Scientific Partisanship: The Social Geometry of Intellectual Support

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The article applies D. Black's pure sociology paradigm to examine the degree to which scientific evidence supports ideas deduced from the perspective. The main argument suggests that the empirical support for pure sociology varies inversely with the social distance separating scholars in social space. Moreover, the nature of the evidence adduced and the use of qualitative or quantitative methodologies predictably vary with social distance as well, increasing the likelihood of finding confirming or disconfirming evidence. The study tests these ideas by examining the full range of refereed journal articles ($n = 191$) published from 1976 to 2015 with pure sociology as the main focus.

L'article utilise le paradigme de la sociologie pure de D. Black afin d'examiner à quel point les évidences scientifiques soutiennent les idées proposées par cette approche. L'argument principal suggère que le soutien empirique pour la sociologie pure varie inversement avec la distance sociale séparant les spécialistes dans l'espace social. De plus, la nature des évidences obtenues et l'utilisation de méthodes qualitatives ou quantitatives varient aussi en fonction de la distance sociale, augmentant la probabilité d'obtenir des évidences confirmant ou réfutant le paradigme. Cette recherche teste ces idées en examinant l'ensemble des articles de revues avec évaluations externes ($n = 191$) publiés entre 1976 et 2015 avec la sociologie pure comme focus principal.

ON FEBRUARY 11, 2016, DAVID REITZE, the Laser Interferometer Gravitational-Wave Observatory's Executive Director, confidently announced the detection of gravitational waves: "We did it" (Cho 2016). The evidence of the space-time ripples came from prior observations of the mutual collapse of two black holes a billion light-years from Earth, thereby

confirming the last major prediction derived from Einstein's general theory of relativity. Yet, nagging doubts have remained because two years earlier, physicists claimed to have detected gravitational waves through the Background Imaging of Cosmic Extragalactic Polarization 2 experiment. Stanford physicist Chao-Lin Kuo remarked at that time: "We've found the smoking gun evidence for inflation and we've also produced the first image of gravitational waves" (Moskowitz 2014). The excitement waned, however, once further analyses revealed that the signal recorded could be attributed instead to Milky Way dust (Cowen 2015).

Whatever fate awaits the gravitational waves discovery, the example offers a cautionary tale in science as to the theory-laden nature of observation, the quest to validate one's suspicions, and the fierce competition to ascend to the pinnacle of the profession. Many historical cases of what psychologists refer to as *confirmation bias* have been well-documented, from Lowell's inferences about the existence of life on Mars (Guthke 1990) to Fleischmann and Pons' cold fusion debacle in 1989 (Huizenga 1993). As Meyers (2012) notes, "Scientists may strive to understand the secrets of how the world works, but—being human—they are not without a lust for recognition" (p. 35).

If ideas are the main currency to secure recognition, one might inquire as to what explains the success of ideas in science? Those that demonstrate their validity through rigorous testing, the accumulation of supportive data, and careful reasoning should rise to prominence (Franklin 2008). The above example shows, though, that such a narrative does not always mirror what happens even in the natural sciences like physics (Knorr-Cetina 1999; Smolin 2006). Instead, distinct interpretations of data produce differences of opinion that transcend statistical tests and cannot be adjudicated solely through an appeal to reason (Cohen 1985; Pitts-Taylor 2014; Shapin 1994). It is difficult to escape one's own intellectual prejudices, as scientists compete in the marketplace of ideas for scarce resources such as grant funding, journal publications, academic appointments, and the quest to be first in regard to major discoveries (Merton and Lewis 1971; Meyers 2012; see Cooke 2001).

The current paper thus examines the sociology of scientific evidence. The contested nature of facts means that analysts may dispute those inconsistent with their views or selectively privilege those that are more supportive (Manning 2010; Nickerson 1998). From a sociological perspective, the quest for scientific truth arguably will be affected by social and institutional pressures that influence the questions posed *and* the results produced (Foster, Rzhetsky, and Evans 2015). The article builds in part upon Cooney's (1994:834) analysis of "the social origins of evidence" in the legal system to evaluate "the social origins of evidence" in the social sciences, as well as the impact of network closure in reinforcing the patterns observed.

Given sociology's vast scope of inquiry, this study examines the success of ideas derived from one paradigm, *pure sociology*—Black's (1979, 2000) innovative and controversial perspective. The author applies Black's own approach to develop the idea that social scientists more socially distant from the inner core of the pure sociology network (PSN) are less likely to generate confirmatory evidence consistent with the framework. Network centrality and closure further reinforce the selective production of evidence aimed at confirming hypotheses deduced from the paradigm. The results have implications for the social origins of evidence elsewhere, based on the social geometry of intellectual support and the partisan nature of relatively closed networks.

LITERATURE REVIEW

Explanations abound as to why certain knowledge acquires credibility. One argument stresses the degree to which beliefs help organize reality in coherent fashion (Thagard 1989). Preston and Epley (2005) claim that the strength of one's beliefs is proportionate to their explanatory power, reinforced by their "meaning, importance, and personal relevance" (p. 826). Social constructivists suggest that whatever the belief system and evidence amassed, actors express a certainty about their knowledge claims even as they struggle to define and negotiate the meaning of that reality (Starr 2010). A clear *social* aspect exists in the construction of knowledge, the accumulation of facts, and the ensuing interpretations (Woolgar 1988; see Shapin 1995).

Some analysts have developed these arguments through ethnographic research in laboratory settings. Latour and Woolgar (1979) and Knorr-Cetina (1981) assert that scientists actively help create the facts that obtain as a direct challenge to standard "objectivist" accounts of discovery. Scientists manipulate their local environments in idiosyncratic ways to enhance the likelihood of *success*, as opposed to a purely objective pursuit of the *truth*. For example, Knorr-Cetina (1999) examined the microdynamics of knowledge production by studying the epistemic cultures of high-energy particle physics and molecular biology laboratories. Her results cohere with Dotson's (2014) conclusions that the knower's "social position both confines and directs our habits of attention, which has a profound effect on what we come to know" (p. 120).

From a social psychological perspective, the challenge to establish an idea's credibility has been studied under the rubric of "confirmation bias," or the search for evidence consistent with one's own belief system (Yeo et al. 2015).[1] Research on the general public's pursuit of knowledge

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[1]. Four centuries ago, Bacon ([1620] 1952:110) outlined his version in *Novum Organum* in discussing the four great idols: "The human understanding, when any proposition has been once laid down ... forces everything else to add fresh support and confirmation."

reveals that those with preconceived notions on an issue search for information consistent with their initial preferences (Gottfried et al. 2014; Jonas et al. 2008; Wallace, Caudill, and Mixon 2013). Nickerson's (1998) summary of experimental research suggests that people seek supportive proof of their positions and avoid contradictory evidence across diverse areas of inquiry, such as number mysticism, witchcraft, policy analyses, medicine, law, and science. For instance, Jang (2014) studied citizens' online searches to gather information about scientific controversies, discovering that people who were confident in their knowledge *and* who were religious focused on information congruent with their beliefs. Recent research in the general population shows that subjects engage more with evidence consistent with their previous attitudes as well (Knobloch-Westerwick, Johnson, and Westerwick 2015; Knobloch-Westerwick et al. 2015).

By replacing the term *theories* for *attitudes*, one might postulate that scientists have their own biases toward accumulating supportive data, regardless of the rigors of the scientific method. As Nelson (2014:212) has queried: "Could researchers be tending to 'find' results that confirm socially held prior beliefs"? Kuhn ([1959] 1977) answered affirmatively by suggesting that scientists are socialized into distinct scholarly traditions that focus their intellectual energies. Their pursuit of specific lines of inquiry tends to create an aversion to the careful consideration of anomalies that mischievously arise (Kuhn 1962). Despite the best intentions to conduct objective research unencumbered by cultural biases and personal preferences, Kahneman (2003) asserts that humans often stray from the normative ideals of impartiality by using intuition (rather than pure rationality) and because one's perceptions are always "reference-dependent." Three examples help illustrate how readily confirmation biases creep into the evaluative process.

First, Luborsky et al. (1999) have shown one can predict the outcomes of randomized trials of psychotherapy with knowledge of the investigator's allegiance, as therapeutic treatments have greater impacts where investigators believe in the efficacy of the approach. Second, Littell's (2008) evaluation of published reviews on social service interventions demonstrates that analysts often oversimplify complex results, ignore negative or nonsignificant results, and selectively focus on evidence supporting their hypotheses in regard to "what works." Finally, while economic research has confirmed gender differences in regard to risk aversion, Nelson's (2014) critique reveals that the assumption reflects researchers' cultural biases and a tendency to employ less than optimal methodological strategies to investigate such claims. She interprets the evidence as supporting a degree of publication bias, as well as a distinct confirmation bias.

Foster et al. (2015) have studied why scientists pursue research problems by examining the tension between innovative risks and conventional scientific foci that are more likely to yield publications. Building on Bourdieu's (1975) field theory, they argue that scientists draw upon many forms

of capital to invest in specific problems, situated in the context of a *habitus* that reflects varying tastes, orientations, and dispositions (Berger and Heath 2005). The claim implicates a rational-choice model, as scientists strive to maximize professional and other rewards that stem from their decisions. Arribas-Ayllon and Bartlett (2014) thus reason that there are inherent tensions and ambivalence in the construction of scientific practices, especially in areas where knowledge bases are passionately contested. But while uncertainty underlies much intellectual work, few would imagine abandoning their preferred frameworks altogether. As Collins (1998) explains, the investments of cultural and human capital are far too substantial for intellectuals to jump ship at every port.

The network linkages between scholars and their students, embedded in organizational and institutional frameworks, have a prophylactic effect against intellectual whimsy. Yet, certain schools of thought dominate scholarly discourse, whether one speaks of literature and the arts, philosophical traditions, or scientific communities. These are described historically as "invisible colleges" of like-minded scientists who communicate with each other regularly and form unofficial social networks of support (Crane 1969, 1972; de Solla Price and Beaver 1966). The invisible colleges often coalesce around common paradigms of theoretical constructs that guide knowledge production, while touting exemplary publications as key referents for practitioners committed to the approach (White 2003). Eminent scientists explain that their success reflects in part their ability to develop collegial relationships (Leahey and Cain 2013), in addition to sponsorship and institutional supports (Crane 1965; Li, Liao, and Yen 2013).

Collins (1998:38) claims too that "the law of small numbers" dictates that at any historical juncture, there will be a limited number (between three and six) of major positions that coexist and compete within intellectual space. The conflicts and disagreements that emerge require leading figures within major schools of thought to buttress their positions not only through the credibility of their ideas, but by recruiting acolytes and expanding their social networks of supporters to help build their reputations. As White (2011) has discussed, a fine balancing act must be achieved between a self-referencing inner core that risks inbreeding and redundancy with external contacts beyond the edges that may dilute the intellectual forces in play. Within multiple-paradigm sciences such as sociology, the leading contenders may exceed the numerical limit Collins proposes (Lamont 2001). One can debate which approaches have more adherents, but the evidence from Sociological Abstract citations points to perhaps a dozen rather prominent schools. Or one could peruse the table of contents of various sociological theory textbooks to identify dominant frameworks (e.g., Turner 2013). Either measure confirms that pure sociology has far fewer citations and chapters compared to paradigms at the disciplinary center. Social locations matter too, shaping in profound ways the nature of

the evidence adduced and the mechanisms through which scholarly commitments are reinforced. To examine that thesis, both the *pure sociology* framework and *network theory* are used to generate hypotheses to assess the conditions under which scientific ideas receive more or less support (Black 1979; Burt 2004).

PURE SOCIOLOGY AND SOCIAL NETWORKS

Black (1976, 1979) pioneered the creation of pure sociology to shift sociological analysis from a preoccupation with individuals to focus instead only on *social behavior*: the multiplex array of interactions that occur in social space. In every social interaction, each participant has a distinct *social location* and *distance* in relation to each other. Social behaviors are explained as a function of individuals' relative locations, distances, directions, and movements in social space (Black 1995, 2000, 2011, 2015). The approach eschews psychological motivations, the purposes or human ends that might be served through each encounter, and the focus on the sentient human being as the primary unit of analysis as relevant to explaining social behavior.

While clearly an innovative approach, as Black (1995:841) has asked, "Is It True"? A scientific theory lacking in validity, that is, inconsistent with or unable to order the facts will not long survive. Cooney (2009b) notes that pure sociology, as with any theoretic perspective, "lives or dies by its ability to explain the facts" (p. 35). While some argue that the research has *not* been supportive (Gottfredson and Hindelang 1979; Mooney 1986; Myers 1980), Michalski's (2008) review of evidence suggests otherwise: over 80 percent of the articles assessed had results mainly supportive of pure sociology ideas, while almost 90 percent produced results at least partly consistent with the perspective. Therein lies the dilemma. If scientific theories are tested with evidence to ensure their validity *and* that evidence has social origins, then how can one evaluate *objectively* the truthfulness or validity of the ideas (see Crane 1972)? Critics aver that one cannot.

Marshall (2008) claims that with respect to pure sociology, "both confirmation and disconfirmation are impossible, since the system is unfalsifiable ... because of under-specification, complexity, and untestability" (pp. 221–22). He asserts further that while the copious empirical examples Black cites to support his theories might be impressive, the selection bias remains unknown—as do the various disconfirming or unmentioned exceptions. In the extreme, Turner (2008) states flatly: "All of the theoretical claims made by Donald Black are false" (p. 237). Michalski's (2008) review of the empirical evidence, of course, sharply contradicts that claim. Perhaps ironically, the gap between critics and supporters can be explained in part by drawing on pure sociology itself as an analytic framework. The social geometry of ideas helps explain why some academicians are partisan

supporters of the paradigm (or *any* paradigm) and more likely to generate research evidence highly consistent with the pure sociology framework.

One might assess the success of scientific theories by their acknowledgment as *right* or *true* within the scientific community. At the very least, the evidence gathered should support key hypotheses. Yet, not *every* study has yielded evidence for pure sociology's hypotheses that corresponds precisely with theoretical predictions. The reason, in part, relates to the social locations of those involved in producing evidence. Just as the courts determine admissible evidence pertaining to the evaluation of legal cases, science confronts the empirical evidence that applies to the evaluation of scientific theories. From where does such evidence emanate?

Black (1979, 2000) argues that each idea has a social geometry defined by the source (agent), those toward whom ideas are directed (audience), and subject matter (content). Agents of ideas may be more culturally similar, relationally involved with, and functionally interdependent with an audience. The subject may involve everything from inanimate objects to supernatural beings, with their locations varying in social space relative to both the source and audience. While some ideas gain in status, most are inconsequential.

Black (2000) contends that "the social structure of an idea predicts and explains its success" (p. 349). Successful ideas have the social geometry that reflects the status locations of those who share the idea, as well as the idea's directionality. Black (1979:158–59) argues accordingly: (1) "(A)n idea moving from more to less status is more likely to succeed than one moving in the opposite direction, from less to more status"; (2) "(T)he success of an idea varies directly with the status of its source and inversely with the status of its audience"; and (3) "The success of an idea also varies inversely with the relational distance between its source and audience. The more intimate people are, the more valuable they find each other's ideas."[2]

Applied to the study of legal evidence, Cooney (1994) has shown that high-status litigants with strong social ties attract more supporting evidence. Holding constant the nature of the dispute, the ability to attract partisan support and more evidence varies directly with the status of the litigants and the extensiveness of their social networks. In addition, high-status individuals acquire stronger evidence, especially through the ability to attract more distant, high-status, and "neutral" individuals to testify on their behalf. In short, the evidence a court case attracts will be mediated by the relative statuses and distances of the disputants' social relationships. More generally, in conflicts of *any* kind, Black (1998) argues that the competing sides will attract allies based on the following principle:

[2.] Black (2000:349–50) has developed as well propositions related to the *magnitude* of ideas and the importance of inequality between the source and audience in determining the success of ideas. Most radically, Black (1979) has stated "the quality of an idea, including its truth, is not a matter of fact … Thus, from an observer's standpoint, how well a scientific theory orders the facts is not an empirical question, and so it cannot explain the success of the theory" (pp. 159–60).

"Partisanship is a joint function of social closeness to one side and social remoteness from the other" (p. 126). The success of scientific ideas can be explained in similar fashion, especially if situated within the logic of social network analysis.

From a pure sociology perspective, scientific ideas have social locations such as between their source and those involved in evaluating their truthfulness or validity. Some ideas are more *important* than others, but especially those produced by more eminent scientists who embrace a paradigmatic system *and* if less social distance separates the source of the idea from the audience. The individual carrier of an idea alone, however, cannot determine the ultimate fate or success of the idea; that can only happen within the context of social relationships. To understand why certain ideas deduced from scientific paradigms survive and ultimately thrive requires some consideration of the social networks within which they are embedded.

One can map a paradigm's terrain by identifying the actors who develop key ideas. Pure sociology offers a rare case where the intellectual history of a theoretical approach can be traced to a specific source and publication, that is, Black's (1976) *The Behavior of Law*. If he alone had published simply his own work thenceforth, Black's ideas may not have gained much traction. As Mullins (1973) argued, successful theory groups must identify the intellectual parameters, adherents, and a research agenda for their work. Black cultivated such a network after his appointment at the University of Virginia, whereupon he worked with graduate students attracted to his ideas and who developed research programs accordingly (Michalski 2016). Within a decade, a core group of young scholars emerged to promulgate pure sociology ideas, as a newly minted crop of PhD's assumed academic positions and worked with the *next* generation of graduate students.[3]

In fact, Morgan, Neal, and Carder (1997) describe social networks as having a "core-periphery" structure, wherein core members remain in the network continually while those on the periphery are more transient. The core consists of stronger, denser network ties presumed to exhibit a high degree of stability over time. The inner core of pure sociology, for instance, consists of Black's connections with intimate partners and his doctoral students, who have worked for years to develop research programs within the paradigm. The periphery includes more distant ties by virtue of having at least one degree of separation from Black and the first-generation of pure sociologists, that is, who studied under one of Black's *former* students or who developed an interest perhaps through their general studies. To strengthen their network linkages, the group established the PSN as "an e-mail-based discussion group dedicated to those with a positive interest

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[3.] White (2011) explains: "It is advantageous for pupils to have mentors whose cultural capital they can share, and no less advantageous for mentors to have pupils who can extend their lines of thought" (p. 276).

in the growing movement in sociology known as pure sociology" (American Sociological Association 2011:18). The PSN thereby engaged a broader group of scholars attracted to pure sociology, expanding the social network beyond the inner core.

Yet, social networks change over time as actors move in and out of each other's lives and based on cultural dynamics (Burt 2000).[4] One expects more stability with intellectual orientations due to professional socialization, faculty-student relationships, and investments in developing expertise (Ferrales and Fine 2005). Cummings and Higgins (2006) argue that the main determinants of network stability include factors such as "length of relationship, emotional closeness, and communication frequency . . . Longer relationships should endure change better because of the intimacy and high interdependence involved in close relationships" (p. 42). By definition, the inner core of pure sociology should exhibit a high degree of contact and mutual support, especially in sharing and validating ideas. The most ardent supporters should be found among those who have invested the most time and cultural capital. As one moves further away from an inner core of *true believers*,[5] the chances of encountering scholars less enamored of the ideas should increase. Crane (1972) described these schools as "characterized by the uncritical acceptance on the part of disciples of a leader's idea system (that) rejects external influence and validation of its work" (p. 87). Ceteris paribus, the first hypothesis can be stated thusly:

H1: *The level of support for hypotheses deduced from the pure sociology framework varies inversely with the social distance between those involved in analyzing the evidence and pure sociology's inner core.*

There should be *less* support for hypotheses deduced from pure sociology with increases in social distance—defined as the combination of *relational* and *cultural distances* (Black 2004; Cooney 2009a, 2014; Jacques and Rennison 2013). Relational distance is the degree to which individual lives are intertwined (Black 1976:40–41), while cultural distance refers to how similar people are in terms of their backgrounds (language, education, ethnicity, religion, etc.). The logic suggests the more intimacy and cultural affinity between scholars of the inner core and others, the greater the likelihood researchers will generate support for such hypotheses.

[4.] The author acknowledges one reviewer's comments with respect to the dynamic nature of social distance. Ideally one would measure precise locations and social distances of each author vis-à-vis Black or the PSN hub at the time of publication, but the data simply do not permit such accurate measurements. Thus, a broader, more fixed measure of social distance was used instead.

[5.] In PSN's early years, Black's postings to the group routinely started with the salutation "Dear Pure Ones," though these days the general posts usually open with "Dear People." Mark Cooney has used "Dear Purists." These ritualistic greetings obviously help reaffirm the group's identity.

Holding constant investigator integrity, how might social scientists produce such variable support, especially since scientific integrity requires methodological rigor? Social scientists are divided on these issues, as the qualitative-quantitative split reveals (Hanson 2008). Qualitative research, though, differs from quantitative research at least in style (Jacques 2014). The former relies on the use of symbols and language more familiar among members of particular communities, reflecting a degree of cultural intimacy. In contrast, quantitative research involves translating phenomena from verbal depictions to numerical equivalents, which thereby creates more of a gap between the researcher and the subject matter. That gap arguably permits a more detached perspective, which reduces the likelihood of confirmation bias. A second hypothesis captures the idea:

H2: *As social distance decreases between investigators and the pure sociology inner core, the greater the likelihood that researchers will use qualitative and nonsurvey research strategies to test pure sociology ideas.*

The evidence gathered will support that "bias" due to the methodological latitude afforded in the social sciences. Net of other factors, the second hypothesis implies qualitative research strategies should favor the production of evidence supportive of one's hypotheses by privileging more subjective, personal accounts, and different kinds of evidence. Hence those who comprise pure sociology's inner core are expected to use more qualitative, nonsurvey approaches to conduct research and, as a result, are expected to generate more supportive evidence for their ideas.

The intimacy and homophily between Black and his supporters should influence both the degree of confirmation bias and the methodological rigor of research aimed at accumulating facts, or *scientific partisanship*. Those committed to pure sociology (or any other paradigms) will be less concerned with falsification, more intent upon finding evidence consistent with the perspective, and dedicated to reaffirming the boundaries of their intellectual communities. The decreased social distance between an inner core and those who evaluate pure sociology ideas will be linked to more subjective and confirmatory evidence, especially if evaluating one's own ideas. The bias should wane as social distance increases between the source of an idea and the audience. In addition, the degree of network closure shapes bias further by reducing the flow of ideas and opportunities to consider evidence to challenge orthodoxy. As per the *value homophily* principle, ideas expressed should be more homogeneous within rather than between groups (Burt 2004; Lazarsfeld and Merton 1954). In-group members should offer more consistent and stronger support, buttressing the views of their colleagues with arguments and evidence.

Social distance thus affects receptivity to and support for new ideas, but especially within closed systems of strong ties and restricted flows

of novel information that may blind one to alternative possibilities (Granovetter 1973). If systems are more open via holes and bridges to allow communication with external networks, opportunities for the flow and creation of new ideas increase (Burt 1992). Conversely, the fewer such holes available and the more isolated from other social networks, the greater the influence and intensity of the information flow within the group. As such, the probability of generating supportive information or confirmation bias will increase more substantially, much like a religious sect as a relatively closed system (Crane 1969). In sum, if people are more insulated by a network, their commitment to the group's tenets should be higher. Those who associate more exclusively with the members of the network and, by extension, who conduct research within the pure sociology framework (in this case) should display a more profound bias in favor of the ideas circulating within the network. Ergo:

> H3: *The greater the degree of network closure or restricted exchanges of ideas, the greater the strength of the confirmation bias*.

METHODOLOGY AND DATA

To test these hypotheses, the author coded each academic article that involved evaluating select ideas deduced from the pure sociology framework during the four decades since Black (1976) launched the paradigm with *The Behavior of Law*.[6] The database contains the complete listing of all peer-reviewed articles related to pure sociology, based on a key word search of the electronic databases listed in the ProQuest Sociology Collection. The exclusive use of refereed articles truncates publication variability, but standardizes the comparison by focusing only on vetted articles. In addition, the blind review process lessens the degree to which an author's reputation influences the acceptance or rejection of the research. The current study, therefore, holds constant the status of the investigators *and* the general subject matter, since all articles deal with and evaluate different facets of *pure sociology*.

To generate the database, the search terms included the use or appearance of any of the following terms anywhere in a publication: *pure sociology*, *Donald Black*, "*Black, Donald*," *Blackian*, *social geometry*, *behavior of law*, or *moral time*. The initial search generated 643 results for 1976 to 2015. While many articles contained elements of the paradigm, dozens of references to "pure sociology" and "social geometry" involved vastly different usages and were dropped from the analysis. Book reviews or general commentaries were excluded, as were articles that only

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[6.] A similar logic can be applied to study *any* sociological paradigm, but would present a special challenge in view of the thousands of scholarly works produced to evaluate ideas derived from structural functionalism, conflict theory, feminist theory, symbolic interactionism, etc. In the case of pure sociology, the entire population of academic works numbers only in the hundreds.

cited pure sociology, if there were no efforts to develop or test theoretical propositions.[7] The study sample includes only those refereed journal articles that directly involved the development, refinement, or empirical testing of concepts derived from the pure sociology approach.

The author conducted a content analysis to assess authorship and publication information, the subject matter of each article, the nature of their methodologies and data collection approaches, the type of data gathered (e.g., quantitative/qualitative), and sampling strategies used. There were 27 articles classified as editorial comments that focused on general philosophical issues or lacked any *empirical* content that might assess pure sociology claims. The final database included all articles that: (1) dealt with pure sociology or included the framework as part of their conceptual arguments; and/or (2) tested key propositions explicitly deduced from pure sociology. The sample size consisted of 191 articles, which the author alone then coded along the several dimensions.[8]

Dependent Variable

The dependent variable measured the degree of empirical support for ideas deduced from the pure sociology framework. Since articles involved the evaluation of different theoretical ideas, multiple hypotheses, and distinct methodologies, the results were not always straightforward. To simplify, the articles were coded as having received a majority of support (>50 percent) or *strong support* (75 percent or more) regarding the historical evidence discussed and/or statistically significant relationships. For quantitative studies, the author counted the number of supportive hypotheses. For historical and cross-cultural studies, the author coded how much of the evidence supported the arguments presented. The results were then cross-referenced with the scholars' own statements about their findings to determine the final assessment of support. For multivariate purposes, results were collapsed to produce two binary outcomes of either strong support (at least 75 percent positive findings) or not. The dichotomous outcome variable facilitated the use of logistic regression, wherein one predicts the probability of the occurrence of a specific outcome based on one's knowledge of known values of various independent variables (Field 2013:763):

$$P(Y) = 1 \big/ \left[1 + e^{-(b_0 + b_1 X_{1i} + b_2 X_{2i} + \cdots + b_n X_{ni})} \right].$$

[7.] Most commonly, an article might simply cite *The Behavior of Law* on one occasion and the book would appear in the reference section, but the author had not really engaged Black's work to any significant degree—and certainly had not tested any of Black's ideas.

[8.] The author coded a randomly generated sample of articles to test for coding reliability ($n = 10$), which produced 100 percent concordance.

Independent Variables

To measure social locations and distance, each article was coded based on the lead author's social ties with Black and the pure sociology core. The inner core or nucleus was operationalized as "0" to include Black, his current or former intimate partners (also academicians), and Black's own doctoral students. The core members were defined as *Purists*, that is, scholars relationally and culturally closest to Black himself at the network's hub. A second group on the periphery, the *Blackians*, consisted of former students in Black's seminars, the thesis students of Black's former doctoral students, and collaborating colleagues and members of the PSN. The Blackians, bound metaphorically as electrons encircling the nucleus, were located in a social field one degree removed from the Purists (defined as "1," as in one quantum unit away). A third group of scholars at other institutions *not* generally working with or trained in the framework (and who were *not* PSN members) were defined as even more socially distant. The *non-Blackians* were located another quantum leap in distance from the PSN in an *outer ring*, often lacking entirely direct social ties with such scholars. These people were coded as "2" to designate two quantum units removed from the inner core. Figure 1 depicts visually the male and female scholars at each level who published articles evaluating pure

Figure 1

Social Locations of Purists, Blackians, and Non-Blackians [Color figure can be viewed at wileyonlinelibrary.com]
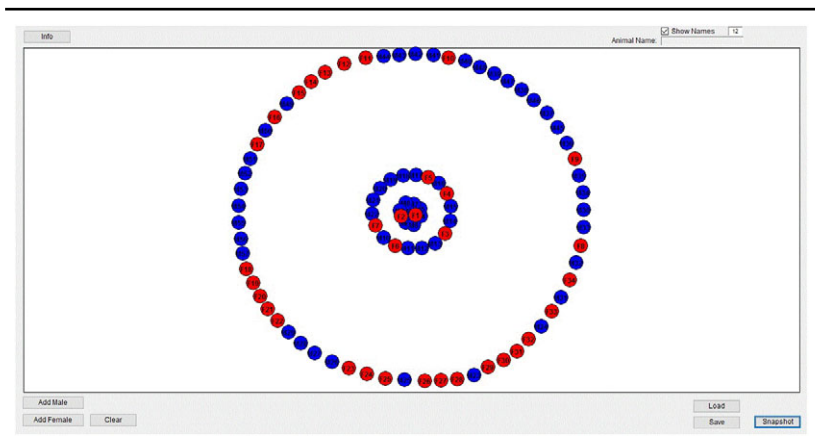
sociology ideas between 1976 and 2015, defined by the relative distances that separate the core, periphery, and outer ring in social space.

Another indicator, the number of pure sociology articles published, exemplifies one's investment of intellectual capital in the perspective. Those who work within the tradition are staking their claims and professional reputations on the success of the pure sociology ideas. For example, in addition to Black himself, the most prolific publisher has been his former doctoral student at Harvard and the University of Virginia, Mark Cooney, who published 17 articles while working exclusively within the paradigm. Hence, each article in the sample was evaluated as a function of how many associated publications the first author produced.

The author assessed the methodologies for each article to determine their primary strategies, the use of quantitative or qualitative data, and main sampling strategy used to produce evidence. Since sociological analyses almost never use classical experimental designs that afford more rigorous hypothesis testing, the nature of the evidence published across sociology journals varies (partly based on different editorial standards of what constitutes credible evidence). Without engaging in grand philosophical debates as to what evidence *should* be considered valid, the analysis focuses on an empirical continuum of methodological rigor. At one end, the least rigorous designs involve nonrandom sampling and qualitative approaches that permit more subjectivity in gathering and evaluating evidence. At the other end, hypotheses ideally are tested in controlled laboratory settings. Many social scientists rely instead upon random sampling procedures and strategies such as surveys to measure key factors that can be evaluated statistically or otherwise. The analysis here incorporates several independent variables to test for their relative impact on the results obtained.

RESULTS

Table 1 includes a descriptive summary of the analytic variables evaluated for the population of 191 articles directly assessing various aspects of pure sociology. Three-fourths of the articles had males as the lead authors, while almost 92 percent were designated as "white." As expected, in the early years most articles dealt with dimensions of the law and/or directly with the development or testing of pure sociology propositions. In total, one-third studied social control or conflict management, with many examining further some facet of crime, policing, homicide, and other forms of violence such as domestic violence, terrorism, and genocide. A small number concerned a diverse array of *other* issues as well (drug testing, mental illness, altruism, religion, etc.), but these latter topics have appeared mostly in the past two decades. The *primary* methodological strategies have included the analysis of existing statistics, along with a nearly equal proportion of studies using cross-cultural or historical data. Other common

Table 1

Descriptive Statistics ($n = 191$)

Article information	Percentage
Demographics	
Gender (male)	74.9
Race (white)	91.6
Subject matter[a]	
Law	53.8
Pure sociology	53.3
Social control/conflict management	33.0
Violence/assault	14.8
Policing	14.8
Crime	9.3
Homicide	6.6
Primary methodology	
Cross-cultural or historical research	22.5
Analysis of existing statistics	22.0
Original survey research	17.6
Field research or direct observation	12.1
Existing texts or selected examples	11.5
Interviews	11.0
Content analysis	1.6
Quasi-experimental and vignettes	1.6
Data type	
Qualitative	40.2
Qualitative *and* quantitative	15.9
Quantitative	43.9
Social location (distance)	
Purists (core)	33.5
Blackians (periphery)	24.1
Non-Blackians (outer orbit)	42.4
Empirical support	
Strong support (75% or more)	70.2
Modest support (50–74%)	11.5
Weak support or almost no support	18.3

[a]The figures do not total to 100 percent since primary, secondary, and tertiary subjects for each article have been included.

strategies have included the use of survey research (18 percent), field research or direct observation (12 percent), selective usages of textual examples (11.5 percent), and interviews (11 percent). About 40 percent of the articles relied upon qualitative data, nearly 44 percent used only quantitative data, and the remainder contained a mixture of both.

The most important measure involved the social locations and implied social distances of three principal groups. The inner core, consisting of 11 Purists, published one in three of the pure sociology articles. A group of

18 Blackians on the periphery published nearly one in four articles. Finally, 62 people not directly connected to the PSN produced the remaining 42 percent of the articles. These non-Blackians comprised an independent group of academicians far more socially distant from the core and well beyond the periphery of the PSN network. A quantum leap removed in social space, these scholars might only sparsely interact with those more intimately involved with and committed to the pure sociology perspective. As will be demonstrated shortly, the visual illustration in Figure 1 accurately captures the relationship between social distance and support for fundamental ideas deduced from the pure sociology framework.

At the descriptive level, the data revealed that more than 80 percent of the published research produced positive results for pure sociology ideas, while 7 in 10 articles yielded *strongly supportive* results (75 percent or more positive results). At the bivariate level, those factors predicted to be correlated with the results displayed the expected patterns. For instance, those who used a qualitative methodology and who used nonsurvey approaches were statistically significantly more likely to publish studies with supportive evidence (results not shown). The single most powerful factor corresponds to the central thesis, that is, the relationship between social location and the likelihood of producing confirmatory evidence.

The results in Table 2 specifically pertain to the relationship between social location and the percentage of studies that yielded *strongly supportive* evidence for ideas derived from the pure sociology paradigm. With Black himself at the center of the Blackian intellectual universe, one can appreciate that his truth claims and evidence should prove entirely consistent with his own perspective. Yet, the entire inner core of Purists to date always has produced positive results or strong support with respect to evidence adduced to evaluate pure sociology ideas.

As one moves away from the inner core, however, the likelihood of finding such strong support decreases significantly. Those on the periphery still find strongly supportive evidence, with about four in five studies generating such favorable results. If one moves to the outer ring, however,

Table 2

Percentage of Strongly Supportive Articles by Social Location

Level of support	Social location			Total
	Purist	Blackian	Non-Blackian	
Less than 75% support	0 (0.0%)	9 (19.6%)	48 (59.3%)	57 (29.8%)
75% or more support	64 (100.0%)	37 (80.4%)	33 (40.7%)	134 (70.2%)
Total	64	46	81	191

then the research outcomes change dramatically as the percentage of non-Blackians producing strongly supportive evidence drops off to just over 40 percent. Note the multiplicative function in the decline of evidentiary support as one travels from the inner core to the periphery (down 20 percent), followed by a move from the periphery to the outer circle (down an additional 40 percent). But perhaps that change in social distance might mask the relevance of the other factors discussed. To study the possible relationships at the multivariate level, conditional logistic regression allowed for tests of whether or not the aforementioned factors continued to be correlated and their relative magnitudes in combination with each other. These results appear in Table 3.

The model contains two demographic controls and a total number of publications measure. The additional explanatory measures hypothesized to affect the production of supportive evidence include whether or not: (1) the analyses involved survey research or nonsurvey techniques as the main methodology; (2) the study could be characterized as mainly qualitative or quantitative; and (3) whether the analysts were Blackian sociologists or even Purists, as compared with the non-Blackians. Once more, the dependent variable consisted of the empirical level of support presented in the articles, that is, the percentage that produced 75 percent or more of strongly supportive results.

The model reveals that net of each lead author's gender and race, the total number of publications did not affect the likelihood of

Table 3

Logistic Regression of Factors Associated with Pure Sociology's Strongly Supportive Results

Variables	Model		
	B	**Exp(B)**	**p**
Publications	−0.799	0.450	.130
First author's gender	0.397	1.488	.281
First author's race	−0.583	0.558	.314
Nonsurvey methodology	0.165	1.180	.752
Qualitative research	1.420	4.137	.015
Blackian sociologist	2.099	8.159	.000
N		191	
−2LL		157.3	
R^2		.574	
Percentage of correctly classified		74.3	
χ^2 (df)		10	
p-Value		.000	

coming up with strongly supportive results. Nor did the use of a survey or
*non*survey methodology have a statistically significant impact. The two key
explanatory factors included precisely those hypothesized to have a more
powerful effect: whether the research consisted of primarily a qualitative
or quantitative approach, and the researcher's social location (with the
associated implications of changes in social distance). Those studies that
incorporated qualitative research strategies were four times more likely
to produce strong support for the pure sociology ideas under investigation.
The even more powerful factor, though, involved the measure of social lo-
cation and the associated increases in social distance. The combination of
the Purists (core) and the Blackians on the periphery were eight times
more likely than non-Blackians to produce strongly supportive results.
The model explains more than 57 percent of the variation in the depen-
dent variable.

These results offer compelling evidence for the hypotheses, consistent
with Black's theory and the network logic discussed. The evidence confirms
the predicted inverse pattern in comparing social distance with evidentiary
support. Each quantum increase in social distance produced less support
for pure sociology ideas. The non-Blackians, occupying a social location
far removed from the inner core of Purists, produced strongly supportive
results only about 40 percent of the time. In fact, those in the outer ring
have produced the overwhelming majority of *negative* findings that have
ever been published, or 88.6 percent (31/35 studies with a majority of
negative findings).

DISCUSSION AND CONCLUSIONS

Black (1995) once argued "my theoretical work enjoys so much empirical
support that its validity is nearly unquestionable" (p. 844).The current
paper concurs to some extent in that 81 percent of the refereed articles
through 2015 produced supportive evidence for ideas deduced from the
pure sociology paradigm. On the other hand, surely Black could not have
meant that his theory of law had been independently and comprehensively
verified by peer-reviewed research. If one excludes Black's own publica-
tions, then some 42 percent of the journal articles published at the time
of the above quote had produced *negative* results with respect to "the be-
havior of law." His argument, therefore, must refer to the type of evidence
that Black himself considered valid, that is, the selective use of empiri-
cal examples from historical and cross-cultural works consistent with the
framework. But Black's support of himself reflects the paper's core argu-
ment, conforming to his theoretical formulation about the behavior of ideas:
All else constant, the credibility of ideas varies directly with the degree of
intimacy between the source of the idea and the audience.

Maximum credibility emerges where maximum intimacy exists, such
as among the Purists located at the inner core. These members have

produced *only* supportive evidence for pure sociology's theoretical claims, as one might expect in the competitive arena of ideas. As analysts move further away in social space from the Purists, the likelihood of producing supportive evidence decreases. Indeed, the process of generating *negative* findings accelerates more quickly as one moves ever further *away* from the core. Hence the data are consistent with the following general thesis: *The confirmatory evidence for social scientific theories varies inversely with the social distance between the analyst and the inner core of supporters.*

In social networks characterized by dense social ties and that have more network closure, the likelihood of producing contradictory evidence should be less commonplace. Moreover, a greater degree of homophily should reduce further the chances of generating negative findings. In contrast, among those who occupy different social locations and work with different paradigms altogether, one would expect less intellectual support for more distant colleagues and competing ideas. The process accelerates as analysts move much further away from the epicenter, perhaps in line with an "inverse square law" of social distance as the current results appear to suggest. The cultural dimension, however, may have an especially profound impact.

Cultural variations and different vectors of cultural distance are generated by a diverse array of experiences and locations, such as differences in nationality, religion, communities, ethnicities, and clearly one's *intellectual orientation* as a scholar. Those who are *most* critical predictably will occupy intellectual positions in social space most distant from Black's (1995) perspective that espouses coldly scientific standards of evaluation, objectivity, and value neutrality (see Black 2013). Many scholars reject such an approach, including humanists and philosophers, as well as those who privilege psychological mechanisms or embrace a "critical perspective" as their preferred paradigmatic orientation. As a result, their critiques tend to reflect ontological and epistemological differences, rather than direct challenges to specific empirical findings.

For example, Hunt's 1983 critical perspective filtered through in his critique of Black's work, identifying the "behavioral theory of law (as) fundamentally deficient since the conception of 'behavior' is both theoretically and methodologically flawed" (p. 42). Frankford (1995), a law professor, explains that his critique "focuses on the question why Donald Black's latest book—indeed his entire project—is not interesting (and his) work fails to engage us at any relevant level" (pp. 787–88). The sociologist Christian Smith (2010) offers especially harsh comments, rooted in his intellectual commitments to humanism, critical realism, and moralism, which are the antithesis of the pure sociology paradigm. Smith (2010) concludes: "Black has arrived at (a) deeply flawed, anti-humanist view of the person by starting with the erroneous presuppositions of positivism, empiricism, and reductionism" (p. 267). The philosopher Turner (2008:237) opines that since all of Black's theoretical claims are false, "any discussion of Black's

sociology of law and of his project of a pure sociology should end" right there rather than perpetuate a "fog of confusion."

These commentaries provide anecdotal evidence in support of the proposed theory of scientific partisanship. The odds are virtually nonexistent that any of the above scholars, located at such vast cultural distances from Black in social space (alternative *sociological universes*) would conduct any peer-reviewed research to lend support to pure sociology's theoretical claims. As Cooney (1994) demonstrated with his arguments about the partisan nature of legal evidence, one can argue for the partisan nature of scientific evidence to some degree as well, despite safeguards such as the "double-blind" review process. Yet, those who review research are familiar already with the dominant perspectives and likely have their *own* confirmation biases linked to their specific intellectual orientations and cultural locations.[9] Crane (1967) discovered, for example, that journal editors selected scientific work for publication more often if they shared with authors common perspectives rooted in their doctoral training. Consequently: *The likelihood of generating supportive evidence for social scientific theories varies inversely with the cultural distance between the analyst and an inner core of paradigmatic supporters.*

The proposition makes the most sense, though, if one considers the methodological approaches used to generate results or test ideas. The social sciences have been criticized for a relative lack of scientific rigor in many studies, such as an absence of random sampling, imperfect or even invalid empirical measures, or the selective use of cases. The investigations aimed at testing pure sociology ideas have many of these limitations, with few studies meeting the highest standards of probability sampling and key design features that would help ensure proper testing. As expected, where one has the latitude to use cases selectively that help buttress one's arguments (and ignore negative evidence), one would expect higher levels of support. Qualitative methodologies, therefore, tend to be less rigorous than quantitative methodologies in conventional terms and more likely to yield supportive evidence: *The empirical evidence for social scientific theories varies inversely with the methodological rigor of the investigation.*

All else equal, academic papers that use quantitative methodologies with more rigorous scientific standards will be least likely to generate decisive evidence in support of specific hypotheses. In contrast, the ideal conditions for producing confirmatory evidence for theoretical statements derived from *any* paradigm involve a particular social geometry: high levels of intimacy between source and audience, few paradigmatic differences, low methodological rigor, and the embeddedness of certain ideas within a

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9. For example, one reviewer of an article utilizing the pure sociology approach launched into a critique as follows: "Even as someone familiar with the sometimes byzantine logic of *pure sociology* . . . " Starting with that premise, one can predict that the ensuing review will be less than favorable. Reviewers culturally (e.g., intellectually) most distant from pure sociology *and* less intimate with those who use the approach should offer harsher evaluations (e.g., Smith 2010).

social network of those committed to a framework (Granovetter 1985). To achieve the confirmatory theoretical ideal, that is, to create the optimal conditions or *social geometry* to maximize evidentiary support, one could imagine a minimalist network ($n = 1$), total intimacy with oneself, a full engagement and support of one's own paradigmatic viewpoint, and a lack of concern with alternative methodologies, viewpoints, or standards surrounding falsification. But that would hardly constitute science.[10]

The conventional wisdom states that qualitative methodologies are especially useful to develop theory, while quantitative methodologies provide more definitive tests of extant theories (Hanson 2008). Black's strategy defies that dichotomous approach. He formulates theoretical propositions in quantitative terms, but refrains from providing the standard statistical tests to evaluate their scientific merit. Instead, Black draws upon historical and cross-cultural cases to verify his propositions. Cooney (2002) submits that the use of such qualitative data should be considered more valid than quantitative data—an issue long debated and likely irresolvable. Black (1995) nevertheless offers his own rationale for eschewing statistical testing in favor using historical and comparative literature as follows: "Because it precludes the possibility of a favorable or unfavorable bias, evidence not obtained to test the theory—naïve evidence—is arguably even superior to evidence expressly obtained to test the theory" (p. 843).

In Black's view, then, the use of the historical and cross-cultural materials *enhances* the validity of his formulations by demonstrating their widespread applicability across space and time. The obvious selection bias that infuses such tests of Blackian theory rarely receives attention in the published accounts. Rather than formally testing key ideas aimed at falsification, most studies by those more intimate with Black and the pure sociology paradigm are designed instead to confirm their expectations.[11] In fact, the approach yields a standard publication formula: draw upon the pure sociology framework to locate one's subject, identify theoretical statements to explain the subject with locations, directions, and movements in social space, selectively draw upon a litany of cross-cultural and historical examples consistent with the stated propositions, and show that the evidence conforms with one's arguments. Sample representativeness and

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10. Some such works have been published that reject the social scientific mission of mainstream approaches. For example, Zapata-Sepúlveda (2016:470–71) published work in *Qualitative Inquiry* combining an interpretive, autoethnographic approach, using *performative writing*, "conducting research in a critical viewpoint," and hoping "to express how our bodies connect in isolation with feelings such as sadness and the suffering of people." The *data* and *arguments* derived solely from her personal experiences and interpretations reflect her standpoint with her fieldwork "as a Latin American woman color voice from Arica (who) dreams with break silences (sic), stops the normality violence, and creates new academic and public spaces with her students" (Zapata-Sepúlveda 2016:471).

11. Nickerson (1998) has written, "In the aggregate, the evidence seems to me fairly compelling that people do not naturally adopt a falsifying strategy of hypothesis testing. Our natural tendency seems to be to look for evidence that is directly supportive of hypotheses we favor and even, in some instances, of those we are entertaining but about which are indifferent" (p. 211).

selection bias should remain unaddressed, as one then concludes the article by proposing the need for more systematic evaluation of the propositions with future research. Publish, and repeat.

Following from the current paper's analysis, an emergent principle might be that superior tests of evidence ideally derive from those more socially distant from the source. For those too invested in their ideas, the scientific ideal of objectivity proves evermore difficult to achieve. The pessimists conclude that the "history of science can be viewed as the history of confirmatory biases" (Westen and Weinberger 2004:609). The optimists have countered: "The history of science can be viewed as a constant and largely successful struggle to overcome confirmatory biases (and) progress toward truth" (Wood and Nezworski 2005:657).

Where social scientists cluster together in cliques committed to certain orientations, one would expect like-minded individuals to reinforce each other (Dew 2012). Prior research has confirmed that in reasoning with others who share similar beliefs, a confirmation bias tends to buttress preexisting attitudes and increase social polarization (Mercier and Landemore 2012). The polarization produces different *camps* or *teams* that battle for intellectual supremacy across fields, while using the rhetorical and empirical devices that usually support their positions. The sociological logic suggests that one should expect such partisanship (Haack 1995).

In conclusion, scientific partisanship cannot be avoided, reflecting the importance of distinct social geometries involved in the production of scientific evidence. Recall Black's (1998:126) argument about social closeness and attracting partisanship, or a form of "social gravitation." The proposition holds equally well in evaluating partisan support in social science, as those with higher status are even *more* likely to attract partisan support. Ergo the ideal community of scientists from a sociological vantage would be epistemologically agnostic, or at least socially equidistant from those involved in producing scientific ideas. The discovery of such social space appears rather unlikely, which means that "scientific partisanship" may be an inevitable feature of social life—as predictable as partisanship in any other sphere.

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