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Measured Interpretation: Introducing the Method of Correspondence Analysis to Legal Studies

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MEASURED INTERPRETATION: INTRODUCING THE METHOD OF CORRESPONDENCE ANALYSIS TO LEGAL STUDIES

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Professor Harcourt develops and advocates a method to more rigorously measure and evaluate how qualitative "social meaning" variables relate to legal practices and public policies. The method integrates in-depth qualitative interviews with an experimental free associational component, map analysis of the interviews, and a methodology, correspondence analysis, that remains little known in the United States despite its acceptance in other parts of the world. Correspondence analysis, according to Professor Harcourt, is a tool that allows researchers to visually represent the relationship between structures of social meaning and the contexts and practices within which they are embedded. This method opens up structures of meaning in a more accessible and rigorous way than was previously possible, and can significantly aid in the analysis of legal and public policy. Professor Harcourt uses his own research, focusing on the social meanings of guns to youth, as an example of how correspondence analysis works. Using this method, Professor Harcourt extracts and graphically represents meanings from interviews of thirty incarcerated male youths and analyzes the policy implications of his findings.

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TABLE OF CONTENTS

Across a range of theoretic approaches, contemporary legal scholarship has taken an interpretive turn. Legal research focuses increasingly on the social meaning of practices, institutions, and behavior as a way to more fully understand the role of law in society and to evaluate and discuss public policy. The law and society movement was a precursor in this regard, drawing inspiration from the interpretive turn in sociology.[1] Critical legal study was heavily influenced by linguistic structuralism—especially Claude Lévi-Strauss and Jean Piaget—and similarly took the linguistic turn early on.[2] More recently, the law and economics movement has experienced a similar shift—as evidenced by the social norm movement—due in part to the resurgence of interest in expressive theories of law and to a certain disenchantment with strict behaviorism.[3] These developments in legal scholarship reflect the larger linguistic turn in the social sciences and humanities, influenced by the work of Clifford Geertz and Claude Lévi-Strauss in anthropology, Herbert Blumer and Pierre

1. *See, e.g.*, Susan Silbey & Austin Sarat, *Critical Traditions in Law and Society Research*, 21 LAW & SOC'Y REV. 165 (1988); David M. Trubek, *Back to the Future: The Short, Happy Life of the Law and Society Movement*, 18 FLA. ST. U. L. REV. 4, 35 (1990) (describing the early turn to "discursivity" in the law and society movement); David M. Trubek, *The Handmaiden's Revenge: On Reading and Using the Newer Sociology of Civil Procedure*, 51 LAW & CONTEMP. PROBS. 111, 133 (1988).

2. *See, e.g.*, Duncan Kennedy, *Form and Substance in Private Law Adjudication*, 89 HARV. L. REV. 1685, 1712 n.73 (1976) (recognizing influence of Claude Lévi-Strauss); Duncan Kennedy, *The Structure of Blackstone's Commentaries*, 28 BUFF. L. REV. 209, 210 n.2 (1979) (recognizing influence of Jean Piaget and Lévi-Strauss).

3. For examples of this interpretive turn within the law and economics movement, see Dan M. Kahan, *Between Economics and Sociology: The New Path of Deterrence*, 95 MICH. L. REV. 2477 (1997); Lawrence Lessig, *The Regulation of Social Meaning*, 62 U. CHI. L. REV. 943 (1995). For general accounts of expressive theories of law, see Elizabeth S. Anderson & Richard H. Pildes, *Expressive Theories of Law: A General Restatement*, 148 U. PA. L. REV. 1503 (2000); Cass R. Sunstein, *On the Expressive Function of Law*, 144 U. PA. L. REV. 2021 (1996).

Bourdieu in sociology, Charles Taylor and Richard Rorty in political theory, and many others.[4] The wider linguistic turn traces back at least to the mid-twentieth century and draws inspiration from the early twentieth century structural linguistic work of Ferdinand de Saussure.[5]

While the interpretive turn in the social sciences and law may well date back several decades, the effort to more rigorously measure social meaning is in its relative infancy. The hard task of measuring interpretive variables has been left relatively untouched. Early approaches to the task were predominantly naturalistic. Sociologist Herbert Blumer, one of the fathers of symbolic interactionism, counseled a naturalistic approach.[6] Blumer emphasized:

> To test the validity of [symbolic interactionist] premises, one must go to a direct examination of actual human group life—not to a contrived laboratory setting, not to a scheme of operationalizing concepts, not to a testing of hypotheses, and not to a scrutiny of whether the premises can be made to fit a protocol of research procedure. . . . I think they can be readily tested and validated merely by observing what goes on in social life under one's nose.[7]

Clifford Geertz pioneered the thick description based on intense ethnographic fieldwork and participant observation, but his approach is also somewhat naturalistic—which does not detract, of course, from its extreme persuasiveness.[8] But it is an approach that depends importantly on the interpretive skills and intuitions of the researcher. It is an approach that is terribly hard to replicate.

Overall, the attempt to formalize the measurement of social meaning has lagged. And, as a result, skeptics of the interpretive turn often criticize the lack of rigor in the measurement of meaning variables. Critics argue that the interpretive variables—the "social meaning" variables—are too soft and are not measurable. Stephen Morse, for example, argues that "the core variables—including social meaning itself—seem immensely soft and there is always serious question about whether qualitative analysis yields reliable and valid data, as opposed to being an undeniably fertile source of hypotheses."[9] Morse suggests that research involving social meaning often

4. *See, e.g.*, HERBERT BLUMER, SYMBOLIC INTERACTIONISM (1969); Pierre Bourdieu, *La Maison kabyle ou le monde renversé*, *in* ÉCHANGES ET COMMUNICATIONS: MÉLANGES OFFERTS À CLAUDE LÉVI-STRAUSS À L'OCCASION DE SON 60ÈME ANNIVERSAIRE, TOME II, 739–58 (Jean Pouillon and Pierre Maranda eds., 1970); CLIFFORD GEERTZ, THE INTERPRETATION OF CULTURES (1973); CLAUDE LÉVI-STRAUSS, ANTHROPOLOGIE STRUCTURALE (1958); RICHARD RORTY, PHILOSOPHY AND THE MIRROR OF NATURE (1979); CHARLES TAYLOR, PHILOSOPHY AND THE HUMAN SCIENCES: PHILOSOPHICAL PAPERS 2 (1985).

5. FERDINAND DE SAUSSURE, COURSE IN GENERAL LINGUISTICS (Roy Harris trans., 1986).

6. *See* BLUMER, *supra* note 4, at 46–47.

7. BLUMER, *supra* note 4, at 49–50.

8. *See, e.g.*, Clifford Geertz, *Deep Play: Notes on the Balinese Cockfight*, 101 DAEDALUS 1–37 (1972); GEERTZ, *supra* note 4, at 3–30.

9. Stephen J. Morse, Comment on Harcourt, "Beyond the 'Social Meaning Turn,'" paper presented at the Stanford/Yale Junior Faculty Forum at Yale Law School (May 12, 2000) (on file with the *University of Illinois Law Review*).

demonstrates just "how slippery the social meaning hypothesis can be."[10] In contrast, critics argue, quantitative variables and methods are "more systematic, precise, rigorous, and formal than qualitative work, and . . . [provide] the only solid foundation for generalization and theory testing."[11] Many, even those sympathetic to linguistic structuralism, believe that qualitative methods, most often, are simply a vehicle for creativity and inventiveness.[12]

There are several possible responses to these charges. The first is to admit that interpretive variables are immensely soft, but there is nothing really that we can do about it. As a result, we can either spend our time exploring social meaning but draw no solid conclusions or policy implications from them, or we can just skip studying them altogether and focus instead on behavioral variables. An alternative response is that, no, interpretive variables are not soft. The notion of being soft itself assumes a false dichotomy between social meaning and behavioral variables. Interpretive variables are all we have. They are neither hard nor soft; they simply are—and we have to come to terms with that. A third response is that, *regardless* of whether social meaning variables are soft, there are things we can do to make our interpretations more measured. There are ways to try to get at these variables in order to draw policy implications.

In this symposium essay, I set aside the first two responses—whether interpretive variables are or are not soft—and develop the third response. I have argued elsewhere that the very idea that social meaning variables are immensely soft is a trope that stems from the misguided desire to equate the social sciences with the natural sciences.[13] I will not reengage that debate. Instead, my argument here is that, regardless of the relative status of qualitative and quantitative variables, we can promote more measured interpretation of social meaning variables. We can develop approaches and techniques that open up webs of meaning in a more accessible and rigorous way than was previously possible. We can offer a new window onto an important symbolic realm that is little understood by many social scientists, legal scholars, and policy makers, but that could aid significantly in the construction of useful theory and public policy.

In this essay, I present one particular approach to more rigorously measuring, evaluating, and understanding how social meaning variables may relate to legal practices and institutions. I propose integrating in-depth qualitative interviews (with an experimental free associational component) and map analysis of the interviews with a multivariate mathematical ap-

10. *Id.* at 2.

11. Edgar Kiser, *Comment: Evaluating Qualitative Methodologies*, 27 SOC. METHODOLOGY 151, 151 (1997).

12. As Philip Pettit writes about Lévi-Strauss, "[t]he method is hardly more than a licence for the free exercise of imagination in establishing associations between myths." PHILIP PETTIT, THE CONCEPT OF STRUCTURALISM: A CRITICAL ANALYSIS 96 (1975).

13. *See* BERNARD E. HARCOURT, ILLUSION OF ORDER: THE FALSE PROMISE OF BROKEN WINDOWS POLICING 227–30 (2001).

proach to graphing relations between categorical variables. The graphical display, I argue, allows the reader to visualize the structures of meaning and their complex relations to the contexts and practices within which they are embedded. My work draws on the method called "correspondence analysis."[14] Correspondence analysis is a multivariate statistical technique that is useful to explore cross-tabulated categorical data, such as social meaning variables. The technique takes a contingency table composed of categorical variables and represents the table in a two dimensional graph, allowing the researcher to represent and interpret the relationships between and among categorical variables within different contexts. Correspondence analysis is popular and familiar in France, the Netherlands, and Japan, but is relatively unfamiliar in the United States. In fact, a Lexis-Nexis search of existing law review articles suggests that the method of correspondence analysis has not been utilized in a domestic law review article to date.[15] It has, however, received increasing attention in certain fields of sociology. In this work, I draw on the pioneering work of a handful of sociologists, especially Ronald Breiger and John Mohr, who have attempted to popularize methods of multidimensional scaling, such as correspondence analysis and Galois lattices, in an effort to "measure meaning structures."[16]

Excavating social meaning and their relations in different contexts and institutional settings is undoubtedly one of the greatest challenges that interpretive legal scholars and social scientists face. My goal here is to formalize the analysis of the relations among meanings by combining several methodological techniques, to improve the measurement of social meaning variables and the replicability of the analysis. To be as concrete as possible, I proceed by means of an illustration from ongoing research on juvenile gun possession. I specifically set forth my methods and results as the frame within which to discuss the application of correspondence analysis to legal studies. I also draw policy implications from the analysis. Given the constraints of a symposium essay, though, my discussion of research findings and policy implications is intended to be illustrative. It is not, by any means, exhaustive. My purpose here is to use ongoing research to shed light on a topic that, for purposes of this symposium, is primarily methodological and theoretical.

14. Michael J. Greenacre, *Correspondence Analysis and Its Interpretation*, *in* CORRESPONDENCE ANALYSIS IN THE SOCIAL SCIENCES 3–8 (Michael J. Greenacre & Jorg Blasius eds., 1994) (describing the goals of correspondence analysis).

15. In a Lexis search of the Law Review database, I discovered only one law review article that referred to correspondence analysis, and this article was a book review by a lecturer in sociology at the London School of Economics in the *Law & Social Inquiry* journal reviewing an English translation of a French book on a historical sociology of French advocates. *See* Michael Burrage, *Escaping the Dead Hand of Rational Choice: Kappik's Historical Sociology of French Advocates*, 24 LAW & SOC. INQUIRY 1083, 1103 (1999).

16. John W. Mohr, *Measuring Meaning Structures*, 24 ANN. REV. SOC. 345, 345–70 (1998); *see also* Ronald L. Breiger, *A Tool Kit for Practice Theory*, 27 POETICS 91, 91–115 (2000); John W. Mohr & Vincent Duquenne, *The Duality of Culture and Practice: Poverty Relief in New York City, 1888–1917*, 26 THEORY & SOC'Y 305, 305–56 (1997).

I. YOUTH GUN POSSESSION RESEARCH PROJECT: THEORY AND DESIGN

In this essay, I focus on the issue of youth gun possession and, in particular, on the social meaning of guns to youths. My goal is to explore what guns mean to youths and how those meanings relate to legal policies that are aimed at deterring youth gun carrying. The central theoretical underpinning of the research is that an object, such as a gun, has symbolic meaning. Behaviors associated with that object, such as carrying or brandishing a firearm, also carry symbolic meanings. The object and behavior may have different symbolic meanings depending on the context and on the agent—for example, depending on whether it is a youth brandishing a handgun at a keg party or a youth pulling out a gun in a drug transaction. Guns and gun possession are, in this sense, nested in a structure of meanings that preexist any particular youth coming of age and acting within that milieu.

Youths do not give meaning to guns in some autonomous way, intentionally, on their own, outside of the web of meanings associated with guns. They come to the social space and interact with it. They develop their own relation to guns through this medium. There is, as a result, a dynamic interaction between any particular youth and the meanings associated with handguns. Similarly, policy makers implement strategies to address gun possession that interrelate with these webs of meaning. The policies are perceived and interpreted by youths through this medium, and are likely to affect the meanings. Again, there is a dynamic interaction between the public policies and the structures of meaning. Some meanings may defeat the policies. Some meanings may alter the policies. Some policies may change the meanings. These are complex processes. What is certain, though, is that it is impossible to properly evaluate public policies unless the policies—and the meanings of the policies—are placed within the related web of meanings surrounding guns and youth gun possession.

A. Theoretical Underpinnings

The methodological discussion here assumes familiarity with linguistic structuralist theory and the developments that have come after and build on linguistic structuralism.[17] The heart of my enterprise in this essay—the effort to more rigorously measure the social meaning of guns within different contexts, especially the legal context—is premised on the structuralist

17. In this paper, I will be using the terms "structuralism," "linguistic structuralism," and "semiotics" mostly interchangeably. For a concise review of the structuralist project, the reader might wish to reread Claude Lévi-Strauss, *Language and the Analysis of Social Laws*, *in* STRUCTURAL ANTHROPOLOGY 55–66 (Claire Jacobsen & Brooke Grundfest Schoepf trans., 1963); Claude Lévi-Strauss, *Structural Analysis*, *in* STRUCTURAL ANTHROPOLOGY, *supra*, at 31–54 [hereinafter Lévi-Strauss, *Structural Analysis*]; SAUSSURE, *supra* note 5. For useful secondary materials, see PETER CAWS, STRUCTURALISM: THE ART OF THE INTELLIGIBLE (1988); PETTIT, *supra* note 12.

project. The goal is to explore the meaning of objects and behavior—here handguns or juvenile gun possession—in relation to the larger system of social interactions that give meaning to behavior. In this sense, the analysis develops a semiology of social action. It is an approach that treats objects and behaviors as a sign system in the same way that structural linguistics conceives of language.

Because I am focusing here exclusively on the methodological question of measurement and representation, this essay has a strongly structuralist flavor. However, the project itself is not necessarily wedded to all of the fundamental tenets of structuralism. In other words, although the concept of social meaning traces to the structuralist project, the *uses* of social meaning are themselves not bound by that structuralist project. What we do with those meanings, how we deploy those meanings, and the attributes that we assign to those meanings are not necessarily determined by structuralism.

In this project, then, I adopt some but not all of the elements of classical linguistic structuralism. Let me be more concrete. Claude Lévi-Strauss succinctly set out the elementary building blocks of structuralism in his essay entitled *Structural Analysis*, where, following the phonologist Nikolai Troubetzkoy, Lévi-Strauss reduced the structuralist method to four tenets:

> First, structural linguistics shifts from the study of *conscious* linguistic phenomena to study of their *unconscious* infrastructure; second, it does not treat *terms* as independent entities, taking instead as its basis of analysis the *relations* between terms; third, it introduces the concept of *system* . . . ; finally, structural linguistics aims at discovering *general laws*, either by induction "or . . . by logical deduction, which would give them an absolute character."[18]

Of these four basic tenets, the first three remain viable and relevant to the study of social meaning in law today. The second tenet, perhaps the most familiar, is the basic idea that meaning or language derives from the relationships of similarity and difference between terms, and not from the terms themselves. As Saussure explained, language is a system of differences, without positive terms; it is a set of relations of difference and similarity, rather than a set of terms that are differentiated.[19] This fundamental insight of structural linguistics is central to social meaning work: social meanings cannot be deciphered in isolation and do not derive their meaning from themselves alone, but rather from the distinctions and similarities between them. The third tenet—also relatively familiar—is that the relations of differences and similarities form a structure or system. As Saussure explained, "A language is a system in which all the elements fit together, and in which the value of any one element depends on the simultaneous coexistence of all the others."[20] The first tenet is that these relations of dif-

18. Lévi-Strauss, *Structural Analysis*, *supra* note 17, at 33.
19. SAUSSURE, *supra* note 5, at 118.
20. *Id.* at 113.

ference and similarity, and the overall structure of relations, are second nature. They operate at the level of the unconscious. They are taken for granted. This too has its source in Saussure, who suggested that language is not produced intentionally and consciously, but is the work of unconscious mechanisms.[21] The important implication of these three basic tenets is that measuring social meaning requires that the researcher explore the relationship between meanings taking into account the full structure or system of meanings.

There is, however, no need to adopt other structuralist claims, such as the fourth tenet articulated by Lévi-Strauss, namely that structural analysis can help discover general laws with universal and absolute character, or that meaning structures reflect some universal truth about our mental processes and structures. Meanings and structures of meaning may not be universal, and may not reflect ontological truths about humans or society. They may have their own contextual histories. They may be shaped in part by practices and human desires that are themselves part of a historical development affecting the structures of meaning. There may be gaps and ambiguities in the structures of meaning, fluidities and slippages that may help bring about shifts and changes in meaning and structure.

Another structuralist tendency that need not be adopted is the idea that meaning structures give rise to a symbolic realm that is autonomous and self-contained. In this respect, my research project takes inspiration from the work of a handful of sociologists who, drawing on the tradition of practice theory, are studying the "inherent duality between culture and practice."[22] The central argument of practice theory, as Ronald Breiger explains, "is that the material world (the world of action) and the cultural world (the world of symbols) interpenetrate, and are built up through the immediate association of each with the other."[23] The best way to understand social institutions and institutional practices is to explore the interrelationship between the web of meanings surrounding particular categories of actors and the web of practices that the institutions engage in. These scholars focus on structural duality, by which they mean "a relationship that inheres within and between two classes of social phenomena such that the structural ordering of one is constituted by and through the structural ordering of the other."[24] John Mohr and Vincent Duquenne explain:

> The key argument put forward by practice theorists is that neither the material world (the world of action) nor the cultural world (the world of symbols) can exist (or be coherently structured) independently. Rather, each is built up through its immediate association with the other. Hence, in contrast to Lévi-Strauss's tendency to locate the logic of cultural symbols in the semi-autonomous structural arrange-

21. *Id.* at 72–73. *See generally* PETTIT, *supra* note 12, at 10 (noting that language is a system that works by unconscious laws).

22. Mohr & Duquenne, *supra* note 16, at 307.

23. Breiger, *supra* note 16, at 92.

24. Mohr & Duquenne, *supra* note 16, at 308.

> ment of those symbols themselves, practice theorists expect to find the logic of culture to be embedded in the structure of demands of the everyday world.[25]

Finally, the focus on social meaning should not prevent us from pushing linguistic structuralism and practice theory further. As I have argued elsewhere, our focus should not be exclusively on social meanings, but on the way that these meanings and institutions shape us as contemporary subjects. The project of measuring social meaning is only one step in a larger theoretical framework. It is a critical step, given that so many who oppose the interpretive turn base their argument on the softness of the meaning variables. At this first critical step, it is important to emphasize that social meaning variables can be measured. But these methodological techniques should not limit our subsequent theoretical elaborations. As Ronald Breiger suggests, the focus on methods of measuring meaning and on formal techniques:

> is self-limiting if it reinforces the tendency of this very branch of practice theory to veer back toward the structuralist modes of analysis from which it arose, rather than forward toward dialogue with students of the more locally-based emphasis on action—including disruptive and challenging activities—associated with the analysis of discursive practices and with the development of practice theory from the points of view of feminist and subaltern scholarship.[26]

B. Conceptualizing the Project

The goal of the project is to set out the webs of meaning that youths associate with guns, and explore how these structures relate to legal and public policies. Several alternative approaches present themselves. It is possible, for instance, to explore the meaning of guns by placing them within the structure of meaning of other objects that youths come across—how do guns differ from knives, bats, cars, clothes, drugs, television, books, alcohol, etc. This approach treats these objects as linguistic terms and tries to explore their differences and relations. Another approach is to explore the symbolic meaning of different actions—gun carrying, speeding, drinking, fighting, etc. Under this approach, the linguistic terms are the actions or behavior.

I propose to perform a close analysis of the meaning of guns within different youth contexts and to explore the various and multiple relations between these meanings. I propose to focus microscopically on the gun itself, to chart out the multiple webs of meaning, and to analyze how they relate to each other. The idea is to show how complex the meanings are themselves; to demonstrate that the very meaning of one object—a gun—is itself in tension with itself, and not simply with other objects or similar ac-

25. *Id.* at 309; *see also* Breiger, *supra* note 16, at 92.
26. Breiger, *supra* note 16, at 92.

tions; to show that the subatomic structures of meaning of any one object is itself a proper object of analysis. The project in effect is to map out the language of guns.

My argument is that there exists, among youths, a symbolic language about guns. This language is shared, in the sense that youths are familiar with it. They regenerate it. They participate in it. This symbolic language is probably more fluid than language because there are fewer constraints on it. It may be more heavily influenced by popular culture. It may be more responsive to localized events. Any one youth, although unlikely to be able to significantly shift the symbolic language, is able to place himself within the structure of meaning. He grows up within the structure, which may become second nature to him in many ways. He may take the language of guns entirely for granted; yet, it may heavily influence how he thinks, interprets actions, and relates to guns.

The social meanings of guns among youths represent the backdrop against which these youths act. They represent the landscape on which, and against which, youths strategize—adopting and using some meanings, rejecting, mocking, rebelling against others. It is the interaction between the existing structures of meaning—within different contexts—and the actions of youths that produce a dynamic and continual transformation of the field of meaning. It is also the backdrop against which public policies are perceived and interpreted by youths, and have an effect on youths. Most importantly, it is in this relationship between structures of meaning and public policies that we can begin to more fully assess policy proposals. As noted earlier, this part of the project—focusing on the social meaning of guns—is the more heavily structuralist one. But it fits within a larger project that explores the gaps and interstices of meanings where there is conflict between the shaping of the subject and subjective resistance. It is in this tense conflict that we can start drawing some implications for legal and public policies.

II. INTEGRATING QUALITATIVE METHODS AND CORRESPONDENCE ANALYSIS

My point of departure for this research is to tap as directly as possible into youth perceptions, beliefs, and practices; to get inside the structures of meaning; to explore them from within. Although it is never possible to enter another person's interpretive framework completely—the very task itself is so highly problematic—my goal in this project is to understand youths' structures of meaning *to the best extent possible*.[27] The project begins with a set of interviews of thirty male[28] youths detained at the Catalina

27. *See generally* Calvin Morrill et al., *Telling Tales in School: Youth Culture and Conflict Narratives*, 34 LAW & SOC'Y REV. 521, 522 (2000).

28. I have chosen to focus on male youths, rather than female youths, for two principal reasons. First, I wanted to conduct the interviews and felt more comfortable starting with same-sex interviews,

Mountain School in Tucson, Arizona, a correctional and educational facility operated by the Arizona Department of Juvenile Corrections. At the time of the interviews in the Fall of 2000, the facility housed approximately 158 male youths of various ages ranging from twelve to seventeen. Generally, these youths had run afoul of the law on repeated occasions for second-tier crimes—burglary, robbery, auto theft, drug possession and sale, firearm possession, criminal damage, running away, and curfew violations—but had not been convicted of the most violent offenses, such as murder or armed robbery, for which they would automatically have been transferred to the adult system. I used systematic random sampling to select thirty youths to interview from the total population of approximately 158 students.[29] Each interview lasted on average one hour and ten minutes, although they ranged in length from forty-five minutes to one and a half hours.

A. Interviewing: Free Associational Prompts

I approached the thirty interviews from the tradition of interviewing as a form of discourse. From this perspective, the interview is not just a clinical set of stimuli and responses, but rather, a search for meaning, where both parties are jointly constructing the meaning of the questions and answers, and where these meanings are themselves contextually grounded.[30] In this sense, interviewing *about* the social meaning of guns is doubly complicated. Meaning layers are stacked on top of each other. The interview *for meaning* is an exercise not only in constructing meaning from a discourse, but mining those meanings to infer and discover other meanings—here, the symbolic life of guns.

To address these concerns, I began each interview with a free associational experimental technique. After a few short questions concerning the age, ethnicity, criminal record, and institutional history of the youths, I showed them three color pictures of handguns taken from a feature article from the magazine *American Handgunner*—a nine millimeter, a forty-five

especially with adolescents who are incarcerated. Second, the vast majority of youths who carry guns are male and, therefore, I anticipated that I would encounter more personal contacts with guns if I interviewed males. Of the thirty male youths I interviewed, twenty-six (or eighty-seven percent) had possessed guns at some point in their lives; twenty-three (or seventy-seven percent) of the youths had carried one or more guns on their persons; and nineteen (or sixty-three percent) had what I would consider to be significant histories of gun possession and carrying. These numbers are consistent with other research. *See* JULIE H. GOLDBERG & WILLIAM SCHWABE, HOW YOUTHFUL OFFENDERS PERCEIVE GUN VIOLENCE 11–12 (1999); JOSEPH F. SHELEY & JAMES D. WRIGHT, IN THE LINE OF FIRE: YOUTHS, GUNS, AND VIOLENCE IN URBAN AMERICA 40 (1995); Peter Ash et al., *Gun Acquisition and Use by Juvenile Offenders*, 275 JAMA 1754, 1755 (1996).

29. This is an exploratory study of social meanings and the relation among representations, not a confirmatory study. Thirty interviews provide us with a representative sample, but of course only for the population at the Catalina Mountain School. That population may not be representative of populations of detained male youths in other regions or states. Nonetheless, the findings here are solidified by the systematic random sampling used to select participants.

30. *See generally* ELLIOT G. MISHLER, RESEARCH INTERVIEWING: CONTEXT AND NARRATIVE 52–65 (1986) (discussing joint construction of interview discourse).

caliber semi-automatic, and a Colt Forty-five revolver.[31] Before giving the youths much time to place the pictures within the interview context, I asked each one "What are you thinking of right now?" I then followed up by further free associational prompts, such as "What are the first experiences that these guns remind you of?" and "What do these guns make you think of?"

By starting with free association and allowing the youths to tell stories about guns, the interviews focused more directly on the *youths'* associations—on the contexts within which these youths relate to guns and on the meanings they associate with guns. The free association approach offers, I would argue, better access to the youths' concerns, beliefs, desires, and fears than a more traditional approach.[32] By letting the interviewees lead the discussion through free association, the interviews focused on the webs of meaning that the youths associated with guns. In addition, by starting with free association, I hoped to avoid tainting the interviews with prior discussion of the reasons to carry guns or about their parents' views on firearms. The use of photographs as an experimental device also helped mediate the discussion about meaning.[33] Although an interview is never a natural setting, using pictures helped create a more concrete situation. It helped give life to our discussion. It made the guns more real.

Following the first free associational prompts, I asked a number of other questions about gun carrying, peer practices, and gun sources that provided insights on the question of social meaning. I asked them about their history of gun carrying and use, situations where they or their friends had used guns, sources of firearms, policies intended to deter gun carrying, and their contacts with the police. I asked them to tell me incidents they had witnessed or heard about guns: situations where they or a friend had used a gun, where they had access to a gun but did not use it, and where they wish they had had access to a firearm. This part of the interviews was semistructured: the interviews followed a protocol to address similar sets of questions, but to improve the flow of the conversation, I would modify the

31. The three pictures were taken from separate articles in the November–December 2000 issue of the *American Handgunner* magazine. The three handguns were, in order, an HS 2000 full-sized nine millimeter service pistol from I.M. Metal of Croatia (page 60). This is a polymer gun, black plastic looking. It resembles closely a Glock or SIG nine millimeter. Second, a Para-Ordinance P-14 LDA. This is a full-size forty-five caliber pistol with a five-inch barrel (page 42). Third, a Smith & Wesson forty-five caliber Colt CTG revolver (page 68).

32. *See generally* WENDY HOLLWAY & TONY JEFFERSON, DOING QUALITATIVE RESEARCH DIFFERENTLY: FREE ASSOCIATION, NARRATIVE AND THE INTERVIEW METHOD 36–37, 152 (2000) (critically reviewing existing qualitative research methods and proposing an alternate method: the free-association narrative interview). Free association, naturally, has its roots in psychoanalysis, see ANTON O. KRIS, FREE ASSOCIATION: METHOD AND PROCESS (1982), and is also closely linked to *Gestalt* theory. *See* HOLLWAY & JEFFERSON, *supra*, at 36. My use of free association, however, is guided more by the idea of interviewing as discourse.

33. The use of photographs to elicit free associational responses is also employed by Bourdieu in a lot of his work. In *Distinction*, for example, Bourdieu often uses a photograph as a way to tap into the cognitive and emotional responses of his informants. So, for instance, Bourdieu will confront his interviewees with a striking photograph of an old woman's hands, or a gas refinery by night, in order to elicit or evoke responses that can then be related to (and differed from) each other. *See* PIERRE BOURDIEU, DISTINCTION: A SOCIAL CRITIQUE OF THE JUDGEMENT OF TASTE 45–46 (Richard Nice trans., 1984).

order of the questioning or probe into different areas as necessary. Most questions were intentionally open-ended and follow-up questions explored the answers.

Throughout, I employed a mixed interview technique that used direct open-ended questions, but also comments intended to elicit additional information. In this respect, I found it important to try multiple approaches, given that meanings are deeply ingrained far beneath the surface of consciousness. I therefore included interview by comment—including puzzlement or bewilderment at their responses, replay comments to elicit further elaboration, evaluative and other comments.[34]

The very project of interviewing for meaning—regardless of the free associational, experimental, and other twists—naturally raises a host of conceptual problems. As interpretivists, how can we have faith that the youths even know what is important to them or are able to communicate what matters to them? How do we even know if they are giving sincere responses? Why should we be relying on them as oracles of truth? And, even more, how can we have any faith in our own interpretations, layered as they are on so many others?[35] An adequate response, of course, would require far more space. For present purposes, it may be sufficient to respond that this research project enables us to *begin* the process of tapping into repertoires of meaning among youths. Even if the youths were not talking to me as frankly as they would among themselves, or to an ethnographer, and even if they were not fully able to access or communicate their own concerns, they were nevertheless exposing some of their repertoires of ways of talking about guns. These are the repertoires from which they are likely to draw upon when they act, strategize, and make decisions. These are the repertoires that the youths have access to.

B. Coding: Map Analysis

The interviews were truly fascinating, highly revealing, and in many respects very surprising. Initially, I was struck by the intensity of the feelings that the youths displayed toward guns. The very sight of the three color pictures of handguns inspired a deep sense of awe and desire in most of the youths I interviewed. Most of them fixated on the photos and, with expressions of slight laughter, giggling, or quiet moaning, manifested a kind of lust for the guns. Most of the youths wanted to shoot the guns, or touch them. Most were deeply fascinated and attracted to the pictures of guns.

In response to the simple free-associational prompt—"What are you thinking about?"—many youths answered that they just like guns, pure and

34. *See generally* David A. Snow et al., *Interviewing by Comment: An Adjunct to the Direct Question*, 5 QUALITATIVE SOC. 285, 292–304 (1982) (discussing eight types of comments intended to elicit verbal data that further understanding of a particular research problem).

35. *See, e.g.*, HOLLWAY & JEFFERSON, *supra* note 32, at 2–4; JOHN DEVINE, MAXIMUM SECURITY: THE CULTURE OF VIOLENCE IN INNER-CITY SCHOOLS 166–71 (1996).

simple. "They're cool. I want to play with them. I want to go out and shoot them." (CMS–4:3). "Guns are nice. They just, I don't know, I just, I just like guns a lot." (CMS–46:5). "I would like to have one of these. . . . I always want, I always like, I always like guns. . . . Yeah, I always like to have one." (CMS–6:6-7). "I want to go shoot them. I want to see how they handle." (CMS–3:8). "They look tight. They look nice." (CMS–10:3). "They're nice looking guns." (CMS–17:7). "I kind of like how they look. I just want to go shoot them." (CMS–43:6). "Those are some tight guns. I like them. I like the way they look." (CMS–13:5). "I love guns. Hell ya, I love guns. [I love] everything about a gun." (CMS–62:9). "Those are some pretty tight guns." (CMS–16:5). "(Smiling) It's just tight right there. . . . I like it. . . . It's just tight like the way it looks. The way you can shoot. Those can shoot like ten rounds, huh? But they get jammed a lot. I had one." (CMS–21:8–9). "I'd say they look pretty tight. . . . They look cool." (CMS–7:5).

As a seventeen-year-old tried to explain, "Everybody likes guns these days, dude. Hell ya. They're exciting. I mean what the hell. You feel powerful when you have a gun. You get respect." (CMS–62:11). Now, to be sure, not all of the thirty youths interviewed liked guns. Several of them had equally visceral responses—the other way. Several of the youths expressed deep dislike for guns, calling them "dumb" (CMS–53:5), "stupid" (CMS–69:5), "pussy shit" (CMS–4:16). "Anybody can fight with a gun, anybody can pull a trigger," explained a seventeen-year-old white youth. "It takes somebody, like a real man, to fight somebody." (CMS–53:5). A few other youths were more ambivalent. But overall, the enthusiasm for guns among my thirty young informants was truly overwhelming—at least to me. Equally important, the reactions, whether of desire or of dislike, were visceral. Guns are, in this sense, a deep object of fascination among the adjudicated youths I interviewed.

I have discussed several of the narratives from these interviews in a previous paper.[36] My purpose here, however, is to formalize the analysis. To do that, it is necessary first to code the interviews. As noted earlier, pursuing subjects' meanings is undoubtedly one of the greatest challenges that researchers face after the interpretive turn.[37] A common fallacy is to import our own categories or outside categories onto the subjects, or to present completely static taxonomies.[38] This is particularly tricky in the coding process. Here it is especially important to "pay close attention to how members themselves characterize and describe particular activities, events,

36. Bernard E. Harcourt, "Hell no, you can't jack that fool. He stays strapped. He's strapped all the time": Exploring the Meaning of Guns Among Adjudicated Male Youths and the Implications for Law and Public Policy Analysis, paper presented at the Conference on Guns, Crime, and Punishment in America, at the University of Arizona (Jan. 26, 2001) (on file with the *University of Illinois Law Review*).

37. For a useful discussion of the difficulties of pursuing members' meanings and some approaches to improving our chances, see ROBERT M. EMERSON ET AL., WRITING ETHNOGRAPHIC FIELDNOTES 108–41 (1995).

38. *Id.* at 108.

and groups . . . [and to] listen[] closely to what members say in the course of their ordinary activities about what something 'was about' or what import an occurrence has for them."[39] The key is to try to figure out as best possible how the subjects actually relate meanings to each other and how they classify meanings, in order to get a better purchase on those categories and their relations.

My approach uses a combination of open and focused coding. First, I use open coding to try to glean all of the potential analytic meanings. At this juncture, I am interested in meaning categories "less as a way to sort data than as a way to name, distinguish, and identify the conceptual import and significance of particular observations."[40] At this stage, I code a wide range of meanings collected and described in Table 1.

TABLE 1
SOCIAL MEANINGS CODED

Label	Definitions and Associated Expressions
ACTION	Guns are about living in the fast lane, being an adventurer, shooting and getting shot;
ATTRACTION	Guns are tight; guns are cool; I like guns; I love guns;
BELONGING	Guns are about feeling like you belong to something, to a group; people ask you to hold their gun for them, making you feel that you are in with them;
COMMODITY	Guns are a commercial object that you sell, trade, or exchange in order to get money, cash, or favors;
DANGER	Guns are dangerous; you do not want to have them around when you have kids because they might shoot themselves by accident, or you could shoot someone by accident; you could even shoot yourself by accident;
DEATH	Guns are about death and dying;
DISLIKE	Guns are for weaklings; real men do not need guns, they fight with their hands; I do not like guns;
FUN	Guns are just a lot of fun; they are fun to shoot; they feel good when you handle them;
	(*Continued on next page)*

39. *Id.* at 114.
40. *Id.* at 151.

TABLE I—*Continued*

JAIL	Guns can get you in a lot of trouble with the law; you can get caught and go to jail;
KILL	Guns are for killing people; for going out and shooting at people;
POWER	Guns are powerful; you feel powerful when you have a gun; other people are intimidated when you have a gun;
PROTECTION	Guns are necessary to protect yourself from other youths; you need to carry a gun so that other youths do not mess with you, do not punk you;
RECREATION	Guns are for hunting or for target practice; for shooting at cans; for shooting at cacti;
RESPECT	Guns are something that you need to treat with respect; you need to respect a gun;
REVENGE	Guns are to seek revenge for past injustices; to get back at people for what they did to you;
SELF-DEFENSE	Guns are for protective uses to deter a home invasion or theft of your car; you keep a gun under your mattress in case a burglar comes in the house;
SHOW-OFF	Guns are for showing off to other youths and making yourself seem cool and with it;
SUICIDE	Guns are for committing suicide;
TOOL	Guns are a tool, like a hammer, a screwdriver, or a saw; they are just an instrument like other instruments.

After identifying these categories, I conduct more focused coding. At this second juncture, the idea is to use "fine-grained, line-by-line analysis of the [interviews]" to locate the meanings and their relations.[41] There are a wide range of techniques used in the social sciences for coding textual matter, perhaps the most popular being content analysis. Content analysis focuses on the frequency with which terms are used in a text or set of texts. Basically, it counts the number of times that a particular word, concept, or cluster of words is used in identifiable texts. By comparing the number of times and distribution of words, insight is gained into modes of discourse and the substance or content of texts.[42] The problem with content analysis

41. *Id.* at 160.

42. For an overview of content analysis, see Robert P. Weber, *Computer-Aided Content Analysis: A Short Primer*, 7 QUALITATIVE SOC. 126, 126–147 (1984); *see also* DAVID P. FAN, PREDICTIONS OF PUBLIC OPINION FROM THE MASS MEDIA: COMPUTER CONTENT ANALYSIS AND MATHEMATICAL MODELING

is that it does not pick up on the relations between terms. It focuses exclusively on concepts and does not address the relations between concepts.

In contrast, a broad class of procedures that can be called "map analysis" does just this. Map analysis refers to a group of coding methods that go under a variety of names, including cognitive mapping, relational analysis, and meaning analysis, among others.[43] The focus of map analysis is on "networks consisting of connected concepts rather than counts of concepts."[44] It compares texts in terms of both concepts and the relations between concepts. Thus, "[w]here content analysis typically focuses exclusively on concepts, map analysis focuses on concepts and the relationships between them and hence on the web of meaning contained within the text."[45] It can take a number of different approaches toward relations, focusing either on the proximity of concepts (whether they are, for example, in the same sentence), on the linguistic relationship between concepts (which emphasizes the sequential story relationships), or on the meaning of the relationships (focusing on the conceptual nature of the relationship).[46] Under the third approach, the relations can be categorized into different attributes of strength (the intensity of the relation), sign (positive or negative relationship), direction (who or what is the subject, who or what is the object), and type (possession, friendship, etc.).[47]

As Kathleen Carley points out, there are a large number of choices that need to be made when coding: choices about the selection of concepts, level of analysis, generality of concepts or relationships, etc.[48] In this project, I have opted for three related levels of meaning, which I call primary, secondary, and tertiary. Primary meanings are the ones that the youths had at the forefront of their imagination and that they themselves believed in and applied to the phenomenon of guns. These are the meanings that they volunteered when prompted through free association—when asked what they were thinking about when they looked at the photos or what experiences the photos made them think of. These are the meanings that they repeated or emphasized and seemed most wedded to. For coding purposes, I generally code only free associational responses in this category, unless there was another meaning that developed during the course of the interview that was repeated and emphasized.

Secondary meanings are meanings the youths believed in and were aware of, but were rattled off without much emphasis when they were

(1988) (arguing that the impact of a piece of news should be assessed quantitatively); Carl W. Roberts, *Other Than Counting Words: A Linguistic Approach to Content Analysis*, 68 SOC. FORCES 147 (1989) (describing a linguistic technique for the content analysis of texts that produces a quantitative description of texts and discussing the advantages of this technique over a qualitative approach).

43. *See generally* Kathleen Carley, *Coding Choices for Textual Analysis: A Comparison of Content Analysis and Map Analysis*, 23 SOC. METHODOLOGY 75, 78 (1993) (explaining map analysis).

44. *Id.*

45. *Id.* at 77–78.

46. *Id.* at 105–08.

47. *Id.* at 92.

48. *Id.* at 93–102.

pushed further on the reasons that they would carry or own a gun, or when prompted on the benefits of having a gun. They expressed these without much emphasis. They were cognizant of them, but no more. Generally, for coding purposes, I code these secondary meanings after I have finished the free associational prompts. Rarely, I code a meaning that was articulated during the free associational prompt as secondary if it was rattled off in a banal way.

Tertiary meanings are meanings that the youths attribute to other people—parents, friends, or people on the street. If they said, for instance, "my peers think that guns are stupid," this would be coded as "stupid" but it would be tertiary. Thus, the respondent was cognizant of the meaning and used it, but attributed it to someone else.

Because of the complexity of these relations and the need to reconstruct meaning fragments or to imply meaning, computerized techniques are less likely to be accurate. As others have noted, computer programs are less useful when you need to extract information that is only implied in the text.[49] This work needs to be done manually. As a result, I did the coding by hand. Replicability and issues of triangulation are, of course, a critical concern here. The best way to verify that the results I have obtained are replicable is to perform an internal audit.[50]

In this essay—due to space constraints—I will discuss and analyze only the primary meanings. Consistent with this study's sampling scheme, where individual youths were sampled randomly, I select the top five primary meanings given by each youth, resulting in 150 observations. The frequency with which the different primary meanings are observed is summarized in Table 2.

TABLE 2
FREQUENCY OF PRIMARY MEANINGS ASSOCIATED WITH GUNS

Label	Frequency
Protection	20
Danger	17
Attraction	15
Commodity	13
Power	12
Dislike	11

(*Continued on next page*)

49. *Id.* at 87–88 ("Indeed, the search procedures to explicate implicit information has been one of the central problems faced by researchers in artificial intelligence who are interested in locating the deep structure or complete understanding of texts.").

50. *See, e.g.*, Morrill et al., *supra* note 27, at 535 (authors conducted an internal audit among the primary coders to assess the interpretive consistency of their coding).

TABLE 2—*Continued*

Jail	11
Recreation	11
Action	8
Kill	7
Belonging	5
Death	5
Respect	4
Self-defense	3
Show-off	2
Suicide	2
Tool	2
Fun	1
Revenge	1
Total	150

These frequencies are significant. The most common meaning observed is "protection" in an aggressive, preemptive manner. Here, youths spoke about guns as offering protection from the every day neighborhood encounters and from the potential threat of gun use that accompanies most confrontations with other groups of youths. In this category, guns are seen as a way to avoid being victimized—getting "jumped," being "punked," or being "disrespected." A sixteen-year-old, European-American school dropout who carried all the time explained: "if out there you don't have a strap, you're going to get killed. Because fools shoot at you and you don't have a gun, what are you going to do? Are you just going to sit there and party? Hell no. What are you going to do? You going to run? You're going to get shot in the back. That's pretty much why I had a gun." (CMS–2:12).

Other more common meanings include: danger, attraction, commodity, power, dislike, jail, and recreation—see Table 1 for definitions. Commodity is particularly interesting, and, as we will see, plays an important role in the correspondence analysis. To many youths, handguns have an important exchange value and represent a commodity to be traded or sold for cash or drugs. Youth CMS–14 was a good illustration. He was a seventeen-year-old, Mexican-American dropout and was addicted to drugs. In the interview, he said that he did not really like guns. He admitted that he had fun with guns shooting in the desert, and even that guns made him feel "powerful." But his real interest in guns was trading them for drugs. "We used to get in robbing houses that have a lot of guns, and trade 'em for pounds or ounces of cocaine or just sell them. . . . Living close to the bor-

der, guns are very valuable to the drug dealers. If you know the right people, you can get good deals for a gun . . . ." (CMS–14:7). Guns were simply a commodity to him: something to trade for drugs or for money. "Sell those and party and buy things, you know. . . . Stereos, gold, help my family out, rent hotels, buy all kinds of beer, get all faded, live the fast life. Party hardy, all kinds of drugs, coke, cook all kinds of crack, sell it too, you know." (CMS–14:7).

Another interesting meaning that plays a significant role, as we will see, is recreation. In this category, youths spoke of using guns to go hunting or target practicing. Youths often reminisced about hunting trips with their families, or about going out to the desert and shooting at cans. As Table 2 indicates, there are other meanings that occur less than three times (2%). These meanings include: show-off (2), suicide (2), tool (2), fun (1), and revenge (1). These meanings are closely associated with one or two individuals and, therefore, their contextual nature is determined by the characteristics of those individuals. For this reason, I will not discuss these meanings in the subsequent analysis.

C. Correspondence Analysis

I use correspondence analysis as a way to graphically represent and interpret the relations between these primary meanings in different youth contexts. Correspondence analysis is a method of visually representing the associations between different categorical variables. Its primary goal is to "transform a table of numerical information into a graphical display, facilitating the interpretation of this information."[51] It is not a method of testing a hypothesis, although it does draw on the logic of Pearson's chi-square statistic in computing distances for purposes of graphic representation. Correspondence analysis is most often employed, as I use it here, as a method for portraying data for visual inspection and analysis, rather than a method for testing statistical significance.[52]

Correspondence analysis is far more familiar to social scientists in Europe and Japan than in the United States. It is often referred to under different names, and may be familiar to readers under another name, such as: canonical analysis, principal components analysis of qualitative data, optimal scaling, multidimensional scaling, or, in French, *analyse factorielle des correspondences* or *analyse des données*.[53] The distinct advantage of

51. Greenacre, *supra* note 14, at 3; *see also* SUSAN C. WELLER & A. KIMBALL ROMNEY, METRIC SCALING: CORRESPONDENCE ANALYSIS 7 (1990).

52. *See generally* VISUALIZATION OF CATEGORICAL DATA (Jörg Blasius & Michael J. Greenacre eds., 1998).

53. *See* WELLER & ROMNEY, *supra* note 51, at 14. The reason that there are so many terms that refer to correspondence analysis is that the method was invented on several different occasions in several different countries. Although the method was popularized in the early 1960s by Jean-Paul Benzécri in France under the name "*analyse des données*," the algebraic formula underlying the method was developed as early as 1935 and independently redeveloped in the 1940s. For a history of the development of the method, see Michael J. Greenacre & Jörg Blasius, *Preface* to CORRESPONDENCE ANALYSIS IN THE

correspondence analysis is that it allows the researcher to visually represent two different structures—in our case, the meaning structure and some other practice structure—on the same graph and to visually represent the relationships within each structure and between the two structures. Thus, it "allows both the social and the cultural dimensions to be plotted within the same measurement space."[54]

Much of the impetus for correspondence analysis traces back to Pierre Bourdieu, and his attempts to relate social and cultural realms—practical contexts and social meaning.[55] This effort is most clearly reflected in his two seminal works, *Distinction: A Social Critique of the Judgement of Taste* and *Homo Academicus*.[56] Both of these texts are exemplary, first, in relating the duality of practice and culture, and second, in utilizing correspondence analysis as a way to present the relationships. In *Distinction*, for example, Bourdieu explores the social dimension of judgments of taste by closely analyzing the relations between social and cultural space.[57] Bourdieu's thesis is that social space—the structure of classes and class distinctions created by differences in education, employment, wealth, age, sex, and parental occupation, among others—shapes and is itself constituted in part by cultural space—the structure of preferences in music, painting, and the arts.[58] To understand either, it is critical to explore both and especially to decipher how they relate to each other. It is in the shared space of social attributes and cultural preferences that we can begin to understand how socially structured relations of taste are formed.

Similarly, in *Homo Academicus*, Bourdieu explores the social field of the French academy, and uses correspondence analysis to relate the different academic disciplines and the status of academicians to the upbringing, education, and socio-economic background of academics and their parents.[59] By means of the graphic display of the relations between these variables, Bourdieu is able to represent, in a measured way, his interpretation of the social space of the French faculties. Bourdieu explains his interest in correspondence analysis in this way:

> To account for the infinite diversity of practices in a way that is both unitary and specific, one has to break with *linear thinking*, which only recognizes the simple ordinal structures of direct determination, and endeavour to reconstruct the networks of interrelated relationships which are present in each of the factors. The structural causality of a network of factors is quite irreducible to the cumulated effects of

SOCIAL SCIENCES, *supra* note 14, at viii; Karl M. van Meter et al., *Correspondence Analysis: A History and French Sociological Perspective*, *in* CORRESPONDENCE ANALYSIS IN THE SOCIAL SCIENCES, *supra* note 14, at 128–37.

54. Mohr, *supra* note 16, at 362.

55. *See* BOURDIEU, *supra* note 33; PIERRE BOURDIEU, HOMO ACADEMICUS (Peter Collier trans., 1988) [hereinafter BOURDIEU, HOMO ACADEMICUS].

56. *See* BOURDIEU, *supra* note 33; BOURDIEU, HOMO ACADEMICUS, *supra* note 55.

57. *See* BOURDIEU, *supra* note 33.

58. *Id.*

59. *See* BOURDIEU, HOMO ACADEMICUS *supra* note 55, at 42–50.

> the set of linear relations, of different explanatory force, which the necessities of analysis oblige one to isolate, those which are established between the different factors, taken one by one, and the practice in question; through each of the factors is exerted the efficacy of all the others, and the multiplicity of determinations leads not to indeterminacy but to over-determination.[60]

For this reason, Bourdieu is a strong advocate of correspondence analysis. It is a technique of data analysis, he writes, "which 'thinks' in terms of relation, as I try to do precisely with the notion of field."[61]

There are two ways to understand correspondence analysis, geometric and algebraic. The geometric approach is easier to explain.[62] In essence, what correspondence analysis does is to take a contingency table of rows and columns—where rows (for example, persons) and columns (for example, meanings of guns) index different types of phenomena—and to represent all rows and columns as points in a single "space" of some number of dimensions, often two. The location of each row is a function of the tendency for that item to have its own distribution across columns. Conversely, the location of each column-point in the "space" is a function of the tendency of that property to be manifest with differential likelihood by each of the row items. In this sense, the underlying logic is that the rows "are" the columns, and vice versa.

In simplified terms, correspondence analysis can be described as a process in three parts. In the first step, it takes a contingency table (a two-by-two table of categorical variables) and norms the cell entries by row proportions and weights. In other words, it turns the row entries into percentages (row profiles) and then weights these by the relative mass of each row in relation to the total number of observations. This places all cells on a comparable metric in relation to each other. In step two, it plots these entries in multidimensional space using these weighted cell values to determine vector points for each row and column. When it does this, it does not use Euclidian distance, but instead uses what is known as "chi-square distance." This makes sure that the multidimensional space reflects distances in relation to what one would expect if the contingency table had been completely random. In step three, it reduces the dimensionality to two dimensions. Using weighted least squares, it finds the plane that captures and explains as much of the multidimensional distribution as possible. It then

60. BOURDIEU, *supra* note 33, at 107.

61. PIERRE BOURDIEU & LOIC J.D. WACQUANT, AN INVITATION TO REFLEXIVE SOCIOLOGY 96 (1992); *see also* Breiger, *supra* note 16, at 94; van Meter et al., *supra* note 53, at 131–33.

62. The mathematical computation is based on singular value decomposition, which is used to decompose a rectangular matrix into a smaller number of common factors. In more technical terms, singular value decomposition "factors or decomposes a matrix into row and column structures together with the associated singular values, as a vehicle for the derivation and computation of metric scaling in a variety of forms." WELLER & ROMNEY, *supra* note 51, at 15. For discussion of the mathematical computation of correspondence analysis, see Jörg Blasius & Michael J. Greenacre, *Computation of Correspondence Analysis*, *in* CORRESPONDENCE ANALYSIS IN THE SOCIAL SCIENCES, *supra* note 14, at 53–78; *see also* WELLER & ROMNEY, *supra* note 51, at 17–26, 55–70.

produces a two-dimensional graph—a "correspondence map"—that visually represents the contingency table. If the two primary dimensions explain a lot of the variation, it produces a two-dimensional graph that may explain more than seventy-five or ninety percent of the inertia—where the inertia represents the spread of the vector points in multidimensional space.[63] It is then necessary to interpret the correspondence map.

There are different ways of interpreting correspondence analysis graphs. One approach is to interpret the dimensions by associating with each dimension those row and column labels which seem most expressive of it. Another approach has to do with the angle and location of the different points with respect to the center or origin of the graph.[64] In this project, I employ the first method and focus primarily on how certain categories give meaning to the different dimensions of the correspondence maps.

Correspondence analysis is not without its critics. Some argue that it is model-free or theory-free, because it does not test hypotheses. It is often criticized for being "merely descriptive" or "data-dredging."[65] Its proponents, however, claim this to be a virtue. One of its staunchest advocates and popularizers in France, in fact, promoted correspondence analysis specifically because of this.[66] It is a method that lets the data speak without imposing any preconceptions on the data. The guiding principle is that "the model must follow the data and not the reverse."[67] Naturally, other statistical methods, such as log-linear modeling, can be used to complement correspondence analysis once hypotheses have been formulated.

The distinct advantages of correspondence analysis are these: the method is relational and allows us to visualize the full structure or system of relations. Instead of dealing with one variable and its effect on the variable to be explained, it represents the full gamut of variables and their interrelations. It also allows us to represent the duality of practice and culture. As Breiger explains, "A great deal of the popularity of [correspondence analysis] with structural analysts and practice theorists alike derives from its ability to portray two types of entity . . . in the 'same' space."[68] In sum, corre-

63. For an explanation in geometric terms, see Greenacre, *supra* note 14, at 8–17; *see also* MICHAEL J. GREENACRE, CORRESPONDENCE ANALYSIS IN PRACTICE (1993).

64. Bourdieu uses the first method. *See, e.g.*, BOURDIEU, *supra* note 33, at 260–64; BOURDIEU, HOMO ACADEMICUS, *supra* note 55, at 40–62. Leo Goodman has written extensively on the second method. *See, e.g.*, Leo A. Goodman, *A Single General Method for the Analysis of Cross-Classified Data: Reconciliation and Synthesis of Some Methods of Pearson, Yule, and Fisher, and Also Some Methods of Correspondence Analysis and Association Analysis*, 91 J. AM. STAT. ASS'N, 408, 408–28 (1996); Leo A. Goodman, *Statistical Methods, Graphical Displays, and Tukey's Ladder of Re-Expression in the Analysis of Nonindependence in Contingency Tables: Correspondence Analysis, Association Analysis, and the Midway View of Nonindependence*, *in* THE PRACTICE OF DATA ANALYSIS: ESSAYS IN HONOR OF JOHN W. TUKEY 101–32 (D. R. Brillinger et al. eds., 1997).

65. Breiger, *supra* note 16, at 95 (describing, but not endorsing, the criticisms). For a discussion of the pros and cons of correspondence analysis versus statistical approaches, see van Meter et al., *supra* note 53, at 134–35.

66. *See* van Meter et al., *supra* note 53, at 134.

67. Greenacre & Blasius, *supra* note 53, at viii; van Meter et al., *supra* note 53, at 134.

68. Breiger, *supra* note 16, at 99.

spondence analysis is particularly appropriate to study the duality of meaning and practices. This is because it allows us to visually represent the web of meanings and practices in one space. It holds constant routine associations and portrays only those that are "above average." It shows us how the categories are interrelated to each other in different contexts.

III. PRELIMINARY FINDINGS: GUNS, CARRYING, GANGS, AND INCARCERATION

A. The Social Meanings of Guns

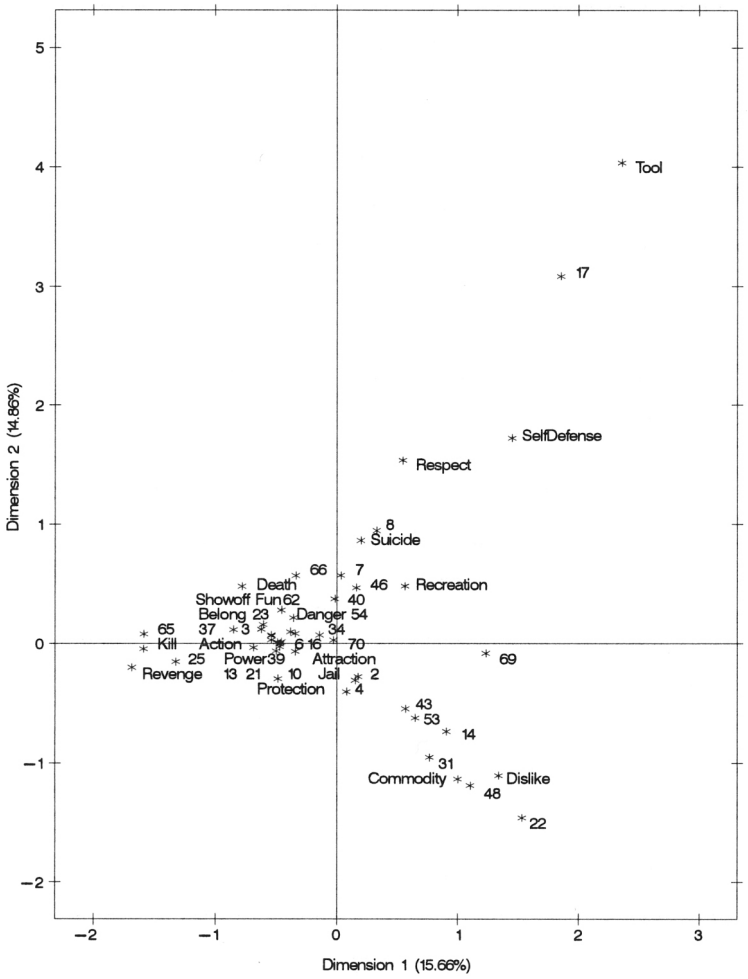
The place to start is to map the observed primary meanings in relationship to each other. This can be accomplished by using correspondence analysis on the respondent data. In this first stage, I use simple correspondence analysis on the matrix of respondent data—where the columns represent the different social meanings observed and the rows represent the individual respondents.[69] The resulting map is reproduced in Figure 1.

The map reveals a number of clusters of interrelated meanings. The most important cluster is located at the left of Dimension 1 and reflects a group of meanings that I will label the "action/protection cluster." In this cluster are the following meanings (by rank of frequency): protection, danger, attraction, power, jail, action, belonging, death, show-off, and fun. These meanings are linked insofar as they seem to reflect the "action" motif. In this cluster, guns are perceived as dangerous, yet attractive, necessary for aggressive, preemptive protection, powerful, and power giving. Despite the fact that—or perhaps because—guns are perceived here as instruments of death, the youths value them for their power, for their ability to control their immediate environment. Guns are attractive because they confer control. "If somebody is doing something I don't like and I point a gun at them, they'll stop," one youth explained. (CMS–4:17). Guns mean being able to get what you want, do as you please, and protect yourself. "If you're doing a drug deal, you want to have a gun to, like, 'Yeah, I'm strapped,'" another youth explained. "So I'm going to go in, and do this, and then I'm going to get out of there. And if they try and trick me and pull a gun, I have a gun. So, somebody is going to get shot, and hopefully it's not you." (CMS–2:28).

The different symbolic meanings in the action/protection cluster help give context to each other. The idea of attraction is linked to the danger of guns, not to guns as a tool for hunting or as a commodity to obtain other valued goods. It is the action, the danger, the death, the risk of being

69. In all of this work, I have used SAS Release 8.1. The distinct advantage of SAS is not only its ease of application, but also the fact that it produces handsome multicolor maps. Unfortunately, color reproduction was not possible here.

FIGURE 1. SIMPLE CORRESPONDENCE ANALYSIS BY RESPONDENTS



caught and sent to jail, that makes guns attractive and powerful in this first cluster of meanings. In this sense, the action/protection cluster is very similar to what Calvin Morrill and his colleagues call "action tales": a type of narrative that youths use to describe how conflict is handled among their peers, a narrative that is bound up in practical action, body and ego defenses, and behavioral retaliation.[70] It also bears significant resemblance to the "violence scripts" reported by Jeffrey Fagan and Deanna Wilkinson in their research.[71]

70. *See* Calvin Morrill et al., *Telling Tales in School: Youth Culture and Conflict Narratives*, 34 LAW & SOC'Y REV. 521, 522 (2000).

71. *See* Jeffrey A. Fagan & Deanna L. Wilkinson, *Guns, Youth Violence, and Social Identity in Inner Cities*, 24 CRIME & JUST. 105 (1998); *see also* JEFFREY A. FAGAN & DEANNA L. WILKINSON, SITUATIONAL CONTEXTS OF GUN USE BY YOUNG MALES, FINAL REPORT 2-6–2-8 (2000).

A second cluster, in the lower right quadrant of the map, connects importantly two meanings: commodity and dislike. I call this the "commodity/dislike" cluster. This is a robust cluster associated with a number of respondents (about six or more). The close association of the two meanings helps to give them context. Viewing guns as a commodity is more often associated with disliking guns. This is reflected in the comments of one seventeen-year-old Mexican-American youth. "I don't like them," he volunteered. "They take a life. What you gonna be taking a life for? Ain't no good." But he had guns. Why? "I just have guns to sell them. Make some money off them. That's actually what they're for. . . . I sold them, just buy me my clothes or buy some jewelry or something. . . . Just like, Guess clothes, Tommy Hilfiger, and then jewelry . . . hats, glasses, stuff like that." (CMS–48:8). The correspondence map reveals that there is a close association, above average, between this sentiment of dislike and treating guns for their exchange value. It reveals an intriguing feature about how some of these youths think about gun possession.

A third cluster, in the upper right quadrant of the map, connects a group of meanings, including (by rank of frequency): recreation, respect, self-defense, suicide, and tool. This cluster is not associated with a large number of respondents, especially the low-frequency meaning "tool." Nevertheless, the recreation meaning, and the respect and self-defense meaning, are more solid and suggest an association between using a gun for hunting, target practice, or personal self-defense and treating guns with respect. I will refer to this as the "recreation/respect" cluster. This association is reflected in individual comments, like that of a seventeen-year-old European-American youth, who was brought up with guns and enjoyed target practice with his family: "I respect them," he emphasized, referring to guns. "I might carry one. But I won't go around telling everyone yeah, I got a gun. Let's go do something. Let's go shoot in the desert. Yeah, I can shoot better than you. Yeah, I'm a sharp shooter, yeah I can do this, I can shoot thirty yards away and still hit dead center. I don't brag about that. I know I could do it, that's the end of it." (CMS–17:28). The correspondence map shows an above average association between recreation and respect—an association that would otherwise be perceived, if at all, anecdotally.

Finally, a fourth possible cluster—at least along the first dimension—associates the "kill" meaning with revenge. Given that the revenge meaning is only observed once, the association is not that important. What is important, though, is that the "kill" meaning is somewhat outside of the action/protection cluster. Not that far, but a bit off. It will be useful to keep these clusters in mind as we contextualize the meanings in the next stages of the analysis. I reproduce them in Table 3.

TABLE 3
CLUSTERS OF MEANING

Cluster	Associated Meanings
action/protection	protection, danger, attraction, power, jail, action, belonging, death, show-off, and fun;
commodity/dislike	commodity and dislike;
recreation/respect	recreation, respect, self-defense, suicide, and tool;
kill	kill and revenge.

B. Social Meanings of Guns in the Context of Carrying Status

The next task is to place these clusters of meaning within different contexts, to see how they relate to each other and how they differ within those contexts. First, I focus on the relationship between meanings and the carrying status of the youths. I code each youth based on his history of gun carrying, using the categories listed in Table 4.

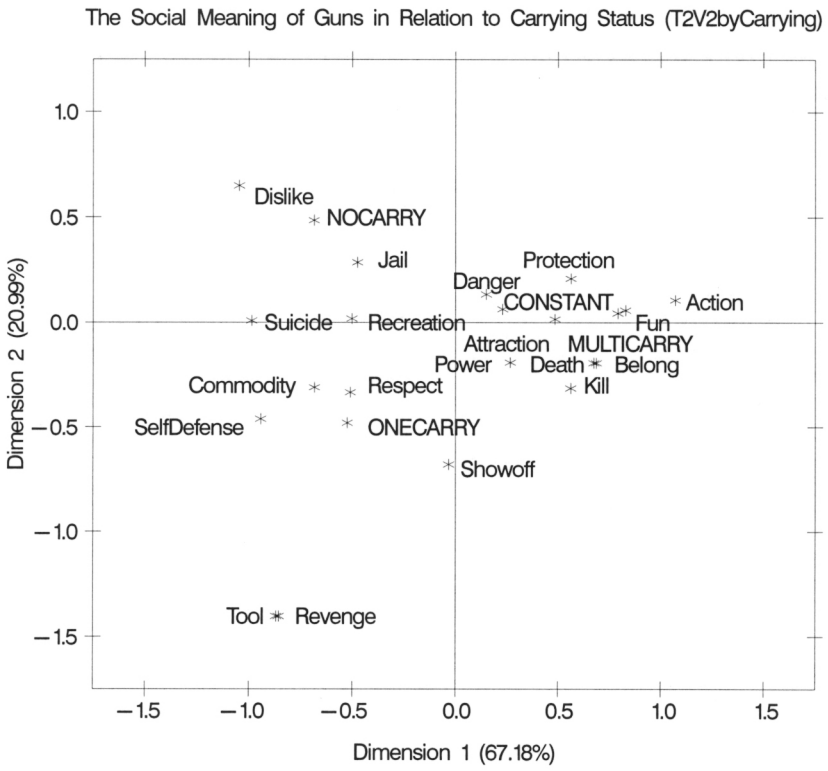
TABLE 4
CATEGORIES CODED FOR CARRYING STATUS

Label	Definition
NOCARRY	The youth has either never handled, shot, possessed, or played with a gun, or has handled, shot, possessed, or played with a gun, but has never carried a gun around on his person;
ONECARRY	The youth carried only one gun on one occasion for more than a day; however, it could have been for three days or for three months or more. What matters is that the youth only did it with one gun on one occasion;
MULTICARRY	The youth carried two (or more) different guns on his person for a period of more than a day on more than one occasion. This category captures youths who have carried guns on multiple occasions, but who do not carry guns all the time;
CONSTANT	The youth carries a gun at all times. The youth always tries to be armed.

A correspondence analysis of the social meanings by the gun carrying variables from Table 4 produces the map in Figure 2. This map is extremely revealing. First, notice that the action/protection cluster, with the possible exception of "jail," remains tightly knit along Dimension 1. The cluster has stuck together. It is located by itself on the right side of the map.

And the "kill" meaning is now more integrated into that cluster. At the same time, the recreation/respect grouping and the jail variable are clustered together at practically the same point along Dimension 1; and the commodity/dislike cluster is grouped to the left of recreation/respect, again on Dimension 1. Both of these clusters are now located on the left side of the map at the opposite extreme as the action/protection cluster.

FIGURE 2. CORRESPONDENCE ANALYSIS OF THE MEANINGS OF GUNS BY CARRYING STATUS



The first dimension of the map reflects a spectrum from, on one extreme, the more active meanings (action, kill, protection) on the right side to, on the other extreme, more reactive or passive meanings (commodity, self-defense) on the left side. Dimension 1 spans the spectrum of the clusters noticed earlier: from the action/protection, to the recreation/respect, to the commodity/dislike clusters. In this sense, Dimension 1 ranges from attraction to guns on the right side, through respect, to dislike on the left side. This dimension is highly explanatory and accounts for about sixty-seven percent of the inertia in the map.

Equally remarkable is that Dimension 1 has a clean interpretation in terms of the carrying status of the youths. The high carrying statuses—

MULTICARRY and CONSTANT—are on the right side of the map, whereas the low carrying statuses—NOCARRY and ONECARRY—are on the left side of the map. The correspondence map clearly reveals that the action/protection meanings on the right side are associated with higher carrying statuses. Youths who carry guns on multiple occasions or who carry guns constantly are thinking about guns in more of an action/protection way than their cohorts who have only carried once or have never carried before. In other words, the action type meanings are more highly associated with carrying guns. In contrast, those youths who think about guns as a commodity or recreation are less likely to have much of a carrying history. The commodity/dislike cluster is in fact the furthest along the spectrum of low carrying. The recreation/respect cluster is situated on the low carrying side, but closer to the middle of the map. What is fascinating is that the map reveals strong associations between the clusters of meaning and different carrying statuses.

Dimension 2 is harder to interpret. The most distinct meanings at the top include: dislike, NO CARRY, jail, and protection; on the bottom, they include: self-defense, ONE CARRY, commodity, respect, and kill (excluding the meanings that are observed too infrequently). This distinction might reflect a spectrum from diffuse meanings at the top to more highly pointed and instrumental meanings at the bottom. From this perspective, it is interesting to note that the more diffuse meanings are more associated with youths who have never carried, whereas the more pointed meanings are associated with youths who have carried on one occasion. In any event, because Dimension 2 accounts for only twenty-one percent of the inertia in the map and Dimension 1 accounts for sixty-seven percent, it makes sense to focus on Dimension 1.

C. Social Meanings of Guns in the Context of Gangs

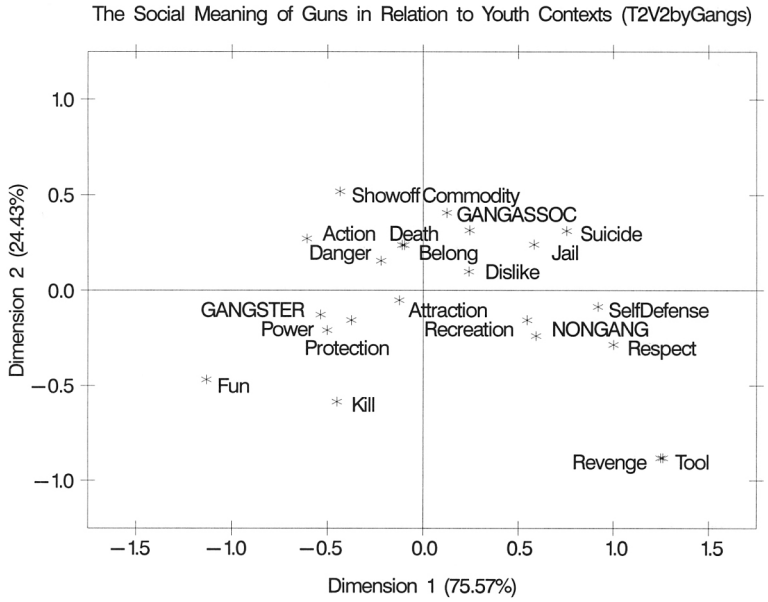
Another important context for youth gun carrying is gangs and gang membership. In this next stage, I code each youth for their affiliation with gangs. Youths were grouped within three possible categories listed in Table 5. Then, I run a correspondence analysis of the social meanings of guns

TABLE 5
CATEGORIES CODED FOR GANG STATUS

Label	Definition
NONGANG	Youth is not a member of a street gang and does not affiliate with gang members;
GANGASSOC	Youth is not a member of a gang, but does have friends or associates who are gang members;
GANSTER	Youth is a member of a street gang.

in relation to the gang affiliations of the youths. The correspondence map is reproduced in Figure 3.

FIGURE 3. CORRESPONDENCE ANALYSIS OF THE MEANINGS OF GUNS BY GANG STATUS



The correspondence map is again very telling, especially in its similarity with the previous map in Figure 2. The action/protection cluster is neatly grouped together on one end of Dimension 1 (again, with the exception of jail), whereas the recreation/respect and commodity/dislike clusters are grouped on the other end of the axis. The first dimension also reflects a clear spectrum of gang affiliation from nongang youths at one end, through youths who only have friends in gangs in the middle, to gang bangers on the other extreme.

As in Figure 2, this correspondence map reveals a close association between the meaning clusters and the gang statuses. The action/protection cluster is highly associated with gang membership—with actually being a gang member. The meanings are clustered on the same side (the left side) of the map as the GANGSTER status. In this map, however, the recreation/respect cluster is more closely associated with the lowest gang affiliation value—NONGANG—and the commodity/dislike cluster is to the left and is more closely associated with some affiliation with gang members—GANGASSOC.

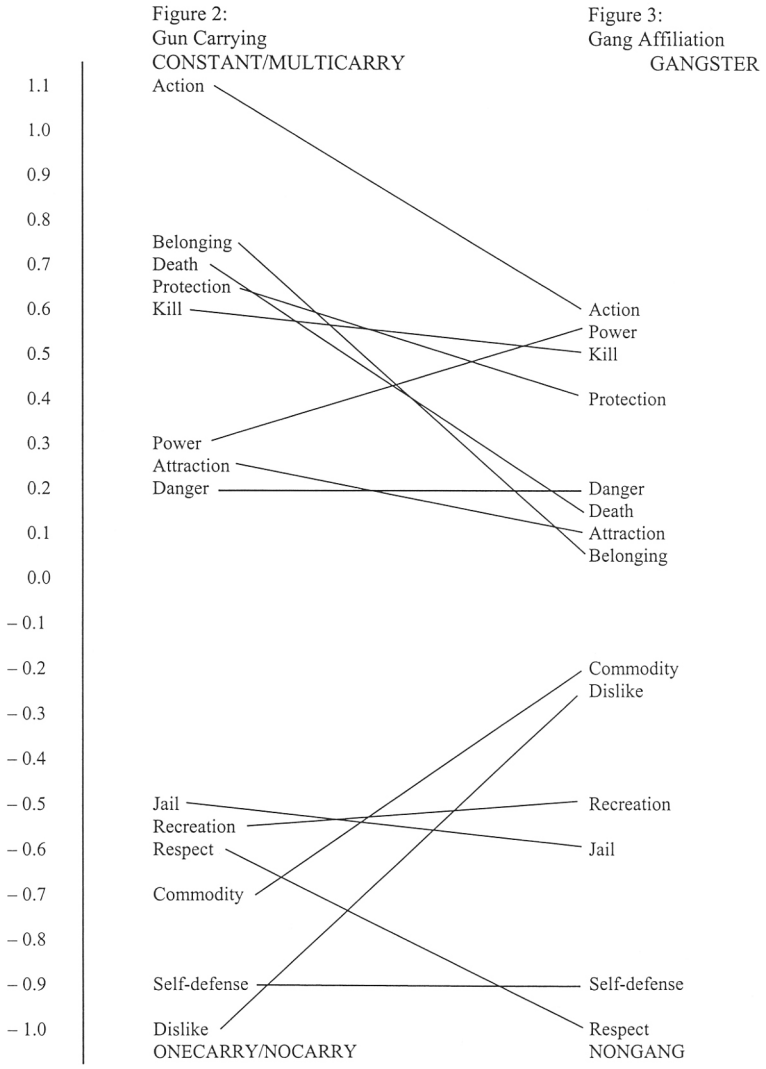
These similarities and subtle differences between Figures 2 and 3 are striking. Given the centrality of the first dimension to both of these correspondence maps, and the fact that they reflect parallel meanings along the

context variables—gun carrying and gang affiliation—it may be useful to compare the two along Dimension 1. One way to do this comparison is to place Dimension 1 from Figure 2 and Dimension 1 from Figure 3 next to each other to see how the social meanings compare to each other in terms of their relative locations. I do this in Figure 3.1.[72]

The comparison confirms a number of important points. First, notice how the action/protection cluster remain grouped together in both contexts. Although the ordering and associations of proximity differ slightly, the action/protection cluster by and large sticks together. The commodity/dislike cluster also sticks together, but has moved from being at the extreme of Dimension 1 in Figure 2 to being more in the middle of Dimension 1 in Figure 3. In other words, whereas commodity/dislike is highly associated with low gun carrying, in the gang context it is associated with having friends in gangs. This suggests that youths who trade guns and are not attracted by guns are not likely to carry guns on their persons or to belong to a gang, but are more likely to have friends in gangs. This may explain how they get the guns to sell, or how they know whom to sell guns to. Gangs are often a source of guns and a venue for selling guns, which explains why youths who have friends in gangs may be more involved in gun transactions. The recreation/respect cluster, on the other hand, has split up somewhat in the gang context. Respect for guns is now somewhat more distant from recreation, and is located at the extreme on the dimension of nongang membership. It is fascinating how the action/protection cluster, in contrast, has remained robust, grouped together in both contexts. It suggests a real association of this cluster of meanings along both carrying and gang membership dimensions.

72. When using the SAS program, the scores on Dimension 1 in Figures 2 and 3 are inverted. Because it is the relational features of correspondence analysis that are definitive, and not which end of the axis is put on the left or right of the graph, it is possible to flip a dimension without affecting its meaning. In other words, one can multiply all scores on any axis by minus one without changing the correspondence analysis results. In this case, I have done just that. I have multiplied the scores for the gang analysis by minus one, in order to preserve symmetry with Figure 2.

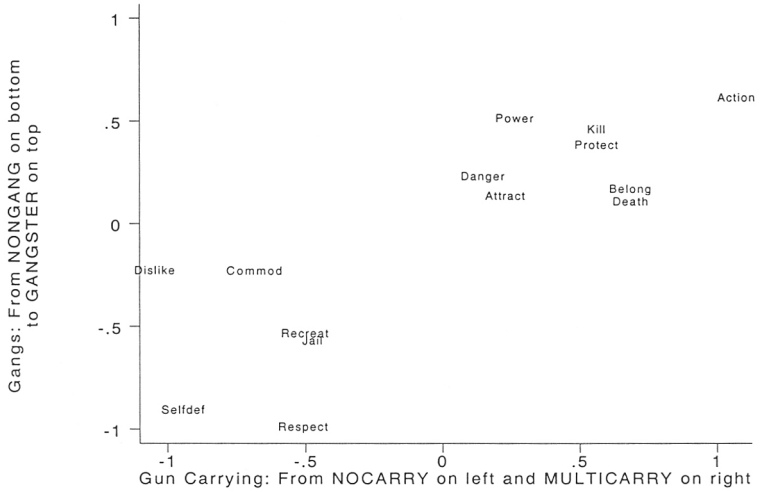
FIGURE 3.1. COMPARISON OF DIMENSION 1 FROM FIGURES 2 AND 3 (EXCLUDING THE FIVE LOW OBSERVATION VALUES; ROUNDED TO THE NEAREST .1 VALUE)



Another way to represent the comparison between Figures 2 and 3 is to create a two-dimensional graph, using the Dimension 1 of Figure 2 as the x-axis and Dimension 1 of Figure 3 as the y-axis. This reveals—and confirms—the earlier conclusions. The graph is reproduced in Figure 3.2.

Figure 3.2 reveals two dominant clusters of meanings in the contexts of gun carrying and gangs: on the one hand, in the upper right corner, the action/protection cluster and, on the other hand, in the lower left corner,

FIGURE 3.2. DIMENSIONS 1 FROM FIGURE 2 AND 3: X-AXIS DIMENSION 1 FROM FIGURE 2; Y-AXIS DIMENSION 1 FROM FIGURE 3 (EXCLUDING THE FIVE VALUES WITH LOW OBSERVATIONS)



the commodity/dislike and recreation/respect clusters. There is no question, from this graph, that there is a close association between the action/protection cluster and the type of behaviors that policy makers are most concerned with: gun carrying among youths and gang membership.

D. Social Meanings of Guns in the Public Policy Context

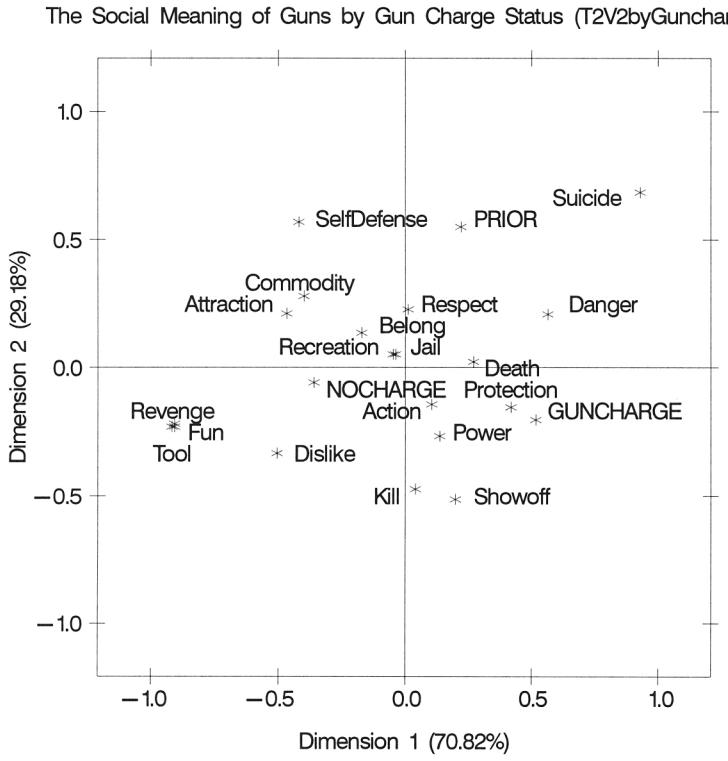
The next stage of the analysis is to determine how the social meanings of guns relate to each other within the context of specified public policies—in other words, how the webs of meaning differ or change given the implementation of specific policies. Here is where correspondence analysis can contribute significantly to legal studies.

For present purposes, I will focus on one public policy, namely incarcerating youths for juvenile gun offenses. During the interviews, I obtained from each youth their history of detentions and incarcerations. Then, I coded the youths based on whether they are presently incarcerated on a gun charge (GUNCHARGE), whether they have previously been incarcerated on a firearms violation but are not presently (PRIOR), or whether they have never been and are not detained presently on a gun violation (NOCHARGE). These categories are described in Table 6. A correspondence analysis of the social meanings of guns by the incarceration status of the youths produces the map in Figure 4.

TABLE 6
CATEGORIES CODED FOR PRIOR INCARCERATION STATUS

Label	Definition
NOCHARGE	Youth has never been detained on a firearms violation;
PRIOR	Youth has been previously incarcerated on a gun charge, but is not presently detained on a firearms violation;
GUNCHARGE	Youth is presently at Catalina Mountain School on a gun charge.

FIGURE 4. CORRESPONDENCE ANALYSIS OF THE MEANINGS OF GUNS BY PRIOR GUN CHARGE STATUS



There are several fascinating features of this map. First, there has been an important and significant destabilization of the action/protection cluster. In contrast to Figures 2 and 3, the action/protection cluster has exploded and is now distributed across the entire Dimension 1. Danger and protection define the right side of Dimension 1, whereas attraction and belonging define the left side. Both attraction and belonging are now set

apart, pushed out past respect and recreation. In fact, danger has become the defining meaning in what could now be called the danger/protection cluster, a cluster that also includes death and power, and is located at the extreme right of Dimension 1. In contrast to the action/protection cluster, both the commodity/dislike and the recreation/respect clusters continue to hang together. The recreation/respect meanings have moved closer to the center of the map, whereas the commodity/dislike cluster remains on the far left, defining the dimension.

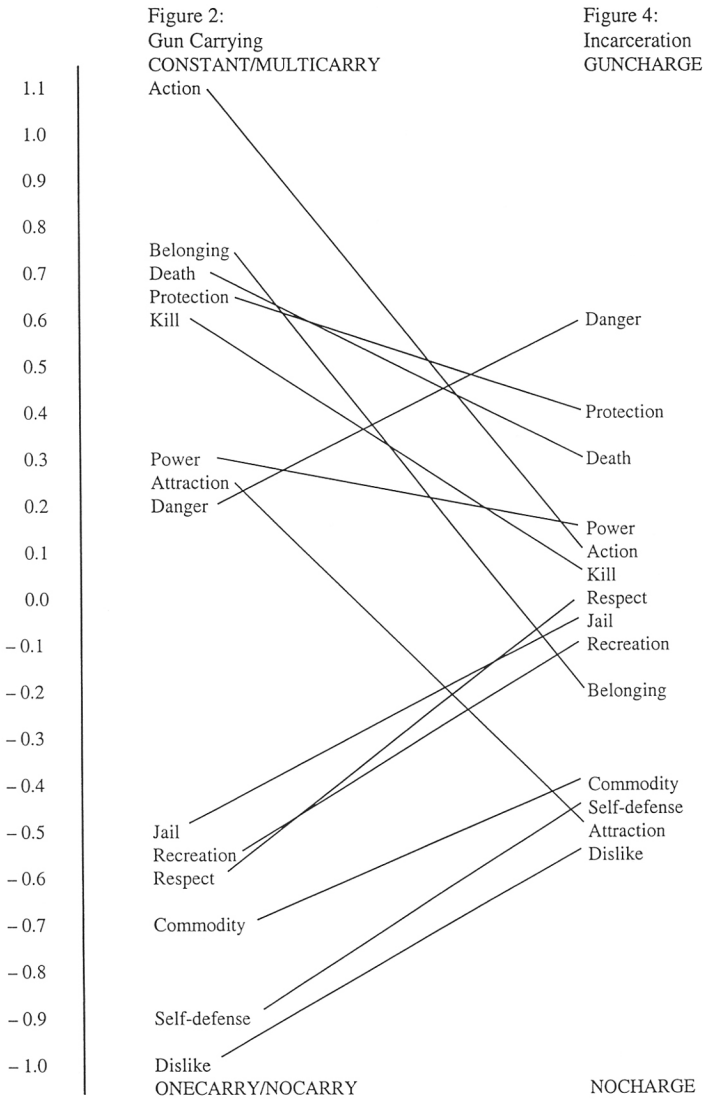
At the same time, the gun charge variable—the contextual variable—is neatly aligned along Dimension 1. Youths who are presently incarcerated on gun charges are located on the far right side of the dimension. Those who are not presently, but have previously been incarcerated on a firearms offense are also on the right side, though slightly to the left along Dimension 1. And those who have never been charged with a firearms offense are located on the left of the dimension. In other words, Dimension 1 forms a perfect spectrum for the contextual variable associated with the public policy of incarcerating gun offenders.

There are a number of other interesting aspects to the map in Figure 4. Attraction and dislike are now clustered together on the left side of Dimension 1, and are associated with NOCHARGE. This is intriguing and suggests that the more emotional, visceral responses are somehow more closely associated with youths who have not experienced gun detentions. Danger, which was previously clustered near attraction in Figure 2, is now more closely associated with death and protection, as well as GUNCHARGE. This suggests that the new danger/protection cluster—which is closely associated with being incarcerated on a gun charge—is no longer as attractive as it is in the context of gun carrying. The protection meaning, though, remains robustly located at the right of the dimension, again, as in Figures 2 and 3, helping to define the dimension.

The best way to visualize the shifted meanings in these different contexts is to compare the locations of the social meanings on Dimension 1 from Figure 2 to Figure 4—to place them next to each other and graph their relations, as I have done in Figure 4.1. The comparison underscores the movement. It demonstrates how the action/protection cluster has been ripped apart, and how attraction and belonging in particular are no longer part of the grouping. It confirms the shift of the recreation/respect cluster to the center. And it also reveals how robust the protection, death, and power meanings remain.

The comparison of Figures 2 and 4 reveals that certain social meanings, particularly the action/protection cluster, relate very differently to each other depending on the contextual variables. When meanings are placed in the context of gun detentions, there is a significant shift in the attraction and belonging variables, and a recontextualization of the notions of protection and danger. These similarities and differences in the comparison give rise to a number of implications for public policy analysis.

FIGURE 4.1. COMPARISON OF DIMENSION 1 FROM FIGURES 2 AND 4 (EXCLUDING THE FIVE LOW OBSERVATION VALUES; ROUNDED TO THE NEAREST .1 VALUE)



IV. PUBLIC POLICY IMPLICATIONS

It is possible to suggest some policy implications from these exploratory findings—policy implications that can be defined and tested using more standard techniques on larger populations, but implications that might never have been noticed without the visualizations reported here.

For purposes of this symposium essay, I assume a general policy orientation that favors reductions in juvenile gun possession and carrying. I also take, as my starting point, that policy analysis is a question of setting priorities: it is a matter of deciding what to target given *limited* resources.

First, at a very broad level, this research suggests that instead of targeting categories of youths—by race, conduct, or demeanor—our policies should be guided by the categories of meanings associated with guns. There is a clear association between meaning clusters and carrying status. As Figure 2 reveals, it is the action/protection cluster of meanings—the symbolic realm of protection, danger, attraction, power, jail, action, belonging, and death—that is most closely tied to extensive youth carrying, multiple or constant. The other clusters of meaning—recreation/respect and commodity/dislike—are more associated with low or no carrying. In setting policy priorities, it would make sense to go after the action/protection cluster of meanings and associated behaviors. My point here is *not* that we should try to change meanings, to shape youth meanings, to get all youths to think about guns as recreation or as a commodity. Rather, my point is that our policy interventions should focus on the meanings and practices that are connected to higher carrying. More specifically, it may be a waste of resources to target recreational uses of guns by youths or even commodity exchanges by youths (selling, buying, and trading). In other words, from the perspective of setting priorities, the correspondence map in Figure 2 suggests that we should *not* be enforcing regulations concerning recreational gun use or commodity transactions, and should focus instead on conduct associated with the action/protection cluster of meanings.

Second, as a way to target the action/protection cluster, a comparison of the correspondence maps in Figures 2 and 3 strongly suggests that our policies should focus on gangs and gang membership. Given the strong association of attraction to guns—and, more generally, of the meanings of danger, protection, action, power, and belonging—to both gun carrying and gang membership, Figure 3.2 suggests that antigang strategies are likely to be an effective way to address youth gun carrying. The point is that the symbolism of the gun that is connected to gun carrying also seems to be closely tied to the institution of gangs. Reducing gang practices may be an important way to get at the action/protection cluster.

Third, Figure 3.2, especially the lower left cluster in the graph, reveals that nongang youths associate guns more with exchange value, and that gang member youths associate guns more with use value. What this suggests is that nongang youths may be more likely to relate to the exchange value of guns in an economic sense and, therefore, may be more likely to respond to traditional rational choice approaches. In contrast, gang member youths may be relatively immune to rational choice based deterrence approaches, and may need different sorts of appeals, such as practice based alternatives, orienting them to alternative practices that facilitate belonging

and other sorts of meaningful action. The correspondence maps reveal that we may want to tailor policy approaches to different meaning clusters.

Fourth, a number of factors regarding the correspondence analysis in the context of youth gun detentions, Figure 4, support the policy of youth incarceration for gun violations. As Figure 4.1 reveals, guns are far more attractive to youths who have *not* been charged and detained on gun charges than one would expect from the clusters of meaning in Figures 1 and 2. Youths who have never been incarcerated on gun charges are also more likely to view guns as giving them a feeling of belonging. In addition, the fact of incarceration on a gun charge accentuates the danger associated with guns—not just the risk of getting caught and sent to prison (the jail meaning), but also the risk of harming yourself or others (the danger meaning itself), which moves to the extreme point on Dimension 1 of Figure 4. To be sure, the causal arrows are not entirely clear—in much the same way as they are unclear using other statistical methods, like ordinary least squares regression. But these factors suggest that incarceration may have a chilling effect on the attraction of guns and on the inclusive feeling bestowed by gang members asking a youth to hold their gun.

On the other hand, other factors militate against the incarceration policy. In the first place, what remains constant and robust in Figure 4.1 is the close association between carrying, gang membership, and the need to protect yourself in an aggressive and preemptive way. Incarceration does not change the centrality of the protection meaning to gun carrying youths. The need for aggressive protection is closely associated with high levels of carrying and gang membership, but is also closely associated with having been incarcerated on a gun charge: the policy of gun detentions does not shake that meaning loose or significantly alter its association among youths incarcerated on gun charges. One reading of this data is that incarceration does not alter the centrality of self-protection—the meaning with the greatest frequency among these thirty adjudicated male youths. In other words, the core symbol associated with gun carrying and gang membership is not affected by the policy of incarcerating youths who carry guns. Second, the shift in the danger meaning in Figure 4.1 suggests that youth incarceration accentuates the danger associated with guns, in turn accentuating the need for guns for protection from other youths and adults, to exercise personal and group power, and to inflict or avoid death. That is, incarceration underscores how dangerous the world is and how necessary guns are, and may reinforce the central symbolic meaning of guns—aggressive protection.

What this suggests is that our policies should target the perceived need among at-risk youths for aggressive, preemptive protection. That meaning is central to gun carrying, to gang membership, and to youths who are incarcerated on gun infractions. The comparison of Figures 2 and 4, which is represented in Figure 4.1, suggests strongly that we need to address the idea that guns afford protection. This may translate into a number of different specific policies, including a focus on youth conflict resolution, parental and

school supervision, safety monitoring in schools and public areas, architectural redesign, practice based alternatives, and counseling. Regardless of the specific intervention, though, the correspondence maps reveal that the focus should be on the gun as a symbol of aggressive and preemptive protection.

Naturally, many of these policy implications are corroborated by more traditional behavioral research, and it would be important to bolster these conclusions by framing them within the larger, existing literature on youth gun possession and carrying. But, in the space afforded me here, I have focused on the implications that can be drawn from the correspondence analyses alone. These, I argue, are significant.

CONCLUSION

The crucial point, methodologically, is that the visualizations made possible by correspondence analysis open up the webs of meaning in a more accessible and rigorous way than was previously possible. The method offers a window onto an important symbolic/practical dimension that can aid significantly in the analysis of legal and public policy. The myth that social meaning variables are too soft need no longer prevent us from pursuing interpretive research in law. Nor, for that matter, should the opposite tendency limit our horizons. In this sense, I agree strongly with Andrew Abbott, who remarks in his essay *Seven Types of Ambiguity* that:

> [p]roclamations against positivism often mask an arbitrary unwillingness to think formally about the social world. One asserts that the world is constructed of ambiguous networks of meaning, argues for the complexity of interpretations and representations, and then simply assumes that formal discussion of the ensuing complexity is impossible. But this is obviously untrue. Many people have thought formally about ambiguity, representation, and interpretation. Nothing in those phenomena militates against thinking in a rigorous, even disciplined fashion, as we see in the work of Empson, Barthes, and many others.[73]

It is possible to draw on new methods—such as correspondence analysis, free associational experimental interview techniques, and map analysis—to push forward the interpretive turn in legal studies.

73. Andrew Abbott, *Seven Types of Ambiguity*, 26 THEORY & SOC'Y 357, 358 (1997).