

On Fictions and Wicked Problems: Towards a Social Democratic Criminology Project in the Age of Neoliberalism

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Abstract

If it is true, as Pat Carlen (2010) claims, that contemporary 'justice' policies are exhibiting all the signs of 'penal populism' and 'risk crazed governance', then social democratic criminologists face the dual challenge of explaining why these policies are not only not working but also how this fact continues to be explained away. At stake here are two central questions: firstly, what grounds are available to secure the intellectual legitimacy of criminology; and, secondly, what ways of knowing could secure the legitimacy of a socialdemocratic criminology. The paper begins by exploring what is at stake when what appears to be a very large number of criminologists claim that theirs is an 'empirical scientific' discipline. The paper argues that neither mainstream criminology nor social democratic criminology can base any claims to intellectual legitimacy by relying on an 'empirical scientific' frame. The paper draws on Spencer (1987) to advance the 'unpalatable thesis' that, as far as the actual practice by conventional criminologists of their kind of social science goes, 'they do not know what they are doing' (Spencer 1987: 333) and that their ignorance of this fact has serious consequences for the progress of their field. The paper shows that there is a gap between the actual practice of conventional criminology and its claims to 'scientific empiricism': what is actually on offer is an 'imperfect empiricism'. The long-forgotten work of Bentham, adumbrated by Vaihinger (1935) and Fuller (1967), is then traced and some of the implications of this theory of fictions for contemporary representations of crime are noted. One implication briefly charted here is that any social democratic criminology needs to rehabilitate the proper role played by fictions as they grapple with the 'wicked problems' that currently populate this field. The long-standing affectation of 'scientific empiricism' by many practicing criminologists has long camouflaged the inability of conventional criminologists to address what are properly 'wicked problems'.

Keywords

Criminology; social democratic criminology; empiricism; fictions; Bentham; wicked problems.

Introduction

Neo-liberalism is a notoriously fuzzy category rendering it open variously to misuse (Clarke 2008) or to encouraging unwarranted pessimism (Ferguson 2009). Undeterred, Fourcade and Healey (2007: 287) suggest that, provided we understand neo-liberalism as a policy project which praises 'the moral benefits of market society' and treats 'markets as a necessary condition for freedom in other aspects of life', then it has some use value. There is now some consensus that a wide range of contemporary public policies sponsored by neo-liberal governments are not working. Writers like Clarke (2004), Beer et al. (2006), Engel (2007), Carlen (2010) and Connell (2013) have shown how this project produces increasingly dysfunctional effects in most policy domains. It is generally agreed, even by the OECD (2011), that the imbrications of state policy-making and market-driven processes in countries like Australia, the USA and the UK have, for example, produced high levels of social inequality and disadvantage and exacerbated social problems like crime (Coburn 2000; Pridemore 2011; Wilkinson and Pickett 2009).

As this paper argues, this creates certain possibilities as well as problems for criminology. For one thing, as social inequality has increased, governments wedded to a neo-liberal imaginary have talked about attacking 'social exclusion' and 'social justice' while simultaneously implementing fiscal and social policies which exacerbate social inequality and increasing crime rates; *and* pursuing tough 'law 'n order' policy agendas which generate increased imprisonment rates (ABS 2012). In consequence, as Hogeveen and Woolford (2012) point out, mainstream criminologists are now implicated in the expanding domain of neo-liberalism, something which prescient critics like (Wacquant 1996) and Young (1999) had argued back in the 1990s, threatened even then to push conventional criminology into respectively 'self-inflicted irrelevance' or 'administrative complicity'.

Critical criminologists (Martel et al. 2006) and criminologists who have explicitly identified their commitment to a social democratic project (Reiner 2006), confront a comparable mix of risk and opportunity. For if, as Carlen (2010) has noted, contemporary 'justice' policies are exhibiting all the signs of 'penal populism' (Pratt and Clarke 2005; Roberts et al. 2003) and 'risk crazed governance' (Carlen 2010), social democratic criminologists face the dual challenge of explaining not only why these policies are *not* working but also how this fact continues to be explained away. This is a challenge because as Young (1987: 337) had noted a long time ago:

The trouble with criminology is that it cannot explain crime. And being unable to explain the phenomenon, its persistent, if diverse suggestions as to how to tackle the problem, grind to a halt in a mire of recidivism, overcrowded prisons and failed experiments.

I propose here to do several things. I begin by examining the grounds upon which criminologists have set out to establish their credibility. What is at stake here are two fundamental questions: firstly, what grounds are available to secure the intellectual legitimacy which criminology can claim for itself; and, secondly, what ways of knowing might secure the legitimacy of a social democratic criminology.¹ I am especially interested here in what is at stake when what appears to be a very large number of criminologists claim that theirs is an 'empirical scientific' discipline. The need to think about this is posed when criminologists in general, and leading criminologists like Reiner (2006) and Garland (2009) in particular, puzzle about the contemporary status of public criminology. Garland's (2009: 118) claim that 'criminology's object is not a self-generated theoretical entity or a naturally-occurring phenomenon but instead a state-defined social problem' and Reiner's (2006) account of what he says defines a 'social democratic tradition' in criminology raise, in sharp fashion, some basic questions about the authorising grounds available to criminology in general or to social democratic criminology in particular. Among these authorising grounds, the basis of criminology's claim that either mainstream criminology or a social democratic criminology can rest any claims to intellectual legitimacy on its

'empirical' methods is highly problematic for a number of reasons. I draw on Spencer (1987: 331) to advance the unpalatable thesis that, as far as the actual practice by conventional criminologists of their kind of social science goes, 'they do not know what they are doing', and that their ignorance of this fact has serious consequences for the progress of their field. My task in this respect is quite modest. I want only to show that there is a gap between the actual practice of conventional criminology, which in its dominant mode deploys an 'imperfect empiricism', and the putative practice of criminology as 'scientific empiricism' claim to credible knowledge stands out.

As I argue here, this gap needs to be thought about by social democratic criminologists. So, too, does the way Foucauldian and 'poststructuralist' critics have often targeted the 'scientism' of modernist criminology. Again, though I cannot make this case here, these critiques have not been all that effective, arguably because this critique has been 'foreign' to the intellectual traditions out of which Anglo-American criminology emerged. We should note that Foucauldian and 'poststructuralist' critics have not been all that persuasive in explaining both why modern 'risk-crazed penality' or 'penal populist' policies are *not* working, and how this continues to be explained away.

Secondly, to address some of these issues and to be helpful, I want to rehabilitate a longforgotten English tradition initiated by Jeremy Bentham. Carlen (2010) got it half-right when she pointed to the value of Vaihinger's (1935) account of 'fictions' as a possibly fruitful way for a social democratic criminology to proceed. As I show here, it was really Bentham in the 1770s who first drew attention to the role played by fictions in human knowledge and social practice. Fictions are understood as categories or propositions '... propounded with a complete or partial consciousness of [their] falsity, or ... recognised as having utility' (Fuller 1967). The point is simple: if fictions play a central yet little understood role in the field of 'modern criminology', then 'theory of fictions' has potentially much to offer to a social democratic criminology.

The paper traces out briefly the long-forgotten work of Bentham, adumbrated by Vaihinger (1935) and Fuller (1967), and points to some of the implications of this theory of fictions for contemporary representations of crime. One implication, again quickly charted here, is that any social democratic criminology needs to rehabilitate the proper role played by fictions as they grapple with the 'wicked problems' that currently populate this field. The long-standing affectation of 'scientific empiricism' by many practicing criminologists has long camouflaged the inability of conventional criminologists to address what are properly 'wicked problems' (Rittel and Webber 1973). As Bentham and Vaihinger understood, fictions wisely used add immeasurably to our capacity to live and do well: misused, they merely cause confusion and mischief. Let me start with modern criminology.

As Garland (1992: 412) noted, criminology has always had a number of competing frameworks to work with which may explain why it has long been dogged by debates about the best criteria 'for the production of valid criminological knowledge'. Equally it is clear that, since 9/11, there has been a good deal of soul searching by criminologists about the status of criminology (for example, Bennet 2004; Hudson 2009). Some of that disquiet is reflected in debates about the 'public role of criminology' (Barak 2009; Currie 2007; Loader and Sparks 2010; Turner 2013). That there is something seriously amiss is clear.

On the one hand, some, like Garland (1992, 2009), insist that criminology is a pluralist, even radically eclectic enterprise. As Garland (2009) notes, criminology investigates a very large array of problems and uses a range of research methods and data sets of every description while drawing on a wide spectrum of theoretical perspectives and disciplines like sociology, psychology, law, history, anthropology, public health, biology, economics and political science. That eclecticism parallels:

... competing visions of what criminology ought to be – criminology as experimental science; criminology as social science; criminology as policy prescription; criminology as security management; criminology as criminal justice training; criminology as public discourse. (Garland 2009: 117)

On the other hand, others like Turner (2013: 151-3) insist that scepticism about the 'quality' of criminology research-based knowledge continues to haunt criminology because it remains a 'pluralist' enterprise and generates 'exasperation in the face of the sheer diversity of criminological theories, methods and findings'. She says this reflects what 'many, if not most criminologists ... would now accept, that the kind of knowledge or "truth" that emerges at any given time is a contingent, temporary and socially constructed thing' (Turner 2013: 157).

Yet these different evaluations of the 'pluralism' or 'eclecticism' in modern criminology are especially odd given what most criminologists actually do. A good deal of research points to a persistent and strong consensus in practice. What any number of studies of what gets published as criminological research shows is that criminology has long represented itself in the USA, the UK and, to some extent, in Australia as an 'empirical' science with a dominant, though far from exclusive preference, for 'objective', 'quantitative research'. Typical early studies, like Holmes and Taggart's (1990) review of three major criminology journals (1976-1988), pointed to a preponderance of what they call 'inductive and quantitative empiricist methods' accounting for between 63 per cent to 76 per cent of the articles published. DiChristina (1997) concurred. showing that most criminological research was focussed 'primarily' on quantification and replication. Espeland claimed that numbers were '... a useful defence against the particular and the subjective' and fulfilled the need for 'replication and validation' (Espeland 1997: 395) over time, across cultures and state boundaries. Worrall (2000) argued that criminologists pursued 'causal explanations' and relied on 'correlational research designs, cross-sectional data and multivariate statistics [sic]' because of the 'predictive' value and influence of quantitative research on criminal justice research. (The drift from observation to advocacy seems to encourage obscuring the difference between 'causal' and 'correlational' claims). Worrall (2000) also pointed to a steady increase in this preference over the study period. In the twenty-first century, Kleck at al. (2006) paint a similar picture from their survey of every article in the seven most highly ranked criminology journals (2001-02). Survey research was the dominant method, cross-sectional non-experimental designs predominated, and multivariate statistical methods were the norm, accounting 'for 88.9 per cent of the articles' (Buckler 2008: 149). Buckler confirmed, in his study of leading criminology journals between 2003-07, that quantitative research accounted for approximately 90 per cent of the articles. Research by Tewkesbury et al. (2005) and Tewkesbury et al. (2010) confirmed that quantitative research continued to make up the overwhelming proportion of published research. Their 2005 survey of five leading criminology and criminal justice journals for the years 1998-2002 established that only 6.5 per cent used a qualitative research design, while the later 2010 study which surveyed 410 articles in sixteen leading criminology and criminal justice journals (2004-08) indicated that 73 per cent used quantitative methods. More recently, Nolasco et al. (2010: 5) agreed that criminological research 'focuses on numerical objectivity and quantification ... which ensures less arbitrariness'. My own survey of criminology in Australia (using Australian and New Zealand *Journal of Criminology* between 2008 and 2011) suggests Australian criminology is slightly, but not significantly, more pluralist. The initial privileging of 'quantitative' studies (running at a ratio of 7:11 in years 2008-09) changed after 2010 as non-quantitative papers (ratio of 10:7) forged ahead.

If we pay closer attention to this kind of discussion about the state of criminology, we see several problematic propositions. One of those things is the unexamined conflation of 'the empirical' with 'quantitative research'. Another is the inability to say what it is that actually defines research as 'empirical'. This is evident in an exemplary kind of confusion which Garland (2009: 118) falls into. Setting out to explain why criminology has been successful in the ways he has enumerated, in spite of the eclecticism he says characterises modern criminology, Garland insists that:

Unlike other sciences and well-constituted academic disciplines, criminology's object is not a self-generated theoretical entity or a naturally-occurring phenomenon but instead a state-defined social problem and the means by which that problem is managed.

Two things can be said. One is that Garland's comment targeted a discipline where there is no agreed-on naturally occurring theoretical 'object'. Indeed, he is merely adumbrating Foucault's (1980: 226) trenchant observation that the 'fate of criminology' has always been dependent 'on the disciplinary power that shaped it'. As Luna (2010: 249) notes, disciplines are generally understood to require an explicit conceptual object on which to focus their enquiries. As Fattah (1997: 37) has pointed out, while mainstream criminologists have insisted that 'crime' is a natural and/or social reality, the quest to demonstrate this proposition has so far been unsuccessful. Alternative criminologists have not done any better in terms of providing a univocal conception of crime which might serve as the legitimate object of criminology. This seems to have provoked Cohen (1992), a leading alternative criminologist, who granted that, if 'crime' was an object imposed on criminology, then criminologists needed to - or should - work out what this object is by trying to move beyond a legalistic definition of crime and developing a 'scientific' one, 'independent from politicians and legislators'. (It is generally agreed that he failed to make this case.) In this respect, we can therefore say, secondly, that Cohen tacitly agreed with Garland that indeed 'crime' is whatever a 'state' defines it to be'. Granted this, Garland's proposition has a lot to commend it: as (Bottoms 2000) insists, the criminological research object - 'crime' and its control - is a political and moral construct.

However Garland muddies the water somewhat when he adds that: 'Criminology's basic organising principle is the *empirical study* of crime and its control – which is to say, *the study of a legally-defined entity* [emphasis added] and a state-directed practice' (Garland 2009: 118). Seemingly undaunted by the precariousness of this cascade of claims, the central confusion I am concerned with here is fully revealed when Garland (2009: 118), having pointed to the ostensibly 'empirical' basis of criminology, goes on to add (self-referencing an earlier discussion (Garland 2002)) that 'criminology is intimately (at the *epistemological* level) and directly (at the *social* level) tied into government'.²

Unless Garland is proposing a major, unheralded and unexplicated radical redefinition of what our account of the 'empirical' means, this is horribly confused. If 'empiricism' has ever meant anything, it means knowledge claims based on theory-free observations and experiences of realia (that is, 'things' amenable to sensory examination) and not whatever is mandated either by 'theoretical assumptions', 'ethical ideas' or by political agencies. As Hacking (1983: 41-2) puts it, empiricists have long held that judgments about truth or falsity can be settled by empirical enquiry 'where the deliverances of sight, hearing and touch provide the best basis for scientific inference'. There can be little doubt, as numerous criminologists have testified, that 'crime' is indeed 'a state-defined social problem', and that when Garland refers to criminology as something to be understood at an 'epistemological level', he really means to say that any epistemological issues have been dissolved by a political decision: crime is less an 'epistemological' entity and more a 'political' artefact. As someone influenced by Foucault, Garland presumably intends us to understand that truth, for example, is simply an effect of power. Yet taken seriously, this would have the effect of rendering any kind of criminology into a parasitic pseudo-intellectual enterprise whose credibility is simply adjudicated by or authorised by the state. Yet this surely begs too many questions of the kind raised by Finnis (1981) or Nagel (1996) when they point to the self-negating absurdities implied by those who claim 'there is no such thing as truth' or that 'truth is an effect of power'.

What of the social democratic tradition? As Reiner (2006) notes, while the 'social democratic criminology' label has been used by writers like Taylor (1982) and Downes (1983, 1988), 'it has never been a self-espoused label' (Reiner 2006: 7). He sets about trying to clarify what the social democratic tradition entails. In terms which imply the need to acknowledge the ontological, epistemological and practical dimensions of criminology, Reiner (2006: 8) proposes that the social democratic tradition be treated as a 'a set of assumptions about the nature of human action, ethics, and political economy that broadly correspond to the most common meaning of the term "social democratic". At this level of abstractness, few would quibble that themes like a critique of capitalism, the pursuit of social equality through democratic means, and an interest in social justice comprise some of the important dimensions of the social democratic tradition.

However Reiner is much less convincing when he starts to spell out the details of what he means both by social democracy *per se*, and by the 'social democratic tradition' in criminology, especially when he identifies exemplars who he says represent social democratic criminology. On the one hand, he claims that, while it suffers from a certain taxonomic fuzziness, 'social democracy' refers to a 'Marxist tradition of parliamentary socialism which is positioned between liberalism and communism' (Reiner 2006: 9). However, on the other hand, Reiner also wants to include 'mixed economy welfare states in the UK and the Rooseveltian New Deal in the United States' (Reiner 2006: 9) in the social democratic tradition. He only muddies the water, however, when he adds that, in the 1990s, 'Blair and Giddens, explicitly sought to triangulate this "social democracy" and neo-liberalism' (Reiner 2006: 8). This portrait of social democracy seems less than likely to win support from political theorists who might wish to insist on distinctions between 'social democracy', 'laborism' 'social liberalism', (especially as Keynes framed it) and Fabian socialism (Beilharz 1993; Bevir 2002; Collini 1991; Massey 1994). Others (for example, Lipset 1980) would observe that the US has never sustained a social democratic tradition.

As for social democratic criminology, Reiner claims that, for a long time, it was simply that 'way of understanding and responding to crime that was widespread, perhaps dominant, for much of the twentieth century' (2006: 7) but later strengthens this to claim to say it was 'the dominant paradigm' (2006: 37) in criminology, supplying the 'quintessential elements of "penal modernism"' (2006: 21). Further this 'dominant paradigm' consisted in '... a deep structure of shared assumptions that could be characterised as social democratic' (2006: 9). To that bold claim he adds that: 'The quintessential expression of social democratic criminology is Robert Merton's seminal formulation of anomie theory', adding that 'In Britain its clearest exponent was Hermann Mannheim' (Reiner 2006: 9).

The first thing to be said is that there is no evidence or analysis offered to support the proposition that the social democratic 'tradition' constituted 'the dominant paradigm' in criminology. Accordingly, there is no discussion of whether the leading British criminologists of decades from the 1920s to the 1950s (like Goring, Burt, or West) or American figures (like Thrasher, Sutherland and Hughes of the Chicago school or the Gluecks) were social democrats. The same can be said for the idea that Merton or Mannheim were social democratically inclined, a claim which, on the face of it, is 'odd'.³ Finally, both propositions have the effect of obliterating arguably important differences between those criminologists who identified explicitly with different traditions like 'social democracy', 'laborism', 'progressivism', 'social' (or 'Keynesian) 'liberalism' or 'Fabian socialism' or with other less progressive inclinations like conservatism, fascism, or forms of proto neo-liberalism.

Leaving these quibbles aside, what does Reiner say about the tradition's theory of knowledge? Mindful of the need to avoid creating or using a 'straw man version of positivism', Reiner (2006: 20) rather oddly claims that the social democratic tradition was both 'broadly positivist' *and* cognisant of 'the primacy of the ethical'. It is well established that the positivist tradition in the Anglophone social sciences has always trusted in science, insisted on keeping 'values' out of the research process and leaned towards the idea that 'real' sciences ought to rely on a unitary 'scientific method' based on empirical experience as the only valid source of knowledge. In this vein Reiner claims that:

There can be no question that social democratic criminology was broadly 'positivist' in its approach to social science, in that it felt it important to research as rigorously as possible the causes of crime and the effectiveness, humanity and justice of crime control policies. (Reiner 2006: 20)

This presumably is why he insists that 'They regarded it as useful to formulate and test empirical generalizations' (Reiner 2006: 11). However he goes on to add that:

Social democratic criminologists were well aware of the difficulties in conceptualizing crime, and did not simply take for granted the categories of criminal law. Legal definitions of crime embodied power rather than morality, so they inadequately reflected the gravity of different forms of anti-social or harmful behaviour. Social democrats viewed routine crime as harmful and problematic - especially to the most vulnerable in society. (Reiner 2006: 11)

Reiner seems to think this was a consequence of understanding that 'social science results could [not] be regarded as ... completely objective representations of reality' (Reiner 2006: 11) – even though this is precisely what empirical observations are supposed to supply. Yet Reiner digs the hole he is already in deeper when he then allows that: 'There are of course enormous problems in interpreting [sic] recorded trends in crime' (Reiner 2006: 22)'. The difficulty, as Reiner ought to have acknowledged, is less to do with 'interpreting' and more to do with being able to say anything 'empirical' about the amount of criminal activity because, as Garland (2009: 18) has said, crime is not 'a self-generated theoretical entity or a naturally-occurring phenomenon'. Reiner tacitly concedes Garland's point when he says:

It is impossible to determine with certainty how far the [crime] statistics track changes in offending, as distinct from shifts in reporting and recording practices by victims and police, and alterations in counting rules. (Reiner 2006: 22)

The claim that 'criminology' is an empirically grounded, broadly positivist enterprise begins to look like a precarious claim.

Apart from that difficulty, Reiner gets into a different kind of trouble when he wants to add an ethical dimension to his account. He has already insisted that social democratic criminology was broadly positivist, because most '... accepted Weber's analysis of the problems, limitations, ultimate impossibility and yet importance and desirability as an ideal of value-freedom in science'.⁴ Yet, even as Reiner insists that criminology was 'broadly positivist', it seems it also aimed at, and 'was derived from explicitly espoused ethical values' such as 'the fundamental equality of value of individuals, [or] the ancient Golden Rule embodied in the Biblical injunction to love your neighbour as yourself' (2006: 12). Given there is general agreement (for example. Goldthorpe 2007; Oberschall 1987) that the varieties of 'positivist' Anglophone social science have rested their claims to intellectual authority on the claim that 'real' science accesses empirical experience proceeds by keeping 'values' out of their research, this proposition may be surprising to some. Equally, Reiner seems to have no anxiety about claiming, on the one hand, that there is an ethical basis for characterising some activities as 'harmful' while, on the other hand, casually advancing the structural-functionalist practice of 'reification' involved whenever claims are made that some activities are 'anti-social', a proposition clearly aimed at implying a descriptive, even objective, status while actually masking 'value preferences'.

Let me return to the larger picture. It seems that, while many practicing criminologists – social democratic or otherwise – want to claim that theirs is an 'empirical', even 'scientific', practice, if the confusions I have pointed to in Garland and Reiner are typical, then there may be a good deal of confusion about what this means.

Some of that confusion invokes the spectre of 'scientism'. As Kuhn (1962) and Spencer (1987) pointed out, an ideology of 'scientism' has long underpinned the 'modern' account of 'scientific empiricism'. 'Scientism' is the ideology which holds that 'real sciences' ought to, or actually does, enact a 'dialectic between hypothesis and data' (Spencer 1987: 335).⁵ In criminology, as Turner (2013) has noted quite acutely, most working criminologists continue to operate as if this 'scientistic' proposition identified by Habermas (1987: 4) or Latour (1993) is true. This means conventional physical and social scientists need to believe that their practice of science:

... develops observational and experimental data, and then tests these hypotheses through further observation and experimentation ... Science is then firmly and completely empirical, because belief is always grounded in data, and scientific beliefs (hypotheses) are always tentative and provisional because the next round of observation and experiment may refute them. (Spencer 1987: 335)

The modern subversion of this 'scientism' began when Kuhn (1962) argued that practising scientists in the physical sciences did not actually work this way, but were actually 'imperfect empiricists'. His point was that practising scientists did not treat hypotheses nominalistically as provisional propositions to be tested, but treated them as factual claims which made up a kind of consensus-based cultural framework (or 'paradigm'), complete with an agenda of agreed-on questions and problems.⁶ The resulting 'paradigm' functioned as a shorthand account of the reality of 'what the world is like'. Among the effects was a profound conservatism on the part of practising 'scientists', allied to an idea that the 'science of the day' was the best possible account. Kuhn used this to explain why 'new' science (like Copernican cosmology in the fifteenth century or Einsteinean relativity in the early twentieth century) was actively resisted by scientists. The primary disjunction between 'scientific empiricism' which Argyris and Schon (1974) would call the 'espoused theory' and 'imperfect empiricism' (or the 'theory in use') is even more powerfully evident in social sciences like criminology.

As Spencer (1987) indicates, modern social scientists may well want to don the mantle of 'scientific empiricism' while in fact operating as 'imperfect empiricists'. In practice, Spencer says this means, for example, that they rarely if ever attempt to empirically verify the efficacy of well-known, tried and tested techniques or to replicate 'empirical' studies.⁷ If there is any attempt to verify research results, this will yield inconclusive results because different researchers will interpret these results differently. As for the 'empirical evidence', the canons of evidence of the relevant community of scholars define what is 'social reality', which requires that any raw observations or even experience cannot be treated as evidence until converted or translated into the conventionally-defined forms that quantitative evidence must take. Likewise when new 'theoretical' frames or 'empirical data' is presented, practising criminologists will tend to reject these new insights, especially if they contradict already settled convictions. Each of these circumstances will, in turn, be ignored as criminologists continue to claim that 'their' work is scientific and secure and that any empirical evidence to the contrary is 'spurious'. As Spencer insists, the reversal of the putative link between data and hypothesis which is actually at work here is contrary to 'scientific empiricist' protocols.

One of the basic difficulties has to do with the way 'evidence' has been understood by empiricists. For example, as even AJ Ayer, an analytic philosopher famously dedicated to converting philosophy into a branch of positivist science, had to concede, modern discussions of 'truth', 'fact' or 'evidence' tend at best to be circular, and at worse involve the conflation of these categories in ways which are unhelpful (Ayer 1963: 173). Part of the problem involved here is

illuminated by etymological considerations which point to a tension between the idea of 'evidence' as what becomes available to us courtesy of our sensory experience, and what we make up as 'facts' when we claim to know things. Our oldest conception of 'evidence' (from the Latin *vidi* = to see) relies on the sense of sight: 'evidence' is what we can see. It points to a long tradition of treating what is available to us, courtesy of senses like sight, as the authoritative basis for grasping the truth. Conversely, the idea of 'facts' comes to us from the Latin (facere = to make). This gives us categories like the *factor* (or worker) who labours in a *factory* and the idea of 'fabrication'. Facts are what we construct. Worse, as any number of modern philosophers from Quine (1974) to Putnam (2002) have demonstrated, the tendency to treat 'evidence' as a synonym for observable 'facts' opens up deep problems. The positivist-empiricist tradition attempt to make 'publicly observable' 'physical objects' and 'events' the basis of a defensible conception of evidence, for example, has proved too difficult to specify, let alone defend. And there's the rub. Because the lie at work becomes clear if we consider this: if criminologists are indeed working as 'scientific empiricists' claim to do, this would require them to specify, among other things, the rational grounds of belief they have, along with the evidence they have 'discovered' which ostensibly support their knowledge claims. If indeed all, or even most, criminologists are also working as 'scientific empiricists', then there must be a consensus based on the rational principles of belief among these members of the scientific community. For as Spencer notes with memorable brutality, this must be so because 'if these two principles of rational debate hold, then disagreement must be impossible' (Spencer 1987: 367). That is, the combination of evidence, the sharing of the same rational protocols and the shared principles of interpretation, must result in a correct and consensual belief produced by rational argumentation. This, of course, is *the* embarrassing absence in criminology.

In short, as writers like Kuhn (1962), Polanyi (1966) and Spencer (1987) remind us, if we examine the actual research practices of physical or social scientists, we find that that they do not know what they are doing, and that their ignorance of this 'unpalatable thesis' has serious consequences for the progress of their fields (Spencer 1987: 331).⁸

Recovering a lost tradition: The role of fictions

While any number of criminologists influenced by Foucault, Habermas, and Latour (like Garland, Turner) have generated a range of constructivist, poststructuralist, and post-modernist critiques of the 'scientism' of modern criminology, this critical deconstruction has not proved all that effective (Russell 1997). Arguably at least one explanation for this is that much of this critique has been treated as 'foreign' or 'external' to the intellectual traditions from which Anglo-American criminology has emerged.

No such excuse is possible for the investigation of the role played by 'fictions' both in the law and in every other domain of human thought and action instaurated by Jeremy Bentham. I argue here that this 'theory of fictions' has much to offer to modern criminology, if only because it helps to clarify the extent to which its underpinning vocabulary of categories is either genuinely empirical or else 'fictitious', but usefully so in the way Bentham first demonstrated.

My 'positive' claim is this: fictions play a central yet little understood role in the field of modern 'criminology'. I begin by tracing out the long-forgotten work of Jeremy Bentham who elaborated a complex and interesting theory of fictions which belies his by-now mythic status as the founder of 'legal positivism' and an excoriating critic of 'legal fictions'. I then adumbrate some of the implications of this theory of fictions (Fuller 1967; Vaihinger 1935) for criminology. The point is simple: the development of a sophisticated theory of fictions initiated by Bentham is simply too important to be left to a few legal studies scholars. Contemporary research in criminology needs to rehabilitate the proper role played by fictions as they grapple with the 'wicked problems' that currently populate this field.

The role of fictions has yet to be given its proper due in mainstream criminology. This is odd. As British criminologist Pat Carlen (2010: 122) argues, the vast array of legal and other fictions raises large and difficult questions about the 'knowledge' and principles which those academics, officials, policy-makers, judges and police who make up a 'criminal justice system', are either busily fabricating or relying on. This may seem odd for those who believe, naively perhaps, that 'the law' or modern criminal justice systems have a robust and uncomplicated regard for getting at 'the facts'. Just how complicated and complicating is suggested initially when we briefly consider Jeremy Bentham's well-known opposition to 'legal fictions', and his much more interesting account of the role of fictions in social life.

Anglo-American legal systems are conventionally understood to be preoccupied with establishing the facts and assigning responsibility for wrongs and remedies on the basis of those facts. Yet as many modern philosophers of the law like de Champs (1999), Polloczek (1999) Stolzenberg (1999), Schofield (2006: 1-27), Quinn (2011), Schauer (2011) and Knauer (2010) have noticed, Anglophone legal systems are actually filled with legal fictions. While these are difficult to define in their generality, a narrow 'procedural' definition of a legal fiction involves 'a false allegation of fact employed to enlarge jurisdiction or to extend substantive remedies' usually to avoid changing an existing body of law or rules (Harmon 1991: 2). Among the many modern examples are the way tax law treats companies as if they are individuals, or the 'attractive nuisance' doctrine in US tort law (for the latter, see Ohio Supreme Court 2001).

Bentham (1943 i: 59) is conventionally understood to have treated these legal fictions as a symptom of everyth+++++ing wrong about English law. Bentham understood by the idea of a legal fiction ' ... a false assertion of a privileged kind ... which though acknowledged to be false, is at the same time argued from and acted upon as if true' (Bentham 1843 ix: 77). Bentham is conventionally represented as the greatest scourge of English common law and its reliance on the 'pernicious fictions' generated by jurists like Blackstone. As Stolzenberg (1999: 226) notes, Bentham's contempt for legal fictions 'bordered on an obsession' and lead him to express himself repeatedly, and splenetically, on the topic: 'In English law, fiction is a syphilis, which runs in every vein, and carries into every part of the system the principle of rottenness' (Bentham, in Fuller 1967: 2-3). It is not surprising that for much of the nineteenth century, Bentham was remembered as the great 'legal positivist' who battled the plague of legal fictions, as part of his program of rational legal and social reform.

However, as recent scholarship has demonstrated, Bentham's actual position on fictions is infinitely more complex – and challenging (de Champs 1999; Fine 1993; Lee 1990; Polloczek 1999; Quinn 2011; Schofield 2006: 1-27; Stolzenberg 1999). Reflecting the revival of rhetoric and the development of critical legal studies in the 1970s and 1980s, scholars like Fish (1972), Patey (1984), Eden (1986), Brann (1991), Welsh (1992), Schauer (2011) and Knauer (2010) have demonstrated that Bentham's actual position on the role of fictions in language relied on a highly sophisticated engagement with seventeenth and eighteenth century linguistic theory developed *inter alia* by Descartes, Pascal, Locke, Harris, Priestley and, especially, Tooke. That engagement lead Bentham 'to see discourse as the necessary symbolic foundation of another symbolic system: that of power relationships within society' (de Champs 1999: 28). Like Ogden (1932), Stolzenberg (1999) and Schofield (2006) demonstrate that Bentham understood the role and value of fictions, locating them within a complex account of human language in which fictions make possible human cognition, judgement and action. It is not possible here to fully survey the scale or sophistication of Bentham's theory of fictions, so I simply amalgamate Bentham's account with that of Vaihinger (1935).

As Stolzenberg (1999) argues, Bentham's account of fictions appears to condemn legal fictions based on a simple opposition of 'fact' to 'fiction'. Yet this is plainly not what Bentham thought. Bentham had a complex understanding of the relationship of truth to fiction which treats fiction as an indispensable feature of language, reflecting a belief 'that a language which only

"mirrored" reality would be impossible'. By 'real', Bentham simply meant that there were physical things or *realia* available to us via sensory perceptions on which we then arbitrarily confer names. To use the vocabulary of modern philosophy, Bentham rejected a 'correspondence' theory of truth'. Rather, Bentham spoke 'often and approvingly of fictions as an essential and constitutive feature of all human language and thought' (Stolsenberg 1999: 128). As Bentham put it: 'To language, then – to language alone – it is, that fictitious entities owe their existence; their impossible yet indispensable existence' (cited Ogden 1934: 15). Or, as he put it elsewhere: 'Of nothing ... that has place, or passes in our mind, can we speak (or so much as think) otherwise than in the way of fiction' (Bentham 1843 vii: 199). As Ogden (1934: 1) put it: 'Bentham believed that language must contain fictions in order to remain a language'. As Quinn (2011) indicates, Bentham's position assumes:

... a fundamental linguistic distinction between names which have referents in the world, and names which have no such referents, reflecting an ontological distinction between things which exist, and things which do not. [However] ... whilst the world really exists, the names 'reality' and 'existence' are, for Bentham, names of fictitious entities ... One solution to the paradox is to accept the reality of both substances and sensations, and to hope that, for the most part, there will be a correspondence between the reality of the external world and our perception of it, and this appears to be Bentham's preferred solution. (Quinn 2011: 4-7)

That Bentham's theory of fictions failed to exercise the kind of influence that might have been expected since his death is both odd and raises important issues for the history of ideas. Suffice it to say the novelty and reach of Bentham's actual understanding of the role of fictions was neither fully grasped nor recognised until the 1930s, before again disappearing and then being remembered again in the late 1980s. It is certainly puzzling that while Ogden (1932) tried to rehabilitate Bentham's achievement, Fuller (1967), a great modern legal scholar, dealt definitively with a theory of legal fictions in a way that paralleled Bentham's theory of fictions – whilst denying to Bentham any credit for doing so (Stolzenberg 1999)! Finally and no less puzzling, the most significant 'modern' contribution to thinking about fictions was made by Hans Vaihinger and that, as Ogden (1934: v) noted, Vaihinger's developed his general theory of fictions without any awareness of Bentham's theory of fictions which it both shadowed and elaborated.

In 1877, Vaihinger began a project to demonstrate the role that fictions, both as concept (for example, 'atom' or 'justice') and as propositions (for example, 'all men are motivated only by self-interest'), play both in human affairs and in all the 'sciences' (Vaihinger 1935). Vaihinger's work exemplifies a general turn by contemporary philosophers (for example, Peirce, Wittgenstein, Richards, Ayer, Austin, Popper, Winch) to acknowledge the special role played by language and other symbolic systems in an account of human thought and action which emphasised the human and/or social character of knowledge as an historically evolving practice. It effectively rejected the oldest western tradition inaugurated by Plato committed to identifying the criteria by which 'truth' could be known. 'Truth' was understood in terms of eternal, universal, even law-like propositions deduced by logical reasoning, deploying essentialist concepts, and searching for fundamental foundations which could establish a timeless correspondence between what we know and a reality no less immutable and timeless (Toulmin 1972: 16-25). For the longest time, this tradition involved treating the mind (and philosophy) as 'the mirror of nature' (Rorty 1979). The result was an integrated philosophical and 'scientific' project based on the arbitrary assertion that human rationality relied on certain rules and a vocabulary given to us by Aristotelian logic and by Euclidean geometry which in turn secured a foundation of fixed and eternally true modes of reasoning.

Like Bentham, Vaihinger allows that we rely on both 'facts' and 'fictions'. Facts come to us from the 'real' or 'actual' world as sensations which 'press more or less forcibly upon us with greater or less irresistibility, and both come from within our body as well as are impressed upon our body' (Vaihinger 1935: xlvii) (For the relevant critique of this and the reframing of 'fictions' as a product of a 'social imaginary', see Castoriadis 1997: 322-4). Vaihinger (1935: 167) thought, while these 'facts' (or sensations of real objects and phenomena) were the proper objects of any science, they were not enough: we also need fictions. By 'fiction' Vaihinger means simply something that is assumed to exist or to be true when it is known not to exist or to be true. That is:

... many thought-processes and thought-constructs appear to be consciously false assumptions, which either contradict reality or are even contradictory in themselves but which are intentionally thus formed in order to overcome difficulties of thought by this artificial deviation. (Vaihinger 1935: xlvi-xlvii)

These fictions play a vital, even indispensable, role in all domains of human life including the sciences both 'hard' – like physics, chemistry, biology and mathematics – and 'soft' – like economics, sociology, psychology, political theory, philosophy and theology. They are found, too, in religion and in ethical and aesthetic judgements, as well as the regulation of communities by legal and political means. We use fictions, for example, to rework or make sense of the 'facts of science' as well as address questions of meaning (for example, by way of myth, religion and aesthetic activity) or help us order our social life (for example, ethical and politico-legal practice). They are justifiable to the extent to which they prove useful in solving an array of human problems or meeting our needs.

Because fictions play a huge variety of roles in all human thought and action, their scope and role is legion. How reliant we are on fictions is suggested in Vaihinger's account of fictions which formalises Bentham's earlier typology. They include:

- *Artificial classification,* for example, biological classifications which are reliant on fictional categories like 'species' or 'genera'.
- *Abstractive fictions* which explain some large problem or phenomenon by leaving out a lot of messy detail. Economists, for example, rely on a 'rational actor' model which insists all human action is rational and selfish and then use this to construe the behaviour of markets or even whole societies.
- *Type fictions* include Weberian ideal-types like 'bureaucracy', 'populism' or 'traditional authority'.
- Analogical or metaphoric fictions use analogy to make sense of one thing in terms of the characteristics of another. Metaphors are the most obvious and widespread example. Lakoff and Johnson (1980) argue for the 'metaphor metaphor', claiming that all human thought and language use is essentially metaphoric. For example, the idea that Jean is a 'member of society' points to the metaphor of 'society as body' as much as the idea that Bill is the 'head' of the family.
- *Legal or juristic fictions* include the 'attractive nuisance' rule in US tort law.
- *Practical or ethical fictions* include an array of categories like 'freedom', 'liberty', 'justice', 'the good', 'human rights', the 'moral law' and so on.
- *Mathematical fictions* include fundamental concepts like 'point', 'line', 'circle', 'triangle' 'number' 'lines without breadth', 'empty space', 'empty time' as well as propositions like 'a line is a series of points'. This treatment of algebra, arithmetic and geometry stresses that these are entirely fictional enterprises and have been knowingly constructed on that basis from their very origins. (This point is insisted on in a recent and beautiful introduction by Lockhart (2012: 1-2)). As Vaihinger (1935: 57) put it: 'Mathematics, as a

whole, constitutes the classical instance of an ingenious *instrument*, or a *mental expedient* for facilitating the operation of thought'.

The Bentham-Vaihinger account of fictions relies on the premise that the value of our knowledge claims are best judged in terms of how well our 'knowledge' confers on us a capacity to successfully engage the world – or not. Accordingly the proper test of the:

... correctness of a logical process lies in practice, and the purpose of thought is not proved by the adequacy of the reflection of a so-called 'objective' world, but in rendering possible the calculation of events and of operations upon them. (Vaihinger 1935: 5)

The implication is that we need to think about the value of our knowledge not in terms of its correspondence with the world but in terms of its capacity to help us live in the world successfully.

Neither Bentham nor Vaihinger allowed for the possibility that our fictions, like the larger belief systems they help to constitute, are symbolic expressions of political and cultural patterns of power or what Bourdieu (2003: 43-65) represented as unequal forms of symbolic capital. Both Bentham and Vaihinger also begged the question of how we can ever know or test our fictions in ways which evade the problem of 'cognitive dissonance', the well-documented psychological disposition to only ever accept evidence that confirms our existing beliefs and to reject any evidence that threatens our belief systems (Festinger et al. 1956).

Implications for criminology

The recovery of this theory of fictions is pertinent, especially for those concerned by the continuing influence of conventional criminology which Tauri (2013: 220-2) aptly calls 'authoritarian criminology'. Tauri (2013: 210) characterises modern criminology as a way of thinking about the world which is at once 'administrative' and 'authoritarian', which claims to *know* our world by clothing itself in a 'veil of scientism' by claiming 'scientific empiricist' status to assist in both the 'discovery' of crime and its evaluation of what works – or doesn't. These claims privilege the way 'criminology' then proceeds to address the definition and conceptualisation of crime as defined by the state, as well as legitimate its preoccupation with certain 'problem populations' like Indigenous and working-class young people. The recovery of the role played by fictions may help lift the 'veil of scientism'.

The point is not to insist that criminology confine itself only to what is genuinely empirical. As this account of fictions suggests, any attempt to confine criminology to only making empirical claims would produce an impossibly narrow, even irrelevant, enterprise. In many cases there is no empirical basis that can be used to resolve the problem of who or what constitutes an array of crimes let alone determine on what empirical basis 'it' can be counted. It all depends rather on *what* we want our categories to signify and *why* we want it to mean 'this' or 'that': we need only to be clear what practical purposes we wish to achieve. This requires that those engaging in this process are reflexively aware of the way the fictions are working and whether this leads to good practice or a policy worth having.

On fictions, wicked problems and phronesis

It is in this respect that a critical criminology project needs to understand the proper role played by fictions: they help us when they are being used consciously and fruitfully to pursue better solutions to the 'wicked problems' we face. For if the theory of fictions has been too long repressed, so too has the significance of Rittel and Webber's (1973) account of 'wicked problems'. The entire field of criminal justice is best thought of as a field of 'wicked problems'. Rittel and Webber's (1973) paper is arguably one of the most important and subversive social scientific papers ever published. Perhaps for that reason it has been systematically repressed and/or misunderstood. It offers nothing less than a unifying account of the conjoint ontological and epistemological features of those social problems which humans in general, and politicians and policy-makers in particular, confront. It is to be noted that the term 'wicked' is used not to denote some sense that we face 'evil' problems so much as to designate their resistance to resolution.

We can characterise wicked problems best by comparing them with 'tame problems' and 'tame solutions'. Tame problems are, on the one hand, any problems found typically in formal systems (like algebra or geometry), in games bound by clear rules (like chess) or by essentially technical problems like 'what engineering features will enable a bridge to carry 40 ton trucks'. Tame problems involve conceptual entities which enable narrow and specific definitions, either because they possess formal axiological properties (like all mathematical systems or games) or because they are amenable to precise empirical description. Tame problems have tame solutions. This means there are solutions which involve 'true'/ 'false or 'yes'/'no' answers: there are always correct answers to well-defined problems rendered possible by laws, logical processes or even algorithmic procedures.

Wicked problems, on the other hand, are all of the other kinds of problems we humans face as we struggle to order our lives and world: they have their origin in and resolution in fictions and are irreducibly practical, ethical and/or political in nature. Wicked problems are by nature ineffable since *we cannot even get an agreed-on definition of what the problem is*. To begin at the beginning, there is no definitive formulation of a wicked problem: defining wicked problems is itself a wicked problem. That problem may be represented as the problem of 'social justice', 'poverty', 'unemployment' or, in the case discussed here, of 'recidivism'. (Add in other categories like 'drug use', 'delinquency', 'white collar crime' or 'graffiti' and the scale of this issue becomes apparent). The seduction of the idea promoted by various communities of positivists since the early nineteenth century, that we treat 'wicked problems' as if they are 'tame problems' amenable to technical, statistical or axiological solutions, has caused no end of trouble and confusion.

Think, for example, of the problem of adolescent crime. The actual problem of juvenile offending is the every instance of what has happened when Johnny stole a car, or Sara shoplifted a dress. To represent the problem as the one revealed by statistics pointing to a juvenile shoplifting rate of, say, 2516 per 100,000 of people aged 15-25, is to have shifted away from recognising that Johnny or Sara are presenting us with a wicked problem, and to tempt us with the idea that we have here a tame problem, a rising rate of juvenile offending requiring a technical fix. Johnny or Sara present the various professional police, lawyers, youth workers or magistrates with a practical question: What should we do with Johnny or Sara? That question will be addressed by a combination of soundings based on the relevant laws, the state of the resources available to the various players and their organisations that interact with Johnny or Sara. In thinking through what to do with Johnny or Sara, we see the salience of the general account of wicked problems offered by Rittel and Webber. We may not even be able to define the problem. Johnny or Sara may or may not have stolen a car or clothing for the obvious reasons. It may have been a first off incident or part of a long pattern and so forth.

Wicked problems do not have solutions that are true or false, only solutions that are better or worse. Do we throw the book at Johnny or Sara or let them off with a stern talking to? Solutions to wicked problems are not right or wrong. There is no immediate and no ultimate test of a solution to a wicked problem. Often the problem is not understood until after the formulation of a solution. Every wicked problem is essentially novel and unique. Every solution to a wicked problem is a 'one shot' operation. Wicked problems have no given alternative solutions. In almost every case a wicked problem requires a form of practice, a practical intervention guided

not by a theorem or an axiom but by what Sharpe and Schwartz (2010) have called 'practical wisdom' or what Flyvbjerg et al. (2012) called 'phronetic social science'.

Though they seem not to have been conscious of it, Rittel and Webber (1973) were, in effect, making the same point made by Aristotle when he distinguished between the alignment of *episteme* with *theoria* as the appropriate kind of science to know the *physis* of the natural world on the one hand and, on the other, the role of *phronesis* (or practical wisdom) as the kind of knowledge we need to work out what kind of praxis we ought to engage in order to solve the practical or wicked problems communities and people encounter. Both Sharpe and Schwartz (2010) and Flyvbjerg et al. (2012) have argued persuasively for a major rethink about the relationships between different kinds of knowledge and our practical attempts to solve wicked problems. That case needs to be taken seriously by academics and practitioners working in the field of 'modern criminology' as I have defined it broadly here and by those interested in developing a critical youth studies. That rethink will begin by taking the Benthamic account of fictions seriously, as a prelude to re-imagining problems addressed by criminologists as a field beset by 'wicked problems' urgently needing the application of practical wisdom. For social democratic criminologists, that also involves spelling out the relevant human goods which defensible kinds of justice policy ought to properly identify – and promote.

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¹ Though this can only be pointed to in an extremely schematic way here, the larger reflexive project of which this paper is just one part, assumes that the legitimacy of criminology whether in its conventional form and/or as a social democratic project, will rely on the success with which its proponents clarify and defend their practices and assumptions across three dimensions. Firstly it will need to provide persuasively reasoned accounts of what the nature of the 'stuff' is that it examines; secondly how it secures credible knowledge claims; and thirdly and above all else, how it secures its 'practical' (that is, ethical) value and efficacy. This refers in short respectively to the clarity and credibility of the kinds of ontological, epistemological and practical (that is, ethical) reasoning which are made available. My assumption here is that a social democratic criminology will need to distance itself from the characteristic ways mainstream criminology understands or addresses these matters. Again schematically I would propose that a social democratic project would need to distance itself from conventional criminology while constructing a carefully crafted synopsis which drew minimally on the work of four writers, namely Finnis (1980), Castoriadis (1998), Habermas (2004) and Dworkin (2011), who, differences notwithstanding, provide the basis for such a reasoned framework.

² Problems akin to Garland's are emulated frequently. For example Cooper and Worrall (2012:390) claim that criminological 'theory' involves 'offering explanations couched in terms of cause and effect', even as they acknowledge that there is 'no consensus about what crime is, or how it should be defined, let alone consensus on theorizing criminal behaviour' (2012: 387). Young's (1987: 357) advocacy for a 'realist criminology' proposes that criminologists be 'faithful to the phenomenon it is studying' while avoiding conflating realism with empiricism: this, says Young, is because a realist criminology will 'not merely reflect the world of appearances' which is precisely what empiricism is committed to doing. Other realists like Mathews (1987: 371) were insisting that 'realist criminology' promotes 'a commitment to detailed empirical investigation' and stressing 'the independence and objectivity of criminal activity'. Mathews' subsequent defence of realism is qualified to the point of terminal confusion when he allows that crime is 'historically variable' but is 'real' because it is the product of what he calls 'material relations' which allows him then to excoriate commentators like Hulsman (1986: 71), when Hulsman argued that 'crime has no ontological reality'.

³ Among many considerations Reiner would need to demonstrate that the well known structural-functionalist defence of social and economic inequality as socially functional was explicitly rejected by Merton on 'social democratic' grounds.

⁴ Since Weber, the underpinnings of value freedom have been severely undermined. For one thing the very sensuous perception of the empirical world (as 'observation' of 'experience') has turned out to be itself a theory – or value-laden process (Barnes et al. 1996). It is now generally recognised that there is no dichotomy between 'facts' and 'values' and hence statements cannot be readily classified as belonging to one or the other category (Machamer and Wolters 2004; Putnam 2002).

- ⁵ This proposition is then welded to another claim that proper knowledge or 'truth' conforms to the originating Aristotelian conception of *episteme-as-scientific knowledge* which is timeless, objective, scientific, predictive and generates value-free propositions which are deductively linked and law-like (see Aydede 1998; Toulmin 1972).
- ⁶ Polanyi (1966) pointed to the role played by this 'tacit' knowledge while Holton (1988) went one step further by showing how scientists, consciously or not, use highly motivating, very general thematic 'presuppositions' or what Gadamer (2004) simply called 'prejudices'.
- ⁷ Though this point will be dealt with in a later paper, this points to even more difficult issues for quantitative criminology raised by problems being revealed in bio-medical research, long admired as exemplifying the 'gold standard' for high quality explanatory-cum-predictive research. Ioannides (2005) proposition that there was 'increasing concern that most published [biomedical] research findings are false' has proved a useful stimulus in that field. As Ioannides (2005: 126) noted: '... the high rate of non-replication (lack of confirmation) of research discoveries is a consequence of the convenient, yet ill-founded strategy of claiming conclusive research findings solely on the basis of a single study assessed by formal statistical significance, typically for a *p*-value less than 0.05'.
- 8 This proposition is clearly less applicable to some fields of science than others: fundamental physics remains a cauldron of 'anomalous' data and theoretical pluralism as Smollin's (2013) recent attempt to 'de-relativize' 'time' suggests.

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