted as discrete and isolated, whereas qualitative research often shines a light on *processes* and *mechanisms* by identifying and describing emerging and established relationships and by expressing their saliency in terms of socio-cultural expression that may be hard to find by other methods.[27] Otherwise put, qualitative work better explores cultural processes (circulating signs and systems of signs) through which people make sense of their lives, which includes law but not as an isolated force. Variations and conflicts concerning the

[24] UWE FLICK, AN INTRODUCTION TO QUALITATIVE RESEARCH (Thousand Oaks: Sage Publications, 1998) pp. 155-161. See also JAMES P. SPRADLEY, THE ETHNOGRAPHIC INTERVIEW (New York: Holt Rinehart Winston, 1979).
[25] UWE FLICK, AN INTRODUCTION TO QUALITATIVE RESEARCH, p. 40.
[26] Examples of studies include ROBERT ELLICKSON, ORDER WITHOUT LAW: HOW NEIGHBORS SETTLE DISPUTES (1991); AUSTIN SARAT AND WILLIAM FELSTINER, DIVORCE LAWYERS AND THEIR CLIENTS: POWER AND MEANING IN THE LEGAL PROCESS (1995); PATRICIA EWICK AND SUSAN SILBEY, THE COMMON PLACE OF LAW: STORIES FROM EVERYDAY LIFE (1998).
[27] Jack Katz, "Ethnography's Warrants," *Sociological Methods and Research*, Vol. 25, No. 4 p. 368 (1997).

meaning and use of symbols and resources (including legal ones, such as copyright or patents) constitute a richer understanding of intellectual property as a dimension of culture at large.[28] As such, narrative and observational data – semiotic resources which are themselves mechanisms of culture – may be as good or better predictor of action (including legal action) than natural setting big data analyses or survey responses offered on standard questions that depend on pre-set tropes. Of course, we cannot have robust knowledge without both.[29]

[28] CONSTANCE PERIN, SHOULDERING RISKS: THE CULTURE OF CONTROL IN THE NUCLEAR POWER INDUSTRY (Princeton, NJ: Princeton University Press, 2005) xii. (defining culture as "an intricate system of claims about how to understand the world and act on it").

[29] Moreover, both quantitative and qualitative work demand historical analysis for fuller and sophisticated understanding of trends and future predictions.