Perspicuous sites for justice? Michael Lynch's studies of law, science, and expertise

Patrick G. Watson

Centre for Criminology and Socio-Legal Studies, University of Toronto

Carmen Nave

Centre for Criminology and Socio-Legal Studies, University of Toronto

Abstract

In 2007, Michael Lynch wrote that he was 'drawn to law courts as sites for investigating "science", "scientific methods", and the science/commonsense distinction' (108) and that '[His] particular interest in courts as perspicuous sites for examining "science" arises from a long-standing interest in day-to-day practices in scientific laboratories and field studies' (110). We, of course, do not dispute this account, although we take this opportunity to suggest that our experience working with Lynch over the last five years on a study of criminal trials for police officers charged in on-duty shooting incidents revealed motives or interests beyond just the science-law interface. Lynch's studies of pre-trial negotiations (1982), perjury trials (Brannigan and Lynch 1987), the Iran Contra hearings (Lynch and Bogen, 1996), and DNA evidence (Lynch et al. 2010) are each, in our opinion, driven by a profound concern with a more equivocating subject: *justice*. We will recount how Lynch's interest in science, expertise, and law informed our collaborative efforts, as well as some of our impressions of Lynch's desire to contribute to the fortification of civil rights in the midst of America's second 'racial reckoning.'

INTRODUCTION

We have been asked by the editors of this collection to comment on Michael Lynch's work in socio-legal studies. The invitation stems from an ongoing research collaboration we have with Lynch on how video evidence features in trials for police officers criminally charged for on-duty shooting incidents. Our commentary is perhaps different from others in the volume because it comes largely from our experiences of working with Lynch rather than from our sense of his position and importance in the expansive field of socio-legal studies. Our thinking in the area of socio-legal studies have been greatly influenced by our association with Lynch, and here we would like to share some of what we have learned. As such, we do not so much position Lynch in the larger field (we leave that to others), and instead highlight what we think are subtle undercurrents in his writing which have become more obvious through our regular

meetings over the last several years. What strikes us as so important about Lynch's work in legal studies is its integrity to the legal setting itself, and his steadfast refusal to resort to theoretical abstraction or conceptual escape routes. His commitment to treating legal arguments as they are rather than how they may be received establishes conditions where an informed assessment of justice can be made by readers.

Lynch has often claimed that studies of socio-legal settings are a secondary research area to his primary interest in laboratory ethnography and Science and Technology Studies. Lynch himself frames his interest in socio-legal settings as an extension of his interest in science, that courts are a 'perspicuous site' for settling scientific disputes (2007). We would not seek to contest this account, although through our discussion we humbly offer an addition to it, namely that aside from scientific dispute resolution, Lynch has a strong interest in how *truth* and consequently *justice* are administered through socio-legal settings.¹

We take our role, then, to be giving something of a 'behind-the-scenes' account of our collaboration with Lynch, and how our collaboration has influenced our reading of his work in socio-legal studies. As such, we present a vision of Lynch's work as it relates to our own, in a way that might pose a stretch for some in our audience. We hope to inspire some readers to revisit Lynch's socio-legal studies with an eye to how they can instruct an academic engagement with justice.

Tangentially, we will comment on the place of 'criticism' and value neutrality in ethnomethodology, and what we have learned about this from Lynch. Sociology has struggled with how to position itself against 'political' considerations associated with subject matter, and there have been ethnomethodological echoes of such contentions (Jayyusi 1991; McHoul 1988; 1994; Pollner, 1991). The suggestion of a value-neutral ethnomethodology is often associated with Garfinkel and Sacks's notion of *indifference* (1970, Garfinkel 2002; Lynch 1991) and the ethnomethodological necessity for descriptions of social action to be adequate (as in recognizable) to the Member's from which they are derived. Our collaboration with Lynch is engrossed in this contention given the 'political' character of post hoc assessments of conduct for cops who kill. How can we possibly avoid critique and complete descriptive adequacy in such a value-laden setting?

We review three major contributions Lynch has made to socio-legal studies: 'the longitudinal project' (Lynch 1982; Brannigan and Lynch 1987), *The Spectacle of History* (Lynch and Bogen 1996), and *Truth Machine* (Lynch, Cole, et al. 2008). Through these, we will

We italicize 'truth' and 'justice' throughout in part because these are sociological or ethnomethodological glosses of a sort. This is a derivation of Garfinkel's own practice of using various forms of parentheses to note when he was resorting to a gloss in his descriptions. McHugh (1970) convincingly illustrates how 'truth' is a matter of social consensus rather than an 'objective' state of nature. We are unaware of any logical-grammatical/ethnomethodological study of concepts or notions of *justice*—no doubt a consequence of broad use of these notions across various domains of human activity and discourse. Lynch finds sociological (or ethnomethodological) interest in subjects that have considerable relevance to how our societies are organized around notions of *justice*, including the *prima facie* failure(s) in achieving a *just* society. We are not arguing Lynch defines or essentializes *justice a priori*; instead, he looks at courts and other legal venues the society has for achieving *justice* and analyzes how *justice* is produced (or not) according to these institutions' own terms.

comment on Lynch's use of the indifference principle to produce analyses that do not supplant Members' categories but rather present accounts of how *justice* is accomplished through legal proceedings. We argue that Lynch's work provides an example of precisely how ethnomethodology can successfully engage in critical inquiry while weighing out the obligation for descriptively adequate synopses of Member's work in this setting. Moreover, we will suggest that Lynch sets the exemplar of how one can develop critical insights while avoiding the implications of privileging an elite/academic account of the settings studied, unrecognizable to those who produced said setting.

What we take so seriously from and about Lynch's work is it avoids an academically elite position. Lynch steadfastly refuses to pander to readers and instruct them on the moral implications of the settings he observes and describes. At the same time, we believe Lynch demonstrates an intense awareness of the critical significance of his areas of study and their consequences for *truth* and *justice*. It is a contemporary truism that while courts are places where 'justice work' is done, little of what goes on in courts reflects what is *just*. Lynch's studies of these settings elucidate the practices of (in)justice and in so doing demonstrates the lived details of *justice as work*—how the institutions that are charged with delivering *justice* specifically account for their outcomes.

Sociology and Value Neutrality

Questions of 'value neutrality' expressed through a sociological 'science' have recurred throughout the discipline's history. The textbook contrast between Durkheim's (1895 [2013]) 'scientific' methodology and Marx's (1978) interventionist historical materialism are typical frames for such contentions, with Weber's (2004 [1919]) instruction to allow one's values to be expressed through one's topic selection cast as a type of middle-ground. Becker's missive Whose Side are we On? (1967) was a declaration of alignment with marginalized groups, arguing in brief that sociology's task—as Marx had initially argued of the social sciences generally—is the emancipation of marginalized or stigmatized individuals. Similar sentiments are expressed in the final chapter Goffman's Stigma (1963) and Mills's The Power Elite (1956) and their juxtapositions expressed in Parsons's (1937) or Merton's (1949) structuralist sociologies.

The Incommensurable, Asymmetric Ethnomethodological Alternate

Ethnomethodology's indifference principle contrasts with the position favoured by Marxist critical theory, wherein the analyst *is* afforded a privileged access to a 'real' society of which the actor remains ignorant. Garfinkel treats social structure as an ongoing *accomplishment* achieved in and through social interaction. Rather than naiveite, Garfinkel finds that Members recognize their position in a social structure. He puts forward a programme of research that attends to how that structure is invoked and rationalized in 'common sense' means by Members themselves. In this sense, ethnomethodology retains a strictly anti-elitist orientation, refusing to suggest that the analyst knows the Member's position in society better than the Member does. This is enacted through the indifference principle, where the analyst retains a professional (if not personal) indifference to the social structures or orientations thereto

drawn-upon by Members to give accounts of how their worlds work. The ethnomethodological project, therefore, is not to diagnose and remedy social problems, *per se*, but to examine the constitution of social life including social problems as Members do, as Members' phenomena.

Garfinkel has commented that the indifference principle is '... a policy that has been consistently misunderstood... as referring to an indifference to aspects of society, such as matters of structure and social order...' (2002, 170). Lynch has clarified the indifference principle on at least two occasions, and the direction Lynch puts forward through these clarifications is instructive. The first (Lynch 1991) summarizes Garfinkel and Sacks's (1970) indifference to formal analytic sociological methods for rendering social phenomena observable-reportable as 'social scientific' phenomena. With reference to Garfinkel's (1967) study of coding decisions made by social science research assistants, Lynch notes the ethnomethodological indifference to the sociological criteria of 'validity' and 'reliability.' We do not question the place of *ad boc* procedures undertaken by the researchers to envelop clinic records into a standardized form for the purpose of theoretical generalization. In this piece, Lynch draws our attention to ethnomethodology's indifference to formal analytic sociological methods and the intention of such methods to capture the society and render it subject to scient ific theorization.

The second clarification² of the indifference principle (Lynch 1997) is the more relevant for our purposes here. In a response to David Goode's '... heavily theorized and psychologized...' descriptions of deaf-blind children in *A World Without Words* (1994), Lynch reasserts the parameters of ethnomethodological indifference. He clarifies:

The policy of 'indifference' should be understood not as a principle that sets up a purified vantage point but as a maxim that encourages a unique way of investigating how social order is constituted. As such, it is a reminder to keep the constitutive order in view. By reminding us that professionals (social scientists, administrative analysts, and social engineers) do not monopolize the development and use of rules, formulae, algorithms, maps, guidelines, rules of thumb, maxims, instructions, and the like, the policy of indifference encourages us to examine how humble accounts, and anonymous uses of such accounts, are no less constitutively embedded in the society than official, highly publicized, and professionally authorized versions. (372)

Lynch finds Goode's work akin to 'controversy studies' in Science and Technology Studies (STS) (Martin and Richards 1995; Jasanoff 1987) pitting diagnostic clinician's descriptions of the children's conditions (and their accompanying psychological theories) against parent's accounts of their children's capabilities. However, instead of accommodating a *symmetrical* (Bloor 1976) analysis that attends to the contentions between the two positions, Goode develops counter-theories to psychological clinicians that give a gloss of scientific credence to the parents' descriptions. It is these theorizations that Lynch finds breach the indifference prin-

We are showing here two places where Lynch offered clarifications of the indifference principle, and we note that while the valence of each clarification is unique, the principle is unchanged. Garfinkel (1967) drew no distinction between 'professional' and 'laic' fact finding or ethnomethodological indifference thereto. This is consistent in Lynch's two clarifications.

ciple, and an adoption of an academic-elite preference for the parents'/ethnomethodologist's theory of conditions.

We take this as an important stepping off point to describing and summarizing Lynch's impressive collection of works in socio-legal studies. The indifference principle is well incorporated into STS/SSK canon, albeit more through the Bloor's symmetry principle (op cit.). It is less developed in legal studies, where tendencies to more partisan accounts are common. We argue here that Lynch's approach has considerable advantages, avoiding the pitfalls of having partisan accounts dismissed based on the (perceived) politics of the researcher. The indifference principle also entrusts the reader to see the issues at play as they are represented in the Members who produce them, arguably giving greater purchase for the resolution of identified problems.

Lynch's work, be it in socio-legal or science studies, draws clear attention to how knowledge claims are made within an institutional frame. Both venues are institutions where what actually happened is decided, for some (if not all) intents and purposes. Remaining indifferent to the outcome of such procedures for knowledge production and truth-finding while interrogating the procedures for how truth is achieved, to us, fulfils the objectives of sociological critique that so frequently evades critical theorists.

'THE LONGITUDINAL PROJECT'

In 1978, Lynch took up an 18-month post-doctoral fellowship at the University of Toronto's Centre for Criminology and Socio-Legal Studies on the project *The Cumulative Effects* of Discretionary Decisions in the Canadian Criminal Justice System. The project was, at the time, among the largest in the history of the Social Science and Humanities Research Council of Canada (SSHRC). Unfettered access to police, courts, and corrections had been negotiated to study the lived consequences of the 'crime funnel' and the 'editing' of putative criminal acts into formal designation as such (Hester and Eglin 2017, 158-59).3

Under the supervision of James L. Wilkins, Lynch worked closely with Augustine Brannigan, observing court proceedings and pre-trial conferences between prosecution and defense counsel. Plea bargaining had attracted significant scholarly attention in the years preceding the longitudinal project (Alschuler 1975, 1979; Sudnow 1965) as an opaque and arguably unfair practice that pitted defense counsel against their own client and in alignment with prosecutors and the court—a clear violation of norms in adversarial criminal proceedings. Lynch's writing on pre-trial conferences (1982) picked up where Sudnow (op cit.) ostensibly left off,

Background information on the longitudinal project and Lynch's contributions to it were generously provided by Augustine (Gus) Brannigan through personal communications. Gus recounts that both he and Lynch had an interest in STS outside their studies of legal procedure, and have maintained a close personal and professional relationship in the years following the project. Gus's recent work has examined the rise and fall of experimental social psychology over six decades, and will be of considerable interest to ethnomethodologists (see Brannigan 2021). We are grateful to Gus for sharing his detailed recollections of the longitudinal project with us.

by attending to the interactive process of negotiating the agreed statement of fact between prosecution and defense counsel in efforts to avoid a pending trial.

Briefly, the paper considers the practices of Argument (as in the facts and their legal relevancies that counsel intend to put before the court) and argument (as in the interaction between individuals where there are contentious disagreements) endogenous to these meetings. The vast majority—perhaps upward of 90%—of criminal cases in both Canada and the United States are settled through guilty pleas, often secured by plea bargains (Verdun-Jones and Tijerino 2002). A considerable proportion of both prosecutor and defense counsel work is dedicated to these types of negotiations where a compromise minimally satisfies both parties. Lynch shows the means through which counsel enact the adversarial process outside the more formal Argumentative setting of open court, correcting prior sociological scholarship that described plea negotiation practices as more collaborative and collegial.

We are interested in how Lynch's description of these meetings puts the practices to critical scrutiny, albeit without recourse to explicitly moralizing language, for example imbuing either prosecution or defense counsel with extraordinary *power* or *authority* through the interaction. In a section titled *Placing the Argument on 'Hold'* (1982, 312-14) a discussion of a prosecutorial trump card arises. What lies behind any negotiation between defense and prosecution counsel is the 'projectable use of the trial' (314) that unequally favours the prosecution over the defense⁴. Prosecution counsel can, more or less, rest assured that if difficulties arise during the plea negotiation process, they can opt to proceed to trial instead, and remain relatively confident the result of the trial will favour them. Defense counsel, on the other hand, are not so lucky. Lynch references Alshuler's description of 'cop out lawyers' (1975, 1182), counsel who have made a career out of negotiating (reduced) penalties for their clients and who do not have the requisite skills and knowledge necessary for litigation. In several excerpts of conferences presented in the article, defense counsel would reach, or appear to be reaching, one of these impasses, leave the conference to consult with their client, and return announcing their client was then prepared to enter a guilty plea on the prosecution's terms.

To be clear, Lynch does not level any accusation against the Crown of undue influence over the proceedings through the spectre of trial and the likelihood of the judge siding with the prosecution, nor does one seem warranted. The trial's looming presence in plea negotiations is described as a matter of fact, and as the only unique feature Lynch finds in pre-trial arguments that would not be constituent of any other argumentative exchange. However, any competent defense lawyer will inform their client, upon having received such an ultimatum, that should the client be found guilty of the charges their sentencing disposition will be less favourable having not admitted to their crimes in advance of them being proved in court. What Lynch shows through his careful exposition of the means through which defense and prose-

Sudnow's description in Normal Crimes (1965) goes so far as to put public defenders, prosecutors, and judges all on the same team (and the defendant on the opposing team) when plea negotiations were refused and cases were taken to trial. The Canadian legal aid system is organized differently than the American public defender system—rather than employing public defenders through the court, eligible accuseds in Canada are issues legal aid coupons, and may select their own legal counsel who will be paid by the province through coupons rather than the accused directly. However, there is an income cut-off for access to legal aid.

cution come to an agreed statement of fact is the envelopment of an untenable gamble; the accused may be viewed as less criminally culpable by the court than a prosecutor is willing to consider, but the accused subsumes considerable risk and uncertainty in pursuing trial given the sentencing discount expected through plea arrangements. The means through which the prosecution flexes its proverbial muscle is the threat of trial which prosecutors know cannot be met by many defense counsel.

Here we see the first trace of what we believe to be a recurrent theme in Lynch's legal studies scholarship: an unstated or understated frustration with the apparent short cuts available to prosecutors that disproportionately affect the accused who does not have sufficient resources to fully resist the overwhelming power of the state. High profile and wealthy accused like OJ Simpson, Robert Blake, and Jian Ghomeshi stand as reminders that personal wealth and privilege come with the advantage of being able to acquire considerable expertise in one's legal defense. When put to the challenge, prosecutors often struggle to overcome the barrier of 'reasonable doubt'. For those not so fortunate, Lynch demonstrates the means through which the state accomplishes its desired outcome.

CIVICS AND SLEAZE: THE IRAN CONTRA HEARINGS

In the wake of Donald Trump's election as United States President, some STS scholars revisited the 'science wars' as an epoch-defining turn that facilitated the rise of a man known for his unique unfamiliarity with the truth (Collins, Evans and Weinel 2017, Fuller 2016, 2018). The 'post-truth era' was apparently more than just a media phenomenon to describe the unexpected rebellion of the American electorate against the 'establishment candidate' Hilary Clinton. As the former editor of Social Studies of Science, Lynch (2017) was invited by then editor Sergio Sismondo to reply to the conflation of post-truth with the symmetry principle in STS after Sismondo's own editorial on the subject (2017) came under attack. Unsurprisingly, Lynch was less willing to place fault for Trump's presidency at the collective feet of STS scholars, a pertinent observation given that the term 'post-truth' dates back to the Iran Contra hearings (Lynch 2017, 594), an event with which Lynch is intimately familiar.

Space here prevents a full recounting of the testimony given before the US Congress in 1992 after the US Central Intelligence Agency (CIA) was caught surreptitiously and illegally selling weapons to Iran and using the funds to support the right wing Contra insurgency in Nicaragua. Colonel Oliver North and Admiral John Poindexter, both insiders to President Ronald Reagan's administration, appeared before a joint congressional hearing accused of being central actors in the exchanges with insider knowledge of the Reagan Whitehouse's involvement, up to and including the President himself. However, as investigators closed in on the two, North and Poindexter destroyed reams of documents that likely would have implicated the President in the CIA's actions. As things stood, the destruction of documents, and production of testimony before a joint house-senate committee, served as powerful infrastructure to afford 'plausible deniability' to Reagan's knowledge of the affair. When interrogated,

North, Poindexter, and others denied knowledge of the content of the destroyed documents and claimed the destruction was broadly part of routine office procedures.

Oliver North was identified as an especially charismatic witness, whose public, All-American persona was juxtaposed with testimony that was littered with obfuscations, misrepresentations, and outright lies. Together with accomplices on the Republican side of the joint committee, North subverted the formulation of a singular narrative of the Iran Contra affair, without which President Reagan remained mostly unimpacted by the events and finished his term without facing consequences. His Vice President, George H. W. Bush, another likely participant in the affair, was elected president at the end of Reagan's term.

Lynch and Bogen (1996) analyzed key moments of North's testimony in The Spectacle of History. Early in the book, they caution their reader: 'To colleagues who would have us deconstruct the testimony and media reports in order to expose and denounce substantive abuses of power and a manipulation of public opinion, we will insist that in this case the most effective deconstructionists were on the administration's side' (9). Herein we see the commitment to ethnomethodological indifference and anti-elitism that is so exemplary in Lynch's work. They were perhaps ahead of their time noting the partisan character of truth in this setting, noting that Republican representatives were cowed by the threat of a second impeachment of their President—Nixon and the Watergate scandal loomed large in the Republican collective memory. Considerable partisan interests in subverting the fact-finding mission of the committee in defense of the party, if not the country, were on full display through the hearings, from committee members and complicit media commentators. However, Lynch and Bogen set aside no special terrain on which they might validate one narrative or the other. They pulled no punches in describing North's obvious falsehoods and convenient failures to recall, but their focus was on the means through which North was able to evade strict accusations from Democratic party members of the committee who grew increasingly frustrated with the obfuscations.

The book's objective was to examine the 'production of a historical event' (Lynch and Bogen 1996, viii, 5, 6, 7, 14, 36-37, 61, 94, etc.) through references to documents and testimony at the hearing. This is a commitment that they contrast with a social constructionist perspective they find summarized in Fish (1989), where a constructionist metaphor contrasts with an 'objective truth' from which the 'constructed' history deviates.

They note the fact that the officially certified accounts of the US Administration's actions between 1985 and 1992 were 'constructed' is not in itself an interesting issue (Lynch and Bogen 1996, 6). Given the inevitably 'constructed' character of historical accounts, Lynch and Bogen help answer the question: what procedures are used to *produce* (or rather, avoid) just this account at this time for these practical purposes? Those practical purposes cannot be separated from their political export. Prima facie, the 'purpose' of such an inquiry is its truth-finding mission, although were the truth to be objectively revealed the political consequences to several members of the truth-finding committee would be untenable. We therefore see, through Lynch and Bogen's re-presentation, the production of plausible deniability as collaboratively accomplished by North and his committee accomplices.

The book demonstrates the procedural nature of truth production aligned with an indifference to that truth. In our opinion, this is not because Lynch and Bogen do not care about the truth, in fact quite the opposite seems to be the case given the final chapters' practical grammar analysis of 'sleaze' in political fact finding and beyond. McHugh's (1970) observation that truth is a matter of social consensus weighs heavily here. The Republicans, cognizant of the damage the *truth* would bring, employed underhanded tactics and dirty tricks to ensure no singular narrative would emerge. But for Lynch and Bogen, avoiding the typical mistake of constructionists' attempt to replace the 'constructed' account of history with an 'accurate' sociologically bona fide account' was paramount. This avoids the conundrum that any 'constructed' account of events, either the committee's or the sociologist's, is subject to the same objections.

Lynch and Bogen do not take it as their obligation to instruct the reader on what is and is not 'truthful' about North's testimony. They point to the practices North employed to produce uncertainty in the face of overwhelming evidence that Reagan was directly involved in the affair. The reader is afforded their political commitments and partisan interests—if one wanted to see North as a sincere witness, the analysis does not immediately infringe on that perspective; it would simply be a matter that what we have called 'obfuscations' and 'lies' for the purpose of our summarizing gloss would be reframed as 'honest lack of knowledge' or 'sincere failure to remember' supported by a lack of relevant documentation to augment North's incomplete recollections. The civics lesson on sleaze relates to both North's conduct and the system that permits it.

There was something compelling about looking at the obvious 'bullshit' (Lynch 2017, 594) of Trumpism and seeing it as exceptional. Some attention to history, however, will inform us that politics has been a 'post-truth' domain for over a century⁶. Lynch's measured response to Collins, Evans and Weinel and Fuller is informed by his own experience in researching the production of 'post-truth' history. The lessons of *The Spectacle of History* would be well applied to understanding Trumpism and other conspiratorial movements.

DELVING INTO THE DNA WARS: SCIENCE, FORENSICS, AND COURT

Lynch's writing on DNA evidence (with Simon Cole, Ruth McNally and Kathleen Jordan, (2008)) closely aligns with his stated interest in courts as a perspicuous site for observing scientific controversies. It is also the most explicit problematization of an exigent state of affairs the adoption of DNA evidence as the 'Gold Standard' (Lynch 2003) for forensic identification in courts around the world. Lynch and colleagues dedicated themselves to understanding how science journalists, knowledgeable lawyers, and legal scholars arrived at a place where,

The principle commentary of this mistake is articulated in Woolgar and Pawluch (1985) and the 'definitional' perspective of social problems research exemplary in the 'constructionist' perspectives of Spector and Kitsuse (1977) and the empirical studies of Loseke and Cahill (1984) and Pfohl (1977).

Readers will likely recall, for example, Chomsky's (2002) history of pro-war propaganda used by the Wilson administration to solidify public support for the American entry into the First World War, in particular the complete fabrications of the by the British propaganda ministry about atrocities committed by 'huns' against Belgian babies (12-13). Chomsky notes that this was after Wilson was elected on an anti-war platform.

despite the well documented frailties of forensic science and evidence gathering techniques, nevertheless find DNA profiling convincing in court.

The weaknesses of DNA profiling are too numerous to rearticulate in the space available here. They span the criminological presumptions made by population geneticists, to the professional judgments of depictions of allele expressions from a 'crime stain' to an accused, to corruption and incompetence by forensic investigators, analysts, technicians, and scientists⁷. Despite it all, DNA profiling gained significant public (if not necessarily legal) attention as convincing, nearly perfect evidence.8 The book addresses the question of how DNA became a 'truth machine'—a similar theme as explored in *The Spectacle of History*, albeit through different means—through a series of both legal and scientific challenges.

Lynch's work on DNA profiling exhibits an overall skeptical position. This extends beyond DNA profiling to other forms of forensic 'science' like ballistics, impression analyses such as tool marks, bite marks, bloodstain patterns, and through his co-author Simon Cole, fingerprinting. That said, the exposition does not explicitly instruct the reader to take issue with DNA profiling. The reader is instead led through a series of scientific debates through scholarly journals, court decisions, and systemic reviews and certifications conducted by national advisory boards on evidence in the US and UK. The analysis brings to mind a quote from Stacy Burns, that "... in the "encounter" between law and science in the courtroom, science does not trump law. When science comes into the house of law, it is obliged to observe house rules and it is the court's canons of proper procedure and substantive adequacy which take precedence' (Burns 2008, 127, italics original).

Having shown the contentions and imperfections of DNA profiling techniques and traced through how such contentions were settled and set aside by the courts, the book's objective comes to fruition: laying bare the contingencies and inherent uncertainties associated with DNA profiling and detailing the distinctly non-exceptional, non-extraordinary, circumstantial character of DNA evidence. Far from being a 'truth machine,' the study demonstrates the many ways DNA profiling must first be fit within a set of practical technical/scientific procedures and then an overall case narrative that draws a connection between a crime stain and criminal culpability.

Lynch and colleagues point out that the proliferation of scientific and expert evidence has alarmed jurists, the concern being that clashing expert testimony stands to overwhelm jurors. Truth Machine is a useful text for confronting commonly held presumptions about the status of DNA profiling and its utility for ascertaining legal guilt through adversarial trials. They also provide some assurance that jurors are perhaps not quite as vulnerable to influence of competing experts as judges fear. All this said, concern for the undue influence of DNA pro-

Lynch et al. note that nearly all the practitioners working on DNA profiling have few credentials typically associated with professional scientists such as terminal degrees in genetics or biology. Many have little more than certificates and undergraduate degrees.

At the very outset, Lynch and colleagues challenge the so-called 'CSI Effect' in forensics, an opinion often linked to prosecutors, that jurors are reluctant to convict accuseds absent scientific/technical-looking evidence. Lynch's co-author, Simon Cole, has published extensively on the subject, finding the effect is at least overstated, if not non-existent (Cole 2015; Cole and Dioso-Villa 2008–2009; Cole and Porter 2017).

file evidence begins much earlier in the criminal investigative process than the jury trial. The influence of DNA profiling (and public understanding thereof) contributes to an accused's calculations for pursuing a fulsome defense to trial versus entering a guilty plea on the promise of a sentencing discount. Particularly with wrongfully accuseds, the issue of extracting (false) confessions under the weight of (spurious) DNA profile evidence looms large. If *Truth Machine* fuels public understanding of DNA profiling and diminishes the public perception of the technique's infallibility, the outcome serves *justice*.

RACE, COURTS, AND 'PROFESSIONAL' VIOLENCE: THE POTENTIAL FOR A CRITICAL ETHNOMETHODOLOGY?

We want to address a criticism levelled at Lynch from one of the few ethnomethodologists we are aware of who have offered it of his work. It also gives us occasion to revisit a matter that has occupied us in our studies together of criminal proceedings for police officers accused of excessive force in on-duty shooting incidents.

Jayyusi (1991) critiques Bogen and Lynch's (1990) objection to McHoul's (1988) proposal for a critical social theory derived ethnomethodologically. McHoul's proposal is based in his own critique of Jeff Coulter's analyses of psychological therapeutic practice and psychology's orientation to notions of 'mind' (1973, 1979, 1983). Jayyusi aptly illustrates how Garfinkel, Sacks, Schegloff, Pollner, and other leading ethnomethodologists and conversational analysts accounted for and anticipated the inherently moral character of social action and descriptions thereof. The criticism directed at Bogen and Lynch is to the effect that they attempt to hive-off a value-free domain for ethnomethodological and conversational analytic research and description under the guise of ethnomethodological indifference. Jayyusi posits, in our opinion correctly, that doing so is a dated ambition tied to a conceptual confusion expressed through Weber's aspirations for a value-neutral theory-generating sociology.

The question for us is: is this what Bogen and Lynch were proposing through their comments on McHoul? In our read, they seem explicitly open to a 'critical' ethnomethodology and the awareness that there are no descriptive 'time outs' (Garfinkel 1967) from that inescapable moral ordering of social interaction including sociological descriptions, for example stating '... we hope to be able to show where ethnomethodological and logical grammatical investigations can gain some 'critical' purchase, though it should now be clear that our understanding of this term is at odds with McHoul's...' (Bogen and Lynch 1990, 514). From our understanding, Bogen and Lynch were not convinced McHoul's description of an interaction between a patient of a mental health hospital and a mental health worker is accurately recorded as to the Member's or others' experience. They do not foreclose on the idea of a 'critical' ethnomethodology (indeed they go on to demonstrate how ethnomethodology might incorporate critique) nor do they appear ignorant to the consequences of their own descriptive choices. This would be quite a departure from the suggestion that Bogen and Lynch are asserting value-neutral status to their own descriptions.

We see ample evidence of Lynch's own critique and awareness of his descriptive choices as bearing critical (or political) consequences throughout his work in legal studies (and, for that matter, his studies of laboratory practice). Each of the three studies we covered here make it clear, at least in our read, that there is a critique of practices under investigation, albeit the obligation falls to the reader to understand that 'cop out lawyers' and the politics of 'sleaze' are less than ideal circumstances of the criminal legal system. For us, it seems nearly self-evident Lynch chose to write on these topics *because* there was a critique to be made. Returning to the theme of fact-production, we see a strongly evident subcurrent attending to how establishing a 'fact' is highly contingent on the individual's social position and capacity to confront the version of events posited by the state.

With this observation in mind, we suggest that Lynch's work illustrates a sympathy rooted in a natural justice for the individual and the individual's capacity to defend oneself from the overbearing power of the state. The critique plays at both poles of civic life: through the longitudinal study and Truth Machine we see the state ostensibly loading the criminal legal system in its favour. The cost of trial or independent DNA testing is a considerable barrier for nearly anyone outside the wealthy elite. We see Lynch's critique here as an exposition of how the state can stack the deck of fact-finding in its favour at the expense of those who cannot match the state's financial and epistemic resources. In Spectacle of History we see how an accountability system is manipulated by politicians and their staffs to insulate the occupant of the 'highest office in the land' and in the process exonerates to a considerable degree one of the nefarious actors at the centre of the scandal. However, in each of these studies, Lynch refuses to take the easiest way out, pointing only to the social-structural contingencies that are the typical grist of sociological inquiry, the formal analytic 'true' determining factors to outcomes in criminal inquiry. Lynch's alternate is to attend in close detail to the lived work of producing a 'factual record' of events in its own terms, the record of events that establishes the procedural 'truth' that becomes an accepted history of the events. These analyses are attentive to conventional sociological formal analytic categories such as race, class, gender, and so on, but are not reductive to them.

Jayyusi does suggest that descriptive choices by the analyst may produce '... alternative characterisations or assessments, that may have morally or 'politically' contrastive or disjunctive implications, [that are] routine features of certain kinds of mundane settings, occasions and practices...' (1991, 248). We would expect that a great deal of ethnomethodological descriptive choices are not necessarily directly relevant to the Members of the setting, although they are expected to be accurate representations of those settings as they are experienced *by Members themselves*. Our read is not that Bogen and Lynch are isolating themselves from the 'critical' language of McHoul, but that they are drawing issue with the congruence between how McHoul describes a scene versus how the Members of that scene orient to it themselves. Describing a scene in a way that makes it unfamiliar to the Members would be a significant failing for ethnomethodologists.

Violence, Professions, and Videos

At the time of writing, we have been working with Lynch for six years on the 'police-involved shootings' project, examining how video evidence impacts criminal proceedings when officers stand accused of excessive force offences. Our collaboration commenced following a number of conference presentations that eventually evolved into publications on two cases where of-

Lynch's approach to the Van Dyke case relates to the criticisms raised by Jayyusi above. Lynch's writing on the case and trial attends to an issue raised by Jasanoff (1998) in her critique of Charles Goodwin's analysis in *Professional Vision* (1994). Goodwin analyzed the expert opinion evidence given by a police officer, Sergeant Charles Duke of the Los Angeles police department, in defense of the four LAPD officers who were recorded savagely beating Rodney King in 1991. Jasanoff finds that while Goodwin's analysis of Duke was exceptional, there is no attention paid to the admissibility of his opinion evidence—that Duke was arguably not an expert, and it is dubious to suggest the jury required an expert interpretation of what was plainly visible in the tape.

Lynch's contention with Goodwin's analysis starts with Goodwin's juxtaposition of the police 'professional vision' of Duke with the banal 'professional vision' of archeologists's practices of soil gradation. Goodwin notes that all vision is 'perspectival,' but that is aside from issues of who is formally allowed to present their perspectival impression of events witnessed on video as an authoritative, 'professional' account. Lynch asks whether there *are grounds* on which to describe Duke's version of events as a 'professional' vision at all, and whether Goodwin's description of Duke's vision as 'professional' does not inadvertently and unintentionally grant it unwarranted deference.

We see an answer to Jayyusi's critique of Bogen and Lynch in Lynch's response to Goodwin. The descriptive term 'professional' ascribed to Duke by Goodwin is imbued with notions of authority and expertise. Using it as Goodwin does fails to illuminate the curious ambivalence by this court toward the gatekeeping function of only admitting opinion evidence where relevant expertise can be said to exist, and where that expertise can benefit jurors. We returned to the testimony of Charles Duke posted to CourtTV's website for our own study and were struck by the response of the court to Duke's testimony. After Duke left the stand, the prosecution edged toward a motion for mistrial on the grounds that use-of-force experts were, in fact, not qualified or necessary to opine on the accuseds uses-of-force. The trial judge responded 'the court permitted expert opinion because both sides indicated a desire to introduce expert opinion'—a curious admission given what was at stake in the trial and the court's role in preventing undue influence on jurors through opinion evidence. Duke's 'professional' expertise, and the relevance of that expertise to the jury's understanding of the case, remained uninterrogated in Goodwin's analysis.

Cops, Courts, Videos, and Race

These proceedings are also central to, and perspicuous sites for, understanding contentions of Race relations in North America. Black people, especially young Black males, are disproportionately killed and harmed by police in the United States, and it is virtually impossible to discuss police violence without reference to its racialized dynamics. However, reference to Race and allegations of racism are tightly controlled in criminal proceedings. Absent an

explicit indication of racial bias, courts exclude racism as a motive for (police) murders. This was a significant topic for us in our discussions of these trials. Lynch would often note during our meetings that Race was a significant feature of the events that led to criminal trials for these police officers, even if allegations of racism against white police officers who killed Black people were never sustained in our cases. This led to numerous discussions between Lynch and ourselves about how to attend to Race ethnomethodologically, as in how Race featured as a matter *in court*. While Race is perspicuously—or as Lynch has occasionally suggested, conspicuously—topicalized in public or media commentary on these cases, it features less definitively during adjudication.

As noted, our collection includes a majority of cases involving Black victims. This was a deliberate choice on the grounds that what drove our interest in the topic in the first instance was the disproportionality of violence inflicted upon Black people. However, absent explicit allegations of racism in court, we have felt impoverished in our capacity to comment on Race in the setting. One thing we have noted is that the conditions for legal adjudication tend to find their locus on a *final frame analysis*, wherein the key *legal* moments occur directly preceding the decision to shoot—the final frames of the evidential video gaining nearly exclusive legal attention as counsel debates the 'reasonableness' of perceptions of imminent threat that justify lethal force. If we were to simply accede to this analysis, it would be difficult to assert any racist implications because the impact of racial bias is rarely if ever made apparent in the final seconds leading to a shooting.

However, what we have noted, with Lynch, is that there is a certain irony in these trials around the legal condition that the incidents be weighed on the *totality of circumstances*—and Lynch has pointed out that this could include an infinite array of possible factors that contribute to an officer's decision to shoot. These ironies about totalities are not limited to the fact that Race is systemically excluded from the eligible totality (if totalities are infinite, they do not start or stop with victim Race), but that has been a recurrent theme in our discussions. And Lynch has been steadfast in his observations of how Race is, indeed, mobilized in court, albeit in ways that downplay the significance of the racialized character of these shootings. Together, we have analyzed questioning and testimony that works to convince the jury to see past the racialized character of these incidents. Our discussions and analyses have focused on the way Race is circumscribed by the court. We find that this process generally works to the benefit of accused officers by excluding allegations of racism and focusing the proceedings away from elements of the *totality* that might imply racial bias.

CONCLUSION: ETHNOMETHODOLOGY, INDIFFERENCE, AND CRITICISM

We suspect that a significant barrier to reform in the criminal legal system is critical descriptions of prosecutorial or judicial practice can be dismissed out of hand based on their liberties or inaccuracies. McHoul's example is an apt demonstration: he argues that a mental health worker is affecting an arrest, which may be a fair colloquial description of the interaction, but McHoul would need to show that is a description germane to the organizational and institutional practices and policies in play during the interaction. Hyperbolizing the incident simply affords the reply that the description is incongruent with the experience of all involved. What

Bogen and Lynch do argue is McHoul's glossing the interaction as an 'arrest' adds moral implicature that can be dismissed as something other than what is going on *in situ*.

It is perfectly within reason to colloquially describe a prosecutor closing off discussion of a case in favour of litigating the issue in contention, or leveraging the results of a DNA profiling test as exercising the overbearing power of the state, or to describe a member of the President's inner circle (itself a rather indelicate gloss) as telling a lie, but such critical descriptions can be readily dismissed. This is what we find so compelling in Lynch's work on the courts: he refuses to do the reader's work for them by describing circumstances in ways that suggest '... and you should feel bad about this practice.' That is for a reader to decide. Lynch elucidates how the practice works, and in so doing, empowers the reader to demand redress from actions deemed worthy of critique in terms not so easily deflected as hyperbolic or inaccurate. The result is not a hived off value-neutral description, but a description attentive to the work in its own terms. For those hoping to leverage ethnomethodology for critical appraisals of social problems, we see no better place to start than Lynch's studies of socio-legal settings.

We see through this discussion something more in Lynch's socio-legal studies than the courts as a perspicuous site for studying scientific controversies. We would suggest they are a perspicuous site for something of a more equivocal but perhaps intuitive phenomenon: *justi*ce. It of course makes perfect sense to say, prima facie, that courts (or 'halls of justice' as they are sometimes called) are the place where justice work is done, although critiques of the courts abilities or desires to deliver *justice* have pervaded academic and non-academic discourse for decades. For us, Lynch's work seeks to deliver on the promise of the courts for being a place of broadly accepted *justice*, of critically scrutinizing what courts do—the shortcuts the state affords itself in leveraging its favoured outcomes—so readers can better understand how to demand what they want courts to do. This is not to presume that Lynch has a strong version of *justice* to impose on the courts. Instead, we take it that he sees *in* justice and turns his attention to showing how such injustices specifically work, in their lived details, so that scrutiny cannot be evaded. We believe Lynch has told us whose side he is on, and he empowers us on how to demand better of the *justice* system by describing the work on its own terms.

REFERENCES

Alschuler, Albert W. 1979. 'Plea Bargaining and Its History.' Columbia Law Review 79 (1): 1-43.

-----. 1975. 'The Defense Attorney's Role in Plea Bargaining.' The Yale Law Journal 84 (6): 1179-1341.

Becker, Howard. 1967. 'Whose Side Are We On?' Social Problems 14 (3): 239-47.

Bloor, David. 1976. Knowledge and Social Imagery. London, UK: Routledge & Kegan Paul.

Bogen, David, and Michael Lynch. 1990. 'Social Critique and the Logic of Description: A Response to McHoul (1988).' Journal of Pragmatics 14 (3): 505-21.

Brannigan, Augustine. 2021. The Use and Misuse of the Experimental Method in Social Psychology: A Critical Examination of Classical Research. Abingdon, UK: Routeldge.

Brannigan, Augustine, and Michael Lynch. 1987. 'On Bearing False Witness: Credibility as an Interactional Accomplishment.' Journal of Contemporary Ethnography 16 (2): 115-46.

Burns, Stacey L. 2008. 'Demonstrating "Reasonable Fear" at Trial: Is it Science or Junk Science?' Human Studies 31 (2): 107-31.

Chomsky, Noam. 2002. Media Control: The Spectacular Achievements of Propaganda. New York, NY: Penguin. Cole, Simon. 2015. 'A Surfeit of Science: The "CSI Effect" and the Media Appropriation of the Public Understanding of Science.' Public Understanding of Science 24 (2): 130-46.

- Cole, Simon, and Glenn Porter. 2017. 'The CSI Effect.' In The Routledge International Handbook of Forensic Intelligence and Criminology, by Quentin Rossy, David Decary-Hetu and Olivier' Mulone, Massimiliano Delemont, 112-24. Abingdon, UK: Routledge.
- Cole, Simon, and Rachel DiosoVilla. 2008-09. 'Investigating the "CSI Effect" Effect: Media and Litigation Crisis in Criminal Law.' Stanford Law Review 61: 1335-73.
- Collins, Harry, Robert Evans, and Martin Weinel. 2017. 'STS as Science or Politics.' Social Studies of Science 47 (4): 580-86.
- Coulter, Jeff. 1973. Approaches to Insanity: A Philosophical and Sociological Study. London, UK: Martin Robin-
- -. 1983. Rethinking Cognitive Theory. New York, NY: St. Martin's Press.
- . 1979. The Social Construction of Mind: Studies in Ethnomethodology and Linguistic Philosophy. Towtwna NJ: Rowman & Littlefield.
- Durkheim, Emile. 1895 [2013]. The Rules of Sociological Method: And Selected Texts on Sociology and Its Method. New York, NY: The Free Press.
- Fish, Stanley. 1989. Doing What Comes Naturally: Change, Rhetoric, and the Practice of Theory in Literary and Legal Studies. Durham, NC: Duke University Press.
- Fuller, Steve. 2018. Post-Truth: Knowledge as a Power Game (Vol. 1). London, UK: Anthem Press.
- -. 2016. Universalized, Embrace the Inner Fox: Post-Truth as the STS Symmetry Principle. December 25. Accessed June 28, 2023. https://social-epistemology.com/2016/12/25/embrace-the-inner-fox-post-truth-as-the-sts-symmetry-principle-universalized-steve-fuller/#comments.
- Garfinkel, Harold. 2002. Ethnomethodology's Program: Working Out Durkheim's Aphorism. Lanham, MD: Rowman & Littlefield.
- -. 1967. Studies in Ethnomethodology. Englewood Cliffs, NJ: Prentice-Hall.
- Garfinkel, Harold, and Harvey Sacks. 1970. 'On Formal Structures of Practical Actions.' In Theoretical Sociology: Perspectives and Developments, by J. C. McKinney and E. A. Tiryakian, 337-366. New York, NY: Appleton-
- Goffman, Erving. 1963. Stigma: Notes on the Management of Spoiled Identity. New York, NY: Simon & Schuster. Goode, David. 1994. A World Without Words: The Social Construction of Children Born Deaf and Blind. Philadelphia, PA: Temple University Press.
- Goodwin, Charles. 1994. 'Professional Vision.' American Anthropologist 96 (3): 606-33.
- Hester, Stephen, and Peter Eglin. 2017. A Sociology of Crime, 2nd ed. Abingdon, UK: Routledge.
- Jasanoff, Sheila. 1998. 'The Eye of Everyman: Witnessing DNA in the Simpson Trial.' Social Studies of Science 28
- —. 1987. 'Contested Boundaries in Policy–Relevant Science.' Social Studies of Science 17 (2): 195–230.
- Jayyusi, Lena. 1991. 'Values and Moral Judgement: Communicative Praxis as a Moral Order.' In Ethnomethodology and the Human Sciences, by Graham Button, 227-251. Cambridge, UK: Press Syndicate of the University of Cambridge.
- Loseke, Donieen R., and Spencer E. Cahill. 1984. 'The Social Construction of Deviance: Experts on Battered Women.' Social Problems 31 (3): 296-310.
- Lynch, Michael. 1985. Art and Artefact in Laboratory Science: A Study of Shop Work and Shop Talk in a Research Laboratory. London, UK: Routledge & Kegan Paul.
- —. 1982. 'Closure and Disclosure in Pre–Trial Argument.' *Human Studies* 5 (1): 285–318.
- —. 1997. 'Ethnomethodology without Indifference.' Human Studies 20 (3): 371–76.
- —. 2003. 'God's Signature: DNA Profiling, the New Gold Standard in Forensic Science.' Endavour 27 (2): 93-97.
- —. 2007. 'Law Courts as Perspicuous Sites for Ethnomethodological Investigations.' In Orders of Ordinary Action: Respecifying Sociological Knowledge, by Stephen Hester and David Francis, 107-19. Aldershot, UK: Ashgate.
- -. 1991. 'Method: Measurement—Ordinary and Scientific Measurement as Ethnomethodological Phenomenon.' In Ethnomethodology and the Human Sciences, by Graham Button, 77-108. Cambridge, UK: Press Syndicate of the University of Cambridge.
- -. 2018. 'Professional and Transparent Vision.' In Co-operative Engagements in Intertwined Semiosis: Essays in Honour of Charles Goodwin, by Donald Favareau, 241–46. Tartu: University of Tartu Press.
- —. 2017. 'STS, Symmetry and Post-Truth.' Social Studies of Science 47 (4): 593-99.

- —. 2021. 'Vernacular Versions of Viral Videos: Speaking for Evidence that Speaks for Itself.' In *Legal Rules in* Practice: In the Midst of Law's Life, by Baudouin Dupret, Julie Colemans and Max Travers, 182-204. Abingdon, UK: Routledge.
- Lynch, Michael, and David Bogen. 1996. The Spectacle of History: Speech, Text and Memory at the Iran-Contra Hearings. Durham, NC: Duke University Press.
- Lynch, Michael, Simon A. Cole, Ruth McNally, and Kathleen Jordan. 2008. Truth Machine: The Contentious History of DNA Fingerprinting. Chicago, IL: University of Chicago Press.
- Martin, Brian, and Evelleen Richards. 1995. 'Scientific Knowledge, Controversy, and Public Decision-Making.' In Handbook of Science and Technology Studies, by Sheila Jasanoff, Gerald E. Markle, James C. Peterson and Trevor Pinch, 505-526. Newbury Park, CA: Sage.
- Marx, Karl. 1978. 'The 18th Brumier of Louis Bonaparte.' In The Marx-Engles Reader, 2nd ed., by Robert C. Tucker, 594-617. New York, NY: Norton.
- McHoul, Alec W. 1988. 'Language and the Sociology of Mind: A Critical Introduction to the Work of Jeff Coulter.' Journal of Pragmatics 12 (3): 339-86.
- -. 1994. 'Towards a Critical Ethnomethodology.' Theory, Culture & Society 11 (1): 105–126.
- McHugh, Peter. 1970. 'On the Failure of Positivism.' In Understanding Everyday Life: Reconstruction of Social *Knowledge*, by Jack D. Douglas, 324–40. Chicago, IL: Aldine.
- Merton, Robert K. 1949. Social Theory and Social Structure: Toward the Codification of Theory and Research. New York, NY: The Free Press.
- Mills, C. Wright. 1956. The Power Elite. Oxford, UK: Oxford University Press.
- Parsons, Talcott. 1937. The Structure of Social Action: A Study in Social Theory with Special Reference to a Group of Recent European Writers. New York, NY: The Free Press.
- Pfohl, Stephen. 1977. 'The 'Discovery' of Child Abuse.' Social Problems 24 (3): 310-24.
- Pollner, Melvin. 1991. 'Left of Ethnomethodology: The Rise and Decline of Radical Reflexivity.' American Sociological Review 56 (3): 370–380.
- Sacks, Harvey. 1992. Lectures on Conversation. Oxford, UK: Blackwell.
- Sismondo, Sergio. 2017. 'Post-truth?' Social Studies of Science 47 (1): 3-6.
- Spector, Malcolm, and John I. Kitsuse. 1977. Constructing Social Problems. Melno Park, CA: Cummings.
- Sudnow, David. 1965. 'Normal Crimes: Sociological Features of the Penal Code in a Public Defender Office.' Social Problems 12 (3): 255-276.
- Verdun-Jones, Simon N., and Adamira A. Tijerino. 2002. Victim Participation in the Plea Negotiation Process in Canada: A Review of the Literature and Four Models for Law Reform. Ottawa, ON: Department of Justice
- Watson, Patrick G. 2018. 'Re-Presenting Transactions: Prosecuting a Police-invovled Shooting with Video Evidence.' The Annual Review of Interdisciplinary Justice Research 7: 96–117.
- -. 2018. 'The Documentary Method of [Video] Interpretation: A Paradoxical Verdict in a Police–Invovled Shooting and Its Consequences for Understanding Crime on Camera.' Human Studies 41 (1): 121-35
- Weber, Max. 2004 [1919]. The Vocation Lectures: edited and with an introduction by David Owen and Tracy B. Strong. Indianapolis, IN: Hackett.
- Wittgenstein, Ludwig. 1953. Philosphical Investigations. Oxford, UK: Blackwell.
- Woolgar, Steve, and Dorothy Pawluch. 1985. 'Ontological Gerrymandering: The Anatomy of Social Problems Explanations.' *Social Problems* 32 (3): 214–27.